





II. Division:

The Macrolepidoptera
of the
American Region

6. Volume

The American Bombyces and Sphinges.

Phalaenae, Moths.

While the butterflies consist of only a few families, all closely related to one another with the exception of the Hesperidae, the very heterogeneous moths are composed of a long series of often very differently organised families, as has already been mentioned in the introduction to vol. 2.

The numbers of the families in the present volume do not agree with those of the corresponding volumes dealing with the other faunistic regions because the families are not all distributed over the entire globe.

Very little of a general nature can be said about the American Heterocera. There is a certain similarity to those of the Old World inasmuch as in the Eastern Hemisphere the duller coloured insects, which are adapted to tree-trunks and rocks, belong to the North, and the more brightly coloured diurnal ones to the South, this being also the case in America, where there is a distinct difference between the wintry North (Nearctic Region) and the hot South (Neotropical Region), the line of demarcation drawn between the two faunistic parts of the Western Continent in other works being quite justified. It is only for technical reasons that we have decided to deal with the whole of America in one single section and not in two separate ones. Only about 4000 forms of Macrolepidoptera are found in the countries north of Mexico, inclusive of the *Cossidae*, *Thyrididae* and *Sesiidae* hitherto counted as Macros (to which exception might be taken from a scientific point of view); while many times this number occurs in the scarcely larger Neotropical Region.

As the butterflies and moths of America live under the same physiographical and especially climatic conditions a similar effect must be expected in both divisions of Lepidoptera.

The brilliant colouring and metallic reflexions found among the *Castniidae*, *Syntomidae*, *Pericopiinae*, *Saturniidae*, *Sphingidae* and many *Geometridae* of Southern America are produced by the dazzling sunshine of the South in connexion with the dampness of the atmosphere; while northern forms are characterized by softer, duller and less conspicuous colouring. The schemes of markings also bear the stamp already described several times in the section devoted to butterflies, viz. in the North we find complicated patterns poor in contrast resembling bark and rocks, in the South brightly coloured decorative bands and spots on a deep black ground.

Very different methods must be adopted for collecting moths in the North and South of America. Collecting at the lamp is in the South sometimes quite successful, but may also yield nothing for months at a time. Baiting, on the other hand, is more successful in the North than in the South, where, if one has recourse to it at all, much larger quantities of the bait (large heaps of rotting fruit, puddles of strong-scented liquid, etc.) must be employed. Very little of a general nature can be said, and it is necessary for the collector to acquire special experience almost in every different district and in every family.

I. Section: Bombyces.

As regards the extent and subdivision of this group, we refer the reader to what is said in Vol. 2, page 3. The number of forms amounts to several thousands, not one-third of which — altogether not 1000 species — belong to America north of Mexico. In the extreme North the American fauna contains few and inconspicuous forms, some of which are identical or congeneric with Arctic species of the Old World. In the most northern latitudes the *Gynaephora* (*rossi* and *groenlandica*) head the list, and a few species in Labrador are so similar to those of the Arctic district of the Old World that many authors feel justified in including this part of America in the Palearctic fauna, their reasons for so doing being quite sound. In Canada and the United States also many forms occur parallel to those of the same latitude in the Eastern Hemisphere, but the number of species common to both Hemispheres diminishes more and more, whereas the congeneric species are still of frequent occurrence, though not to such an extent as among the Rhopalocera.

South of the Mexican deserts the character of the fauna alters so completely that only very few cosmopolitan forms remind one of the Eastern fauna, just as among the butterflies only the Painted Lady and the Camberwell Beauty extend south beyond the Neotropical boundary. The height of abundance is reached in the

Amazon Valley and the northern ranges of the Andes, southward to Southern Brazil, the number of forms diminishing first slowly, then with extraordinary rapidity, until in the still temperate region between 35° and 40° latitude mere fragments are encountered; one might say that nowhere on earth do the Lepidoptera decrease from a superabundance of forms so markedly and suddenly as in America between 30° and 35° latitude; and this is the case not only in South Chile, which is very poor in Lepidoptera, but also throughout Eastern Patagonia, a quite different open landscape. To find an adequate reason for this peculiar phenomenon is less easy than for another fact, viz., that the Bombyces and Sphinges are as good as extinct in Southern Patagonia; the fact alone that nearly all higher plants have been suppressed by the Cryptogamic flora, which flourishes here, is sufficient to account for the disappearance of all Bombyces and Sphinges, these being absolutely dependant on Phanerogams.

1. Family: Castniidae.

We have placed this peculiar group at the head of the moths, not because we consider it the most highly organised or specialised family, but because its insertion in any other place would doubtless cause those objections to be raised to which expression has always been given when the Castniids have been associated with some other family. Undoubtedly the *Castniidae* are a highly organised and recent group; that is evident from their bionomics. In their life-histories and habits they are so closely associated with the most modern plants and animals that it is difficult to understand how anyone can regard them as very slightly modified descendants of some already extinct or vanishing group of Lepidoptera. They can only be considered as ancestral inasmuch as their separation from the parent stock must have taken place at an early date, viz., when the distinction between butterflies and moths had not yet assumed the high degree of difference it has today. But they have adapted themselves to the present stage of evolution almost more than any other group. Their dress is often borrowed from undoubtedly recent groups of insects, the species of which are partly still in the process of evolution, i. e. from Danaids, Nymphalids, etc. The moth derives its nourishment from flowers which belong to the very latest developments of the flora, the larva feeding in semiparasitic or even cultivated plants. The Castniids are pronounced diurnals, the moths being most active in the brightest sunshine. As regards the senses, that of sight is most strongly developed, and the whole bearing of the insects shows distinctly that this sense alone is sufficient to enable them to carry out all the functions of life. They copulate by day, and are quarrelsome on the one hand while on the other given to playing together. They have an exact knowledge of locality, returning regularly to the places where they rest or feed, frequenting especially white or bright red flowers. They are untiring and adroit fliers, being undoubtedly superior on the wing to the other Lepidoptera which visit the flight-places.

The Castnias usually begin to swarm at about 10 o'clock, when the rays of the tropical are already uncomfortably hot, and show a preference for the honey of the blossoms of flowering trees. They rush wildly along, often from a considerable height, and by the violent impact of their hard body and with the sharp spurs on their long and stout legs drive away all small Diptera, Hymenoptera, and even Lepidoptera occupying the cluster or spray of flowers. The small wasps and especially Syntomids, which are nearly always found on such tree-blossoms, are simply knocked off, and the Castnia runs, buzzes and springs from flower to flower, dipping its strong proboscis rapidly into one corolla after another. They are most admirably adapted for fertilising flowers, and in spite of the smooth but very coarse scaling specimens are often met with which are entirely covered with pollen and therefore coloured according to their favourite flower.

After 11 a. m. the Castnias usually seem to be satiated and to have also slaked their thirst, and begin the business of propagation. For this purpose they select a place of vantage, any projecting branch being suitable; preferably they sit on the highest twig of dry leafless bushes, like the European dragon-fly *Libellula depressa*. I actually attracted these moths by attaching dry branches on to the tops of bushes so that the bare twigs projected well into the air. Species like *C. mygdon*, *decussata* and *amycus* are often also seen fluttering around the heaps of faggots piled up when the ground is being cleared. From this look-out the male keeps watch so attentively that it is difficult to approach it. Only occasionally I succeeded in getting so close to specimens of larger species, such as *C. schreibersi* and *fonscolombe*, that I could observe them minutely. They keep their wings folded in roof-shape, sit with the anterior portion of the body slightly raised, and when flying off bounce into the air, probably making use of the elastic tibial spurs. I was able to observe that they turned their head slightly towards humming-birds, etc., flying past them, as does a mantis or dragon-fly; their long thin neck enabling them to make this movement so unusual in Lepidoptera. This observation supports my opinion that in the preliminaries to copulation the sense of sight comes into play almost exclusively. The peculiar knotted antennae do not seem to be used until a later stage in the mutual approaching has been reached. The male Castnia rushes with wild and overpowering impetuosity at every insect remotely resembling itself. I once saw *P. atymnius* fight the very strong *Ageronia amphinome* and molest the latter until they left the spot, an open

patch in the woods, the *Castnia* remaining in sole possession. Moths also and even small birds were driven away, and this continued until a ♀ of the same species was seen. The ♂ follows the ♀ in very rapid pursuit; in many species, especially those of the *Gazera* group, around the tree-tops or through the sparse foliage of single palms and Cecropias, in the case of *C. atymnius* and *cochrus* along the wood-paths. Copulation I have only been able to observe more closely in *atymnius*. The wary ♀ flies into the bushes and settles on a vertical branch, with its head upwards and its wings open ready for flight; the ♂ sits about half a yard lower down, minutely observing the ♀. On the slightest provocation the latter flies off, and the ♂ rushes after it in continuous headlong pursuit. In the air they often touch each other, until they suddenly fly apart. I have never seen a pair belonging to this family in copulation and therefore am convinced that normally this act takes place while the insects are on the wing.

Ovipositing has probably never been observed. The food of the larva is found to be the fruit of trees, cane-stalks, or orchids, the larva boring its way into the roots of the last-named. Orchids, especially the larger species, are not common, and as they occur chiefly in the tops of high trees it is very difficult for the collector to reach them. The healthy bulbs of the rarer orchids are worth much more than the *Castnia* larvae living in them and the collecting of larvae is therefore neither very successful nor remunerative. However, as is mentioned under *Castnia*, some details of its life-history are known; living *Castniae* have even been caught in Europe, a proof that the pupa is able to withstand the dangers of transit.

In most cases the *Castniae* are very difficult to catch; they are most easily captured at flowers. I often obtained good specimens of *C. pallasia* and a few *decusata* at flowering trees. But when in the net the insects rush about so wildly that it is very rarely possible to secure them in perfect condition. The many defective specimens one meets with in nature prove that the violent behaviour of the moth is injurious to their wings, and that the latter, almost equalling cardboard in stoutness, suffer in the fights and wild races through the bushes.

Larger species are so strong and make such efforts to escape that one can scarcely hold them in ones fingers. *C. schreibersi* for instance I could only hold by squeezing the thorax so hard that the woolly covering of the underside was rubbed off, the insect at the same time stabbing me quite severely with the spurs of its hindtibiae. The *Castniae* are, moreover, very tenacious of life, which is rarely the case in groups of insects containing mimetic forms. Their skeleton is unusually hard and fairly tough, so that one often has to use all ones available strength to squeeze the thorax sufficiently to lame the moth; only tobacco-juice and injections of ammonia kill surely and swiftly, as they do other tenacious insects.

The scaling of the wings also suffers very easily. The *Castniae* are covered with a very dense but coarse scaling, and the single scales are of an extraordinary size, being the largest of any moth or butterfly I know. On account of these large scales the wings often look like a piece of embroidery in which each single stitch is visible. Bare stripes therefore easily occur, especially on the median and costal veins, and the unusually long fringes of the wings are also easily worn.

The *Castniae* are almost all of large size, some of them being very large moths; *C. daedalus* and *pylades* reach 180 mm expanse, and even the smallest known species, such as *marcelserres* and *amyceus*, attain medium size. In colour they are exceedingly gaudy, red being predominant. On the dark patches of the wings there is often a beautiful gloss, which shows up marvellously, especially when the insects sit in the glaring sun, as is their custom. In spite of this the forewings often imitate a crinkled dry leaf or the fruit of a tree, and it is worthy of note that the species so protected allow one to approach, as though they relied on this resemblance, while the species without this protective colouring, e.g. some forms of *Gazera*, spend the hours when they are not on the wing hidden away in the bushes, and rush away when they find themselves discovered. When on the wing many species resemble huge *Catocalas*, but far surpass the latter in rapidity of flight.

As will be explained below, we here only accept one genus, divided into several groups. It is almost exclusively confined to the tropics of America, where it is distributed from Argentina and Paraguay in the South to Mexico in the North without reaching the frontier of the United States. We have dealt with the Indo-Australian "Castniidae" and their probable affinity in vol. 10, p. 3, and with the African genus placed here in vol. 14, p. 3. About 160 forms are known from America, all of which are easily distinguishable, many, however, being extremely rare in collections. Perhaps some species spend their whole life in or above tree-tops, as it is there that they find all they need both as larva (fruits or orchid-roots) and as moth (which are essentially visitors of flowers).

Head fairly large, on a thin neck, frons broad posteriorly, narrower anteriorly. Eyes naked, large, prominent. Palpi of medium length, appressed to the head and rarely projecting beyond it. Antennae very strong, gradually swelling to form an elongate club which ends in a small whip. Thorax broad, stout, with a hard shell and covered with smooth fluff and large scales. Legs strong but not conspicuously stout, forelegs

rather short, middle and hind legs long, the hind tibiae with two pairs of strong spurs with which the insects can scratch severely. Abdomen strong, long, in the ♂ only slightly thinner than in the ♀, in which it bears a protrusible ovipositor. Wings with entire margins, without teeth or other appendages, obtusely triangular (forewing) or nearly circular (hindwing). Veins very regular and almost parallel, the cell short, especially that of the hindwing, both cells traversed by veins. On the forewing the subcostal branch 1 originates close beyond the base of the wing, 2 directly behind the middle of the cell, 3 before and 4 at the upper angle of the cell; between the posterior median branch and the submedian there is always an intermediate vein which sometimes originates at the base, but often begins close before the middle of the wing. The submedian is sometimes connected by a bar with the hindmarginal vein, if the latter is present. In detail the venation shows numerous variations, especially in the shape of the discocellulars of the forewing. Characteristic of the insects is the remarkably uniform direction of the always very long branches of the veins, which run exactly parallel one with the other.

The larvae of only very few species are known; they are predominantly bare, with short bristles only on the back of the segments, with soft skin, strong nuchal plate and small retracted head. The six thoracical legs short, the eight abdominal legs broad, the anal pair elongate. They live in stalks, fruits or bulbs. Pupae elongate-ovate, stumpy; eyes prominent, limb-cases loosely connected, back of abdomen with strong belts of hooks; sometimes short bristles cover the larger portion of the surface of the pupa; many species in long silk-lined tunnels in or on the ground.

Genus: **Castnia** *F.*

The genus *Castnia*, which is here treated in the usual broad sense of the name, contains those forms which may be regarded as the most typical representatives of the family *Castniidae*. It will therefore suffice for our purposes to draw attention to the description of the family without giving a special systematic characteristic of the genus, particularly as only one genus of *Castniidae* occurs in the region with which we are dealing. Cf. also what was said about the *Castniidae* in Vol. X. p. 1 of this work. As has already been mentioned in that place the attempts which have been made to split up the genus *Castnia* cannot be regarded as successful, and later authors have therefore retained the genus in its original conception, only one of the separated genera, *Gazera*, being occasionally dealt with as distinct from *Castnia*. In the following pages I have also attempted to keep the species of *Gazera* separate, but only as a group, as the distinctions do not appear to me to be sufficiently trenchant to be considered of generic value. My further attempts at dividing *Castnia* into smaller groups have only the purpose of rendering the arrangement more lucid and the naming of the forms more easy, and is of no importance as regards nomenclature. It is difficult as yet to draw any conclusion as to the relationship and the systematic arrangement of the various species of Castniids, especially because we know scarcely anything about the early stages of these moths.

I. **Castnia** *s. str.*

Forewing more or less broad and triangular.

(Species which are not known to me in nature are not included in this survey unless special information as to their relationship is given in the literature, but have been added in the appendix, p. 16. 17).

A. Forewing with straight whitish median transverse band between the anal angle and the middle of the costa and whitish subapical markings. Hindwing with small white spots.

C. daedalus *Cr.* (= *cyparissias* *F.*) is a species occurring in Guiana and the Amazon district, well characterised by its size (expanse up to 180 mm). In its scheme of markings similar to *geron*, of which a figure is given; ground-colour above dull black, slightly suffused with olive, in the hindwing with two rows parallel to the margin of white or yellow rounded spots. — The larva lives in Bananas.

C. geron *Koll.* (1 a) is a much smaller species occurring in Brazil, in which the inner one of the two rows of spots on the hindwing is only present in the costal half of the wing.

C. preissi *Stgr.* (1 a), from the Amazon Valley, has only the anterior spot of the inner row; in the forewing three light subapical spots.

B. Forewing with narrow white postmedian band parallel with the margin; hindwing with red, yellow or blue band, with or without red spots.

C. cacica *H. Schöff.* (1 b), from Central America and Columbia, is most easily distinguished from the following

C. papilionaris *Wkr.* (1 a), from Bogotá, by the markings of the hindwing. Like *DRUCE* (cf. *Biol. papilionaris*).

Centr. Amer., Het. 1, p. 25). I fail to find the white discal spot on the specimens of *cacica* before me which the species should have according to the original figure copied on plate 1. The number of red sublimbal spots on the hindwing is five in the typical form, but some specimens before me have only four (fa. *procera* Bsd.) and sometimes they may be merged together to form a band (ab. *bivittifera* ab. nov.). The width of the red band on the hindwing is also rather variable, and sometimes this is partly separated into spots (ab. *macula* ab. nov.).

In contradistinction to our figure the specimens of *papilionaris* before me have the forewing and hindwing about equally dark, the light discal spot on the forewing being smaller.

hodeei. **C. hodeei** Oberth. (1 c), from Colombia, is most easily distinguished from *cacica* by the different colour and shape of the band of the hindwing.

C. Forewing with light, straight, median, transverse band between anal angle and middle of costa, with or without whitish subapical spots; hindwing with broad, white, transverse band, narrowed or interrupted anteriorly, with or without light submarginal spots.

atymnius. **C. atymnius** Dalm. (= *spixi* Perty) (2 b), widely distributed in South and Central America, varies considerably, and its ♀ is sometimes very like the following species (*C. humboldti*); the latter, however, always differs in having the apical half of the hindwing red. The ♀♀ differ from the ♂ figured especially in the presence of light subapical spots similar to those of *humboldti*. — In fa. *defasciata* ♂ form. nov. the band of the forewing, which is usually white, is only slightly indicated by a greyish shadow. In fa. *feminis* ♂ form. nov., there are light subapical spots on the forewing like those of the ♀, but smaller and less sharply marked (1 ♂ from Bahia); the white band on the hindwing of this specimen is remarkably broad anteriorly (5 to 6 mm). — In *salasia* Bsd., from Mexico, the fringes are said to be uniformly black.

humboldti. **C. humboldti** Bsd. (1 c), from Colombia and Central America, is altogether larger than *atymnius*; I do not agree with BOISDUVAL, who states that the wings are more pointed apically than in the preceding species. In the ♂ the light subapical spots of the ♀ seem always to be at least faintly indicated. — In *rufolimba* form. nov. (1 c) the subapical spots on the upper side of the forewing are smaller and further distant from the transverse band, on the underside of the hindwing the white transverse band is much narrower (always ?) than above. — *brunneata* form. nov. (1 c) has both wings reddish brown above.

futilis. **C. futilis** Wkr. is a somewhat questionable species from Central America, which seems to differ from *humboldti* in the slightly inferior size and lighter, more reddish or brownish, colour above and below; the ♀, moreover, has the subapical spots of the forewing quite diffuse (differing therein as well as in its somewhat smaller size from the very similar form *brunneata* Strand of *C. humboldti*). — The specimen figured by DRUCE in Biol. Centr. Amer. Het. tab. 4, f. 5 as *futilis* I should consider a ♂ of *humboldti*; but SCHAUS in 1911 describes this form as a new species under the name of *drucei*, stating the type of *futilis* to be a form of *atymnius*.

licus. **C. licus** Drury (= *aurantiaco-maculatus* and *plumbeocoerulescens* Goeze) (2 a) is widely distributed in South and Central America, and is very variable. — The forms *licoides* Bsd. (2 a) and *licoidella* form. nov. (2 b) are most easily distinguished by the different markings on the forewing; *pauperata* form. nov. is otherwise like *licoidella*, but has only two distinct reddish yellow spots on the hindwing (in cellules 2 and 3) (1 ♂ from Surinam). — The larva feeds in sugar-cane and is very destructive (cf. MARLATT in: Bull. U. S. Dep. Agric. No. 54 (1905), p. 71 to 75, t. 4).

D. Forewing as in group B, hindwing with white median and red marginal area spotted with black.

dalmanni. **C. dalmanni** (recte: *dalmani*) G. R. Gray (= *grayi* Bsd.) (2 c) occurs in Brazil and is distinguished i. a. by the pointed forewing and its straight distal margin.

E. Forewing with two white straight transverse bands almost vertical to costal margin and with a light subapical marking; hindwing with red and black markings.

icarus. **C. icarus** Cr. (2 d) is widely distributed in Brazil and Guiana; whether this is the case also in Central America still requires confirmation. — *invaria* Wkr. differs in the discal spots of the hindwing being almost obliterated. Brazil.

penelope. **C. penelope** Schauf. "Very similar to *icarus* in colour and markings, but the upperside altogether paler, the marking of the hindwing brown instead of black, the outer transverse band of the forewing and the white spots of the hindwing almost obsolete; on the underside the three bands of the forewing well developed; otherwise opalescent like *icarus*, of which it is perhaps only a variety". Lat.: 78 mm. Brazil.

F. Forewing with one or two yellowish transverse bands about vertical in position, with or without subapical spots; hindwing red and black, with or without yellow markings.

evalthe. **C. evalthe** F. (= *dardanus* Cr.), from South and Central America, occurs in two forms. I consider the principal form the one figured in DONOVAN's Ins. India t. 22, which differs from the form *evalthoides* form. nov. (3 a) in the bands of the forewing being brighter yellow and both much narrowed posteriorly.

while the proximal one of these bands here is about 7 mm broad anteriorly, in *evalthoides* it only attains 4.5 mm. In *evalthoides* the yellow median spots of the hindwing are merged together to form a continuous band, and in *evalthe* they are separate from one another, the red marginal spots of the latter form are seven in number and smaller, at least anteriorly, than in *evalthoides* (3 a). I consider Bolivia the typical locality for the last-named form.

C. viryi *Bsd.*, from C. America, differs from *evalthe* especially in the absence of the distal transverse *viryi*. band of the forewing.

C. euphrosyne *Perty* (= *pertyi* *Buchecker*) (2 d), from Brazil, differs from *evalthe* especially in the different shape of the yellow and red markings of the hindwing. *euphrosyne*.

C. syphax *F.* (= *harmodius* *Stoll*) (2 d), from Brazil and Cayenne, has no yellow markings on the hind- *syphax*. wing, and a curved row of spots takes the place of the distal band of the forewing.

C. mathani *Oberth.* (3 e), from the Amazon, has the band of the forewing obsolescent, but the subapical spots sharply defined; the spots on the hindwing small. *mathani*.

G. Forewing blackish with two obsolescent light transverse bands, usually connected in the middle, the proximal one of which is elbowed (open proximally). Hindwing at least with light median marking. Large insects.

C. schreibersi *Mikan* (= *latreille* *Godt.*, *ctesiphon* *Hbn.*) (3 b) is in its principal form characterised by the bluish white spots of the hindwing, but these are absent in the form **actor** *Dalm.* — Brazil. *schreibersi*. *actor*.

C. zerynthia *G. R. Gray* (= *langsдорffi* *Mén.*) (3 a), from Brazil and Bolivia, judging from the six specimens before me, is darker on the forewing, more blackish (only slightly suffused with green) than our figure. *zerynthia*.

H. Forewing greyish or brownish with markings similar to those of G, and more or less obsolete. Hindwing with two or three rows of whitish or reddish spots which are rather close together and sometimes assume the shape of bands. Small or of medium size.

C. phalaris (*F.*) *Godt.*, *Bsd.* (= *mygdon* *Ww.* p. p., *mimon* *Hbn.* (?)) (4 a, as *mygdon*). In determining this species I agree with BOISDUVAL, not WESTWOOD, and, like the former, distinguish *mygdon*, although not as a distinct species. The insect figured by WESTWOOD as *phalaris* is *subvaria* *Wkr.*, which I consider with KIRBY as a distinct species; I do not understand, however, why KIRBY quotes WESTWOOD's figure under his (KIRBY's) *phalaris*. And as GODART, the first monographer of the group, applied the name *phalaris* to the same species which BOISDUVAL also called *phalaris*, it follows that the name must be retained for this form and no other. — From **mygdon** (*Dalm.*) *Bsd.* (*Westw.* p. p.) *phalaris* is distinguished by its (usually ?) larger size: according to BOISDUVAL up to 120 mm. in expanse; the largest specimen before me measures 95 mm., *mygdon* only 55 to 70 mm; the spots of the two transverse rows on the hindwing are white in *phalaris*, occasionally with a yellowish edge, while in *mygdon* they are yellowish; within the proximal one of these rows light spots are usually visible, this appearing rarely to be the case in *mygdon*; on the underside also the spots of the hindwing are usually white and sharply marked, while in *mygdon* they are yellowish and diffuse; the white markings of the underside of the forewing large and sharply marked, in *mygdon* yellowish. Entire colouring of *mygdon* darker. — Both forms described from Brazil. *phalaris*.

C. subvaria (= *phalaris* *Westw.* nec *F.*) (4 a, as *phalaris*) has actually the wings of the same shape as the form **subvariana** *form. nov.* (4 a, as *subvaria*), our figure of *subvaria* being inexact in this respect. **dionaea** *subvariana*. *Hpffr.* is a smaller form (length of forewing 26 mm.). — Brazil. *dionaea*.

C. albofasciata *Schauf.*, „Larger than *mimon*, above with the same markings, but the forewing on each side of the brown transverse band with a narrow white edge filled in with diffuse white scaling, hindwing with three rows of white spots edged with black and cinnamon-brown, similar to those of *phalaris*, but the white colour predominant; underneath very like the preceding (perhaps only its ♀?). Lat. 88 mm.” — Brazil. *albofasciata*.

C. sora *Druce*, from Paraguay, has the forewing dark brown, similar in markings to *C. mygdon*, but darker; fringes brown. Hindwing black; a large dark orange yellow spot at the apex of the cell, and two bands of large dark orange yellow spots from the costal margin to the anal angle, the first band, just below the cell, the second along the margin, fringes yellow. Body and extremities dark brown, anus yellow. ♂ 82.5, ♀ 95.4 mm.

C. chelone *Hpffr* (2 e), from Mexico, is characterised by the greyish colour of the forewing and the peculiar curved and almost band-shaped rows of light spots on the hindwing. *chelone*.

C. argus *Bsd.* (6 a) recalls *phalaris*, but can be easily distinguished by the rows of red or reddish yellow spots of the hindwing. — Brazil. *argus*.

C. orestes *Wkr.* (= *umbrata* *Mén.*) (3 b), from Brazil and Venezuela, resembles the otherwise so different *zerynthia* (3 a) in the markings of the abdomen and hindwing. — **leopoldina** *form. nov.*, from Leopoldina *leopoldina*.

in Espirito Santo (Brazil), differs in the strongly reduced white band of the hindwing, which is only 2 to 4 mm. broad, separated into elongate spots, and does not reach the inner margin. One specimen 80 mm. in expanse (type), another only 58 mm., both ♂♂.

I. Forewing blackish with grey irregularly angulate transverse band and grey spot at the inner angle. Hindwing black with two white or yellow and one (median) red row of spots sometimes resembling a band.

- pallasia*. **C. pallasia** Esch. (= *breccourt* Godt., *ardalus* Dalm.) (4 c). According to my researches the synonymy of this Brazilian species, usually called *breccourti* Latr., is as follows: The name *pallasia* has priority; it was published in 1821, while *breccourt* dates from 1824, the date 1819 on the title-page of the respective volume of the "Encyclop. méthod." only being correct for the first 328 pages of the volume (cf. SHERBORN and WOODWARD in Proc. Zool. Soc. Lond. 1893 and 1899). — According to the description of *breccourt* this form is distinguished from *pallasia* by the band on the upperside and the sublimbal spots on the forewing beneath being white instead of dark grey; the proximal white band on the hindwing is apparently not traversed by black veins in *breccourt*, the band being expressly described as "continue", while the figure of *pallasia* distinctly bears such black veins. Unfortunately the description of *breccourt*, stated moreover to be taken from a unique specimen, is evidently not exact enough to enable us to find out from it differences, if any, between *breccourt* and true *pallasia*; we must therefore place *breccourt* Godt. as a synonym of *pallasia*. On the other hand, *breccourti* Preiss is doubtless a form distinct from true *pallasia* (according to the description of *breccourt*), differing above all in the absence of the white band of spots on the hindwing. As this band is plainly described as present in "*breccourt*", the latter name cannot be used for PREISS's form, which must be renamed: **umbratula** nom. nov. (4 c) with the synonym: *breccourti* Preiss nec Godt. — The form figured by WESTWOOD in his monograph of *Castnia*, plate 30, fig. 2, is probably not specifically different from *pallasia*, as he also assumes; but this form differs so strongly from true *pallasia* in the very broad light band of the hindwing and in the likewise broad band on the forewing, which, moreover, is not incised outwardly in its anterior half, that it deserves a name: **lativittata** form. nov. (4 b). — Specimens of both sexes of *umbratula* and true *pallasia* are before me; the difference therefore is not sexual.
- satrapes*. **C. satrapes** Koll. (4 b), from Brazil, differs from *pallasia* inter alia in the light marking of the forewing being interrupted in the middle; the var. **catharina** Preiss (4 b) differs in the median band of the hindwing being light yellow instead of orange. The fact that red spots are not present in our figure of *catharina*, while they are marked in that of *satrapes*, is possibly due to a difference of sex: probably the ♀♀ of both forms always bear these spots, while they are only occasionally present in the ♂♂. The ♂-form resembling the ♀ in colour I name **rufimaculata** ♂-form. nov.; if the yellow band of the hindwing is not broken up by black veins we get the form **aberrans** ♂-form. nov. The ♂♂, at least of the variety *catharina*, are therefore dimorphic; whether dimorphism also obtains in true *satrapes* I can unfortunately not say, as I have only 2 ♀♀ before me. — *aberrans* comes from Leopoldina; from Rio Grande do Sul I have both *rufimaculata* and true *satrapes* ♂♂. The type of *rufimaculata* is 97 mm. in expanse. In both aberrations the longitudinal and transverse bands of the forewing are connected.
- catharina*. **C. catharina** Preiss (4 b) differs in the median band of the hindwing being light yellow instead of orange. The fact that red spots are not present in our figure of *catharina*, while they are marked in that of *satrapes*, is possibly due to a difference of sex: probably the ♀♀ of both forms always bear these spots, while they are only occasionally present in the ♂♂. The ♂-form resembling the ♀ in colour I name **rufimaculata** ♂-form. nov.; if the yellow band of the hindwing is not broken up by black veins we get the form **aberrans** ♂-form. nov. The ♂♂, at least of the variety *catharina*, are therefore dimorphic; whether dimorphism also obtains in true *satrapes* I can unfortunately not say, as I have only 2 ♀♀ before me. — *aberrans* comes from Leopoldina; from Rio Grande do Sul I have both *rufimaculata* and true *satrapes* ♂♂. The type of *rufimaculata* is 97 mm. in expanse. In both aberrations the longitudinal and transverse bands of the forewing are connected.
- rufimaculata*. **C. rufimaculata** ♂-form. nov.; if the yellow band of the hindwing is not broken up by black veins we get the form **aberrans** ♂-form. nov. The ♂♂, at least of the variety *catharina*, are therefore dimorphic; whether dimorphism also obtains in true *satrapes* I can unfortunately not say, as I have only 2 ♀♀ before me. — *aberrans* comes from Leopoldina; from Rio Grande do Sul I have both *rufimaculata* and true *satrapes* ♂♂. The type of *rufimaculata* is 97 mm. in expanse. In both aberrations the longitudinal and transverse bands of the forewing are connected.
- aberrans*. **C. aberrans** ♂-form. nov. The ♂♂, at least of the variety *catharina*, are therefore dimorphic; whether dimorphism also obtains in true *satrapes* I can unfortunately not say, as I have only 2 ♀♀ before me. — *aberrans* comes from Leopoldina; from Rio Grande do Sul I have both *rufimaculata* and true *satrapes* ♂♂. The type of *rufimaculata* is 97 mm. in expanse. In both aberrations the longitudinal and transverse bands of the forewing are connected.

I. Forewing brown with very obsolescent light, irregular markings, sometimes very difficult to perceive; hindwing red with black transverse bands, in *hegemon* also with white or yellow central band. The ♂♂ of *thais* and *marcelserres* have dark hindwings with lighter markings only in the marginal area.

- ciela*. **C. ciela** H.-Schäff. (4 d), from Brazil, probably rarely has the markings of the forewing as distinct as they are in our figure, the median area of the hindwing also is usually not so light, but slightly suffused with red.
- fabricii*. **C. fabricii** Swains. (4 e), also from Brazil, is characterised by the wedge-shaped submarginal spots of the hindwing, also by the simple band of the forewing and its discocellular spot, as well as by the dark red basal area of the hindwing. — Must be a very rare species. Typical locality "Diamond district of Brazil".
- hegemon*. **C. hegemon** Koll. (5 b), from Brazil, cannot be confused with any other species of this group, chiefly on account of the markings of the hindwing.
- marcelserres*. **C. marcelserres** Godt. (= *thais* Wkr., *fabricii* Godt.) (4 e) is in the ♂-sex a small inconspicuous insect (fig. cit.); the ♀ has light red hindwing marked with three bands of black spots and is larger (about 70 mm. in expanse). The ♂♂ vary much in size, the specimens before me measuring from 37 to 62 mm. in expanse. The smallest ♂-form may be distinguished as **pusillima** form. nov. — Brazil, Bolivia.

thais. **C. thais** Dru. (= *chrenus* F., *nicon* Hbn., *morphoides* Wkr., *thalaira* Godt., *jonesi* Buchecker) (8 a) in the ♀ is very like *C. marcelserres*, but the forewing bears a broad, straight, almost parallel-sided dark band directed towards the distal margin and anal angle, while the corresponding band in *marcelserres* is curved, irregular, in parts much narrowed, almost or entirely interrupted in the centre and directed towards the inner margin. A light median transverse band is present in the forewing of both species: in *thais* it is broad, sharply marked, curved concavely proximally, in *marcelserres* narrow, only sharply marked on its outer side, straight, vertical

to the inner (hind) margin. Moreover, *thais* is larger, etc. The hindwing of the ♀ of *thais* is black in its apical half, with two rows of red spots, in *marcelserres* red with three rows of black spots. The ♂ of *thais* has blackish blue hindwing bearing a reddish yellow marginal band in the anterior half. — Brazil.

C. inornata Wkr. ♀. Rust-reddish brown, fawn-colour below. Frontal tuft porrect, lanceolate, projecting *inornata*. beyond the head. Tip of antenna light grey. Abdomen blackish above, not reaching the anal angle, each segment with a yellow transverse spot. Forewing with two irregular oblique brown bands, diffuse on their outside, and having between them a kidney-shaped dark grey spot with a brown edge; below with two irregular dark brown bands beyond the centre, the first in spots, the second strongly abbreviated posteriorly, marginal area (below?) fawn coloured. Hindwing beneath with an irregular, abbreviated, rust-coloured line straight across the centre, at the costal end enclosing a whitish spot. Length of body 10 lines, expanse of wings 31 lines. Is said to be allied to *C. thais*. Patria not given. Unknown to me.

K. Similar to the preceding group, but the forewing with subapical vitreous spots.

C. inca Wkr. (= *clitarcha* ♂ *Westw.*) (5 a) extends from Mexico to Venezuela and is distinguished inter *inca*. alia by the markings of the hindwing, which bears at least in the ♂ an isolated black spot at the costal margin (5 a). In *staudingeri* Druce (5 a) the black marginal band of this wing is strongly reduced or entirely obsolete *staudingeri*. and therefore connected with the preceding band only at the anal angle, being anteriorly divergent from the outer margin and here usually separated into spots, the forewing appears lighter and more unicolorous than in *inca* and the hindwing is partly yellow (5 a). It is not improbable that *staudingeri* is a form occurring only in the ♀-sex. (There are nine specimens of *inca* before me, all ♂♂, and three of *staudingeri*, all ♀♀.) The only ♀ before me which I consider the ordinary ♀ of *inca* differs from *staudingeri* principally in the absence of the yellow patch in the hindwing. — **hondurana** ♂-form. nov. is smaller (expanse 58, length of wing 32 mm.) and in *hondurana*. the hindwing rather like the ♀ in colour; the black antelimbic band of the same is not connected with the margin even at the anal angle. Honduras.

C. clitarcha Ww. (♀; *clitarcha* ♂ Ww. belongs to *inca*!) (8 e), from Chiriqui, is in the ♂ very like the preced- *clitarcha*. ing, but the black marginal band of the hindwing also covers the margin, while the real marginal band of *inca* is reddish yellow (which is unfortunately scarcely distinct enough in our figure), the size is more considerable (expanse of wings about 110 mm.), the apex of the wing has three vitreous spots, the central one of which is large and elongate, etc. The largest ♀ before me measures 120 mm; the markings of the hindwing are, like those of the ♂, similar to those of *inca* with the exception of the marginal markings; the forewing bears a median and a postmedian greyish yellow transverse band in the costal half. — **orizabensis** form. nov. (8 d), from Orizaba, *orizabensis*. I place with *clitarcha* with a query, as it is intermediate between *inca* and *clitarcha*.

C. ahala Druce (4 e), from the Amazon, is very like the ♀ of *inca*, but smaller and inter alia differs *ahala*. in the narrow dark oblique band of the forewing.

C. palatinus Cr., from Guiana and Brazil, resembles *inca*, but the vitreous spots of the forewing are *palatinus*. smaller, the light median band of the hindwing is white in its posterior half, the black marginal band only encloses very small spots, which are often also reduced in number, etc.

C. boisduvali Wkr. (= *herrichii* H.-Schäff. ♀) (4 d) differs in the ♀ from the ♂ figured in that every- *boisduvali*. thing which is red in the latter is yellow in the former, as is also the abdomen. Widely distributed in S. America. — **besckei** Mén. ♂ differs from the normal ♂ in the fewer markings on the underside of the forewing and the lighter *besckei*. red colour on the upper side of the hindwing. Bahia.

C. papagaya Ww. (4 d). Forewing in the basal half yellowish with a greenish sheen, brown base and *papagaya*. brown kidney-shaped transverse costal-discocellular spot; marginal area brown; before the centre of the inner margin to the costal margin close before the apex of the wing a blackish brown band which at both ends is strongly widened triangularly and anteriorly encloses a vitreous spot divided by the dark veins. Hindwing red with bluish black basal area and two narrow black transverse bands, the veins being broadly edged with black in the marginal area. Expanse of wings 97 mm. Papagaya. — There is a ♀-form before me from Rio Grande do Sul which differs in that the dark band of the forewing is quite interrupted in the centre, and the two black bands of the hindwing are connected by the broad black dusting of the intermediate veins so that the red colour between them appears as isolated red spots; the black dusting on the veins in the marginal area however is very narrow and indistinct. I name this form **grandensis** form. nov. *grandensis*.

C. menetriesi Bsd. Is compared with *boisduvali* and *dalmani*. Forewing blackish brown with two deep *menetriesi*. black transverse bands, the anterior one of which is bifid, being connected with the other by a lateral branch; in the costal area two lighter smears. Hindwing black, towards the centre with a large yellow transverse spot. and margined with four or five orange spots. — Brazil.

C. superba Strand (5 a), from Chanchamayo (Peru), occupies a unique position on account of its broad. *superba*. deep black parallel-sided band on the hindwing contrasting sharply with the light yellow one beside it.

Beneath, the light median bands of both wings appear alike in colour, being of the same shade as that on the upperside of the hindwing, the dark areas are reddish brown, only being black in the anal angle of the hindwing and the posterior half of the postmedian band of the forewing.

L. Forewing blackish with two greyish yellow, irregular curved transverse bands directed slightly obliquely towards the costal margin. Hindwing black or blackish with red sublimbal band bearing black spots. Large insect.

pylades. **C. pylades** *Stoll* (5 c), occurring in Cayenne, Brazil, etc., is on the whole darker than our figure indicates, and the greenish sheen seems usually to be less distinct. — The larva lives in bananas.

M. Both wings blackish with light markings consisting of numerous spots or narrow bands, recalling the pattern of *Neptis*.

galinthias. **C. galinthias** *Hpfrr.* (6 a), from Brazil, has the basal area of the hindwing below whitish, and the ground-colour above is usually darker, more blackish than in the case of our figure.

strigata. **C. strigata** *Wkr.* (= *discoidalis* *Buchecker*) (6 b), from Brazil, sometimes has the whitish band originating in the middle of the costa separated into spots in the distal half, or, one might say, it is absent there, while the white spots in the apical half of the wing are larger and more numerous than in our figure of **godarti** *Mén.* — The larva is said to live in orchid-roots.

decussata. **C. decussata** *Godt.* (6 a). Brazil. A large ♀-form (expanse 91 mm.) differs in that the anal angle of the hindwing bears a reddish yellow spot and that the larger basal half of the underside of the hindwing is pure white. *fulvipygga.* I name this form **fulvipygga** *form. nov.*

N. Wing white, with black marginal marking.

cronis. **C. cronis** *Cr.* (6 a) is distinguished from the other Pierid-like true Castnia, viz:

cronida. **C. cronida** *H.-Schäff.* (6 c) very easily by the differences shown in the figures. Both occur in Guiana.

O. Small brownish insects, with two narrow whitish transverse bands, partly divided into branches and directed almost vertically towards the costal margin, with light innermarginal band, and some of them with a central longitudinal one. Hindwing black, with red and white markings.

huebneri. **C. huebneri** *Latr.* (= *sternbergi* *Koll.*, *castnioides* *Buchecker*) (6 b). Brazil. In true *huebneri* the two light bands of the forewing and the light median row of the hindwing white (purer white than in our figure), and the fringes usually pure white in the apical half. — In fa. **impura** *form. nov.* these markings are dirty ochreous and the fringes uniformly greyish brown, as well as the ground-colour of the entire wings above somewhat darker. — If in addition the row of light spots in the dark area on the hindwing is entirely or almost entirely obsolete, we have the form **indecora** *form. nov.*

uruguayana. **C. uruguayana** *Burm.* (6 b). Characterised inter alia by the light longitudinal stripes on the thorax dorsally, varies considerably in the markings of the hindwing, and has lighter and darker transverse bands on the back of the abdomen, which are not visible in our figure. — A form of which a ♂ is before me is distinguished by the proximal red transverse band of the hindwing not being connected with the median one, while the latter only once touches the distal one, moreover there are no isolated light spots between the bands of the forewing. To this form, the exact locality of which is unfortunately not known to me, I give the name **separatula** *form. nov.*

P. Ground-colour of wings reddish, brown or orange, hindwing with narrow black marginal band having light spots, forewing with one or more small subapical vitreous spots (with the exception of *bogota*).

therapon. **C. therapon** *Koll.* (= *therapion* *Bsd.*, *paradoxa* *H.-Schäff.*) (7 a), from Brazil, has the same ground-colour beneath as on the hindwing above; the black marginal band on the underside of the latter has two rows of light dots below. The larva lives in *Oncidium crispum* (cf. SNELLEN, Tijdschr. v. Ent. 38, p. 9) and *Catasetum* sp. (cf. KLUG in Abh. Ak. Wiss. Berlin, p. 245 to 257, 1848).

rutila. **C. rutila** *Fldr.* (7 a), also from Brazil, has no black marginal band on the underside of the hindwing, but a sublimbal row of brown spots.

bogota. **C. bogota** *Strand.* ♂. Forewing reddish brown, darker at the discocellular, the fringes white, at least posteriorly, inner margin narrowly black. Beneath orange-yellow in the middle and in the dorsal region, more reddish basally; a band about 2 mm broad at the costal margin becomes gradually broader from the middle to the margin, attains a width of 7 mm. at the apex of the wing and then becomes gradually narrower posteriorly reaching to vein 2, from where it continues to the inner margin as a black band thrice deeply indented on its inner side. In the marginal area veins 3 to 5 are also dusted with black. Discocellular spot deep black, in an oblique position and 2 × 1.2 mm. in size. Hindwing above and below orange with deep black marginal band which is 5 mm. broad, but becomes somewhat narrower anteriorly and is minutely dentate on its inner side; above in each of cellules 1 to 4 it encloses a small spot with a bluish sheen; similar but still larger spots are also present beneath, where the band is truncate between veins 5 and 6. Body above blackish, below orange as are also the legs. Expanse 42, length of wing 25 mm. — Bogota (Type in coll. W. NIEPALT).

Q. Forewing olive-brown, with or without isolated small light spots. Hindwing reddish and yellowish, with brownish black sublimbal spots.

C. archon *Burm.*, from Catamarca in Argentina, is compared with *C. therapon*, but is twice as large. *archon*. Colour greyish yellow suffused with brown, forewing with white fringes, brownish black median longitudinal band and hind border. Hindwing orange-yellow with narrow black marginal band, fringes as in *therapon*, in the middle a large black smear which is interrupted in the centre by six oval whitish spots forming a sinuous transverse band. Underside of wings and body lighter greyish yellow, both wings orange at the base, hindwing with indications of the markings of the upperside.

C. amalthaea *Druce*, from Brazil, has the forewing dark brown, bearing two white transverse bands *amalthaea*, shortened posteriorly. Hindwing orange with a black spot at the apex of the cell and a similar one between the latter and the inner margin; a sublimbal row of black spots having white pupils, and a black marginal line present. Fringes of both wings brown and the underside orange-red. Body above light brown beneath orange-red. Expanse 76 mm.

C. fonscolombe *Godt.* (= *japyx* *Hbn.*, *kirsteni* *Thon*, *walkeri* *Buchecker*) (5 b). Brazil. The ♀ differs from *fonscolombe*, the ♂ (5 b) in the presence of 5 small light spots on the forewing.

R. Hindwing with a magnificent blue sheen, and red marginal band. Forewing dull black, with light greyish band and small silvery glossy spots.

C. diva *Btlr.*, from Colombia and Central America, varies rather strongly. The red marginal band of *diva*, the hindwing, continuous in true *diva*, is sometimes separated into spots; form **maculifera** *form. nov.* (6 d, on the *maculifera*, plate as *diva*); — **tricolor** *Fldr.* (6 d) is a form with the markings particularly sharp. — A form from Chiriqui *tricolor*, is before me which has the band of the forewing much darkened (dark brown) and indistinct, and only one or two small silvery spots. This is **chiriquiensis** *form. nov.* The variability in size is also remarkable, there are *chiriquiensis*, before me ♂♂ of *chiriquiensis* from 55 to 90 mm (the type is 55 mm).

S. Hindwing black, usually with red spots; forewing with irregular white postmedian band from the anal angle about vertical to the costal margin, in the costal area on both sides of and parallel with it a white stripe. The insects resemble *Synemon*.

C. amycus *Stoll* (5 d), widely distributed in South America (according to KIRBY's Catalogue also in *amycus*, Central America), varies considerably. — **tristicula** *form. nov.* is a form of which I have as yet only seen *tristicula*, ♂♂; the red colour in the disc of the hindwing is obsolete and the red submarginal band on the same wing at most present in the dorsal area; from Blumenau, Espirito Santo, etc. — **alboinsignita** *form. nov.* *alboinsignita*, (5 d) has the transverse band of the forewing broad and pure white, a white submedian costal transverse spot in the forewing is at most indicated, the subapical costal transverse spot, however, is larger and the red markings on the hindwing are different.

C. meditrina *Hpfrr.* (5 d), from Brazil, on the whole has the hindwing more blackish than our figure *meditrina*, indicates.

T. Forewing greyish black with four whitish transverse bands; hindwing in the basal half white with black spot edged with red, in the apical half black with red and white markings.

C. juturna *Hpfrr.* (6 b), from Minas Geraes and Rio Grande do Sul; a rarer species. Our figure (6 b), *juturna*, which, like many others, is a copy from PREISS, is unfortunately not quite exact, in so far as there should be two more light postmedian transverse bands present in the forewing (as in HOPFER's figure), which are, however, not as distinct as the two present in our figure should be. PREISS's original type is before me; it is somewhat worn in the apical area of the forewing, but both the bands missing in the figure are distinctly recognisable. According to BURMEISTER (*Descr. Rép. Arg. Lép. Atlas*, p. 57) a form occurs in Paraguay which is somewhat smaller than the original figure and the black marginal band on the hindwing of which is interrupted by two rows of white red-edged spots parallel with the margin (**paraguayensis** *form. nov.*). *paraguayensis*.

U. Forewing similar to that of the preceding group, but only two light transverse bands present. Ground-colour of hindwing white or black, with white spots edged with red and black, margin always black.

C. endelechia *Druce* (6 c), from Paraguay, is easily distinguished by the white ground-colour of its hindwings from *endelechia*.

C. eudesmia *G. R. Gray* (8 e), as in this species the hindwing is black with a red postmedian band *eudesmia*, enclosing white spots and a sublimbal row of red spots each enclosing a white one. In the ♀ there is an orange-yellow discal spot. Chile. — Larva in the trunk of a Bromeliaceae, *Pourretia coarctata* (cf. PHILIPPI 1863, BUTLER 1882, CROWLEY 1894).

W. Wings black, forewing with grey oblique band, hindwing with white median band and with or without white sublimbal spots. Abdomen with red transverse bands.

C. garbei *Foetterle* (6 d), from Southern Brazil, strongly resembles *garbei*.

C. cochrus *F.* (8 c), likewise from Brazil (the habitat Chile in KIRBY's catalogue is erroneous); but in *cochrus*, the white band of the hindwing is much broader and situated before the middle of the wing, the light band of the forewing is not so distinct as in *garbei* and in the hindwing there are fewer (apparently at most 4)

maris, or no white sublimbal spots present. — *maris Dalm.* is said to have both wings of a deep black ground-colour bearing a rather sharply marked band on the forewing. *casmilus Hbn.* has only one white sublimbal spot in the hindwing, *bipunctata form. nov.* has two similar ones, *depunctata form. nov.* none at all; I have not seen a *depunctata* form *tripunctata form. nov.* with three such spots, but this doubtless occurs according to GODART's description. *tripunctata*. I consider the form with four sublimbal spots on the hindwing as typical. — *combinata form. nov.* (8 c) resembles *bipunctata*, but the white bands are narrower both above and below.

V. Forewing black with bluish and greenish sheen, without any markings other than a straight pale ochreous sharply marked transverse band running from the anal angle about vertically to the costal margin.

pelasgus. **C. pelasgus** *Stoll* (8 a) is one of the smaller species of *Castnia* (expanse of wings 43 to 58 mm.) and widely distributed in South America. Below, the light band is broader than above. — **unifasciata** *Fldr.*, from the Amazon, has the band of the forewing pure white.

X. Forewing blackish olive-violet with whitish Y-shaped band, hindwing red with black transverse band and black margin.

hecate. **C. hecate** *H.-Schäff.* (4 e) inhabits Hayti. Underside of forewing reddish yellow with blackish apex and the band of the upperside shining through.

Z. Forewing dark with broad and sharply marked transverse band which is elbowed in a right angle, being concave proximally, and three subapical vitreous spots. Hindwing black with two rows of red spots.

veraguana. **C. veraguana** Westw. (3 c ♀) occurs in Panama. In 1896 SCHAUUS described a ♂-form from Colombia under the provisional name of **C. govora** (8 d), the forewing only differing in that the subapical spots are more oblique, while the hindwing is velvety black with a row of large red marginal spots. Expanse 108 to 130 mm. I was enabled to examine a specimen of this form (from Bogota, Tring Museum) and believe that it is the ♂ of *veraguana*.

II. Gazera:

Forewing elongate-ovate.

(cf. Appendix pp. 16 to 17.)

A. Wing black with a light yellow spot in the hindwing.

mimica. **C. mimica** *Fldr.* (6 e) occurs at the Amazon, has red spots on body and at the base of the forewing and usually has a larger spot on the hindwing than our figure indicates.

B. Wings black with yellowish spots shining through.

linus. **C. linus** Cr., from Guiana, is represented in Brazil by the form **heliconioides** H.-Schöff. (7 c); true *heliconioides* differs from *heliconioides* in its lesser size, in the markings being paler yellow, the single spots of the lighter portion near the anal angle of the forewing shorter, the light submarginal spots of the hindwing, especially the two anterior ones, probably always shorter, and the two white dots in the anal angle present in *heliconioides* being absent in *linus*; the veins of the light discal area of this wing are not black and not darker than the ground-colour or only slightly so; the black transverse band of the underside on the hindwing is altogether broader than in *heliconioides*, and never separated into spots in the middle. — There is a form from Tarap in Peru before me which differs from *einus* in the following points: the light subapical band of the forewing is broadly ovate (9 × 14.5 mm.), the black band bounding it proximally is narrow, the subapical light area merges together with that in the anal angle, the light spot at the apex of the cell is rounded in a semicircle on the outside, in the anal angle of the hindwing two light dots are present, as in *heliconioides*. Expanse 80 mm (♂).

peruviana. I name this form **peruviana** form. nov. — There is a ♂ before me from Paraguay which probably belongs to *micha*. **micha** Druce, but it differs from the description in that the black band of the forewing is not very broad, the black transverse band of the forewing does not run into the anal angle any more than it does in the other forms of *linus*, but into the outer margin, the white submarginal spots of the forewing are three in number, and situated in the anterior half of the margin, the black transverse band of the hindwing is narrower than in *linus*, expanse 89 mm. The original description of *micha* reads as follows: "Primaries and secondaries hyaline, slightly irrorated with black scales; the veins all black; the costal, outer and inner margin edged with black; primaries very broad; a black band crosses the wing beyond the cell from the costal margin to the anal angle, and on the inner margin near the anal angle is a large round black spot; a black band crosses the cell about the middle; two white elongated spots about the middle of the outer margin. Secondaries crossed below the middle from the costal margin to the anal angle by a wide curved black band, the outer margin black. Head, antennae, abdomen, and legs black; sides of the abdomen greyish, with a white spot on the last three segments; thorax spotted with white. Expanse 4½ inches. Paraguay". — If the Paraguayan form before me should require a name, it might be called **michana** m.

linoides. **C. linoides** *spec. nov.* (8 b). The ♀ is similar to *linus*, but the markings of the forewing are narrower and white, the veins of both wings not scaled with black, the sublimbal spots of the hindwing white and much smaller than in *linus*, etc. — Paramba, 3500 ft., III, 1897, dry season (Type in Tring Museum).

dodona. **C. dodona** Druce. Forewing long, narrow, hyaline, with black veins apical band ovate and very broad, a black band straight across the middle of the cell. Hindwing with very small hyaline median area and a broad

black band from the costal margin to the anal angle; margin black with a few small white spots at the anal angle. Body black, antennae black with yellow tips, sides of abdomen light yellow. Expanse 121 mm. — Ecuador, Amazonas.

C. Smaller *Acraca*-like insect, with the ground-colour of both wings reddish, veins and marginal band of hindwing deep black; on the forewing a pale yellow subapical band.

C. acraeoides *G. R. Gray* (= *aetionophorus Koll.*) (8 a) occurs in Brazil, measures 60 to 70 mm in expanse *acraeoides*, and in the black marginal band of the hindwing bears a row of whitish dot-like spots which are bordered by the band at least posteriorly and laterally, while in *nervosa form. nov.* they are placed before the band, which is *nervosa*, only half as broad; this form, of which I have before me two ♀♀ specimens from São Paulo, both without abdomen, is moreover distinguished by the rather larger size (up to 74 mm.), the black veins more sharply marked, especially beneath, light ground-colour with a fairly distinct bluish green sheen. — GRÜNBERG described the metamorphosis in *Deutsche Entom. Zeits.*, 1909, pp. 127 to 130.

D. Forewing black, with yellow, red or brown markings, without a complete row of yellow submarginal spots, in the hindwing the afore-mentioned light colours usually predominate and the black forms the markings.

C. pellonia *Druce* (8 b), from the Upper Amazon, measures 85 mm in expanse, has the hindwing black, *pellonia*, with orange yellow markings only in the costal area, sometimes also with yellow submarginal spots; in the forewing the reddish yellow colour forms a transverse band not reaching the margin and enclosing a black round spot anteriorly, a narrow submedian band and a similar one at the inner margin. — *songata form. nov.* (8 b) *songata*, is distinguished especially by the absence of the black spot in the transverse band of the forewing. Rio Songo to Rio Suapi, Bolivia, 1100 m., in March (Tring Museum).

C. tarapotensis *Preiss* inhabits Eastern Peru; the black areas are dull, rather brownish, the light *tarapotensis*, ones greyish yellow in the forewing, forming an angulate band reaching from the base to the anal angle and two or three transverse bands in the costal area; on the hindwing an orange yellow straight band 6 or 7 mm. broad extends from the inner margin to the costal margin near the apex, and a row of light yellow angular submarginal spots is present.

C. melanolimbata *nom. nov.* (= *buckleyi Preiss nec Druce*) (8 a) is most easily distinguished from *melanolimbata*, *tarapotensis* by the underside of the forewing, which in the proximal two-thirds of its length is light-coloured, with the exception of a narrow band at the costal margin, a longitudinal streak and a transverse spot in the cell, as well as a large round spot outside the cell, which markings are black. — The form from Peru figured by PREISS as *buckleyi* differs from true *buckleyi*, described from Ecuador, in the absence of the light sublimbal spots in both wings, and in other respects also the markings of the two forms are not identical (cf. the original figure of *buckleyi* in *Proc. Zool. Soc. London*, 1882, t. 60, f. 3, with PREISS's plate V, fig. 2 and VII fig. 10). I have therefore given a new name to the species described by PREISS (having examined PREISS's type!).

C. ecuadoria *Ww.* (6 e) (= *ecuadorina* on our plate) is so well characterised by the markings of both *ecuadoria*, the thorax and the wings that it is not easily mistaken. — Ecuador.

C. simulans *Bsd.* (7 b), from Colombia, is distinguished i. a. by the straight and sharply marked *simulans*, transverse band of the apical half of the forewing.

C. personata *Wkr.*, from Guyaquil, has the forewing dark yellow with black markings; the apex is *personata*, broadly black, in the costal area a black, rather oblique, transverse spot which originates shortly before the middle of the forewing, from outside the middle of this margin an oblique band stretches to the centre and is followed by four more distinct yellow longitudinal spots. Hindwing in the middle lighter than the forewing, the costal margin, a median band and the distal margin black. The latter with four white spots. Expanse 36 mm. — According to WESTWOOD closely allied to *simulans*.

C. cononia *Westw.* (8 b), from Ecuador, is closely allied to *ecuadoria*, but the discocellular veins 8 and *cononia*, 9 are further apart. Moreover, the forewing has a postmedian transverse row of white spots, the red colour of these wings is separated into spots, and the black spots of the hindwing sharply are marked.

E. Like D, but on the forewing there is a row of yellow submarginal spots, occasionally confluent.

C. buckleyi *Druce*, from Ecuador, is similar to *melanolimbata*, but easily distinguished by the presence *buckleyi*, of light sublimbal spots in both wings (cf. species mentioned above). The hindwing only has a black shadow in the anal angle, and the black spot at the apex of the cell of the forewing is much smaller than in *melanolimbata*.

C. mars *Druce*, from Ecuador, occurs at the Upper Amazon (Pebas) in a form figured by PREISS (whose *mars*, excellent figure we reproduce here) under the name of *mars*, which is distinct from true *mars*, and which I name *amazonica* (7 b). True *mars* differs from this *amazonica* in the black median oblique band of the hindwing being shorter and narrower and consequently much narrower than the red patch lying on its inner side; the black marginal band of the hindwing also is narrower, the black submedian costal transverse band of the forewing is shorter and the black longitudinal bands of this wing narrower than in *amazonica*. *amazonica*.

C. melessus *Druce* (7 a), from the Upper Amazon, is distinguished i. a. by the large, sometimes confluent *melessus*, sublimbal spots of the forewing *).

*) This figure also, like many others, is taken from PREISS's work on Castniidae, the figures of which, some of them coloured, are excellent reproductions.

- zagraea*. **C. zagraea** *Fldr.* (7 c) occurs in Panama. The four specimens of this species before me like their figure in *Biolog. Central.-Amer.* do not show the lighter colour at the margin of the forewing present in our figure.
- carilla*. **C. carilla** *Schaus.* Antenna yellow with black base. Thorax dark brown with yellow spots. Abdomen reddish with a sublateral black stripe, whitish yellow beneath. Forewing black, basal half of the cell and a broad longitudinal band in the dorsal area reddish brown, a spot at the apex of the cell and a streak opposite at the costal margin yellow, a postmedian rectangular brown spot traversed by vein 3, a subterminal oblique row of yellow spots, a row of yellowish white marginal spots. Hindwing reddish with broad black subcostal band, black marginal band deeply dentate on the inner side and a postmedian black band between veins 2 and 4. Expanse 96 mm. Allied to *C. zagraea*, but the basal brown markings are quite different. — Costa Rica.
- columbina*. **C. columbina** *Bsd.*, from Colombia, measures 120 mm. in expanse and has the forewing black with two red longitudinal bands from the base, the lower one of which ends in two whitish smears, moreover about four white spots are present and towards the apex there are two parallel rows of white spots. Hindwing reddish yellow with black marginal band, and white row of spots as well as 2 or 3 isolated black spots.
- cycna*. **C. cycna** *Westw.* (7 d, on the plate misprinted as *cygna*) from Colombia, sometimes occurs in a form (type ♂ from Bogota) in which the light spot situated behind the transverse spot at the apex of the cell of the forewing merges into the postmedian row of spots, while these spots are confluent, forming a continuous band (f. **modificata** *form. nov.*) (cf. plate VI, fig. 7 in PREISS, *Neue Arten Castnia*).
- modificata*. **C. modificata** *form. nov.* (cf. plate VI, fig. 7 in PREISS, *Neue Arten Castnia*).
- daguana*. **C. daguana** *Preiss*, from W. Colombia, strongly resembles *zagraea*, but is smaller (expanse 68 mm.), while a yellow longitudinal patch is present also in the cell of the forewing, the submarginal spots of the forewing are smaller, those of the hindwing are not pointed at the distal end.
- hahneli*. **C. hahneli** *Preiss*, from Venezuela, is also very like *zagraea*, but considerably smaller (expanse 61 mm), colour paler, position and shape of spots at the hindmargin on the underside of the forewing different, the postmedian light transverse markings of the same wing appear as a continuous band instead of a row of spots, etc.
- michaeli*. **C. michaeli** *Preiss* (6 e), from the Upper Amazon, is characterised i. a. by the markings of the proximal half of the forewing.
- juanita*. **C. juanita** *Preiss*, from N.-W. Colombia, is one of the largest species of *Gazera* (length of wing 53, expanse about 105 mm.), the only specimen before me, the type, is defective, and has orange-red hindwing, bearing a deep black marginal band about 14 mm. broad and sharply marked on its inner edge, enclosing a few small yellow submarginal spots. In the forewing a similar marginal band is present, otherwise the forewing is light yellow with two or three black longitudinal bands and two black spots.
- garleppi*. **C. garleppi** *Preiss*, from Bolivia, measures 90 mm in expanse and resembles *zagraea*, the black sublimbal spots of the hindwing are, however, distant from each other and quite isolated, and the black marginal band has quite short teeth on its inner side, the sublimbal spots of the forewing are smaller, and the row is broadly interrupted in the middle. A postmedian transverse row of spots is only indicated by a small light smear, etc.
- salvina*. **C. salvina** *Westw.* (7 e), from Panama, occupies a rather isolated position in this group by the widely extended deep black colour of the forewing and the markings consisting of single white spots.
- cratina*. **C. cratina** *Westw.* (7 d), from the Amazon, also differs from the type predominant in this group, i. a. in the light veins of the forewing.
- F. Hindwing uniformly black. Forewing black with yellow transverse marking in the centre.
- truxilla*. **C. truxilla** *Westw.* (7 b), from Colombia, looks rather strange on account of the almost entire absence of the spots otherwise so strongly prominent among *Gazera*.

Addenda.

Species which could not be included in the two preceding divisions of the genus *Castnia* (cf. p. 7).

- hechtiae*. **C. hechtiae** *Dyar* (8 a), from Mexico, is gray, forewing with black shadows and a white band running from near the base along the median vein to the base of vein 2, then filling out the space between 2 and 3, afterwards extending obliquely costad close to the cell, ending at vein 7. Hindwing orange red with strongly curved black band at the apex of the cell, a submarginal band of black spots and narrow black marginal band. ♂ expanse 65 mm. — This species, with which I have only lately become acquainted, should form a separate group among the true *Castnias*.

C. marcus Jord. (8 c). ♀: Body green, with bluish and ochreous red tints. Forewing metallic dark green, in the centre of the costal area a large irregular creamy yellow spot. Hindwing ochreous red, but so strongly shaded with purplish black that the ground-colour is only distinct at the anal angle and in a small area in the cell; the wing has a blue or green sheen in certain lights. Expanse 42 mm. — Pebas. *marcus.*

C. gramivora Schaus. Body above light brown, below whitish. Forewing light brown, partly olivaceous, in the distal half a large semitransparent area, which does not extend to the margins, is transected by brown veins and anteriorly interrupted by a large brown spot, which extends from the costal margin. Hindwing brown, reddish at the base, with reddish brown marginal spots and a large semitransparent submarginal area. The wings are much paler beneath. Expanse 64 mm. São Paulo, Brazil. — The form of the ♀ figured on pl. 8, **parana** form. nov. (8 d), is presumably not specifically distinct from *gramivora*, but is smaller (45 mm), the semidiaphanous area of the forewing is centrally not interrupted by a brown spot, the cell of the forewing bears a semitransparent spot, and both wings have a narrow brown marginal band. Castro, Paraná, in the Tring Museum. *gramivora.* *parana.*

C. corrupta Schaus. Dark brown, appearing dark metallic green in certain lights, anus orange-red. At the anal angle of the hindwing a red spot, and between this spot and the centre of the wing creamy white scales. On the underside the wings are dusted with reddish scales, which form an indistinct band on the forewing and two more distinct ones on the hindwing. Expanse 110 mm. — Colombia. *corrupta.*

C. angusta Druce. ♂: Body dark brown, legs black-brown. Forewing dark brown, bluish at the base and distally on the veins; at the apex of the cell a light yellow spot, beyond which there is a narrow yellow transverse line running from the costal margin to the hind angle; fringes yellow. Hindwing with the ground as on forewing; beyond the centre a transverse row of narrow, yellow, luniform spots from near the apex to the anal angle, and near the margin a row of 6 round yellow spots, fringes also yellow. Underside lighter brown, on the forewing the yellow band much broader than above, and there is a sublimbal row of 3 yellow spots; hindwing with two rows of yellow spots. Expanse 165 mm. — Ecuador. *angusta.*

C. laura Druce, from Chapada in Brazil, has the forewing brown with a broad white band from the centre of the costal margin to the hind angle, narrowing posteriorly; near the apex 6 round white spots, of which the three anterior ones form a straight row, while the three posterior ones are placed in a slightly curved row; fringes brown and white; underside like upper, but the white markings more sharply defined, there being moreover a row of large orange-yellow marginal spots. Hindwing brown, with a row of large, pure white spots from the costal margin almost to the anal angle, and large orange-yellow marginal spots; underside like upper, but lighter; fringes brown. Body and legs dark brown, anus orange. Expanse about 102 mm. *laura.*

C. dolopia Druce. ♀: Abdomen black, brown at the base like the rest of the body; antenna black with light brown apex. Forewing dark brown, with large greyish brown spot at the apex of the cell, beyond the latter a transverse row of greyish brown spots edged with black, at the hindmargin two black luniform spots. Hindwing black, with a row of brownish white spots from near the anal angle almost to the apex; fringes brownish white. Underside of both wings light brown, all the spots much more distinct and edged with black. Expanse 197 mm. — Ecuador. *dolopia.*

C. delecta Schaus. ♂: Thorax whitish grey, venter orange-yellow, the body otherwise brown. Forewing reddish brown, with large (dark brown?) spot at the apex of the cell, a dark brown line from the centre of the hind margin to the apex, a subapical white spot, and dark brown fringes. Hindwing reddish, black posteriorly at the base, distally with 5—6 darker spots and a brown marginal band from the anal angle to vein 6. Expanse 49 mm. In the ♀ the forewing yellow, partly darker, with two white subapical spots, basal area reddish brown. Hindwing reddish yellow, with orange veins, and smaller spots. Expanse 57 mm. — Costa Rica, Mexico. *delecta.*

C. wagneri Buchecker, from Colombia, is unfortunately not known to me, nor have I seen a description. *wagneri.*

The two following species form a group by themselves, being characterised, *inter alia*, by the small size and the magnificent colouring (at least in *erycina*); they are both unknown to me in nature.

C. erycina Westw. (= *hyperbius* Westw. in tab.), from Ecuador, is (together with the next species) an isolated form recalling Erycinidae, from which it has derived its name. The size (expanse 40 mm) is quite exceptionally small among the *Castniae*; the forewing is blue at the base for a distance of 5 mm, then follows a red transverse band, slightly narrower, the rest of the wing being glittering green; the ground appears to be dark everywhere. Hindwing blue-black from the base to two-thirds, glossy silvery green in the distal area, and blood-red at the costal margin.

C. pelopia Druce, from the interior of Colombia, is said to be nearly allied to *erycina*, but is much more black, the underside of both wings is grey-green, and the venter light red, while in *erycina* it bears green bands. *pelopia.*

Alphabetical List

of the American *Castniidae* with references to the original descriptions.

* signifies that the form is figured at the place quoted.

- aberrans Cast. *Strand*, Seitz, *Macrolep.* vol. 6 p. 10.
aeraeoides Cast. (Gaz.) *G. R. Gray*, *Griff. Animal Kingdom* XV. t. 53.
actor Cast. *Datn.* Monogr. *Castniae* p. 8. *
ahala Cast. *Druce*, *Ann. Mag. Nat. Hist.* (6) 17, p. 217.
albofasciata Cast. *Schaufl.* *Nunquam Otiosus* I, p. 10.
alboinsignita Cast. *Strand*, Seitz, *Macrolep.* vol. 6 p. 13. *
amalthaea Cast. *Druce*, *Entom. Monthly Mag.* 26, p. 69.
amazonica Cast. (Gaz.) *Strand*, Seitz, *Macrolep.* vol. 6 p. 15. *
amycus Cast. *Stoll*, *Pap. Exot.* t. III. 227, DE *.
angusta Cast. *Druce*, *Ann. Mag. Nat. Hist.* (7) 20, p. 505.
arehon Cast. *Burm.* *Descr. Rép. Arg. Lép. Atlas*, p. 56.
[nicht 66! (Kirby)].
argus Cast. *Bsd.* *Lép. Hét.* I. p. 522.
atymnius Cast. *Dalm.* Monogr. *Castniae*, p. 12.

besekai Cast. *Mén.* *Cat. Lép. Pétersb.* II. p. 129. *
bipunctata Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 14.
bivittifera Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 8.
bogota Cast. *Strand*, *Arch. f. Naturg.* 1911. I. 3. *Supplh.* p. 99.
boisduvali Cast. *Wkr.* *List Het. Br. Mus.* 1, p. 27.
brunneata Cast. *Strand*, Seitz, *Macrolep.* vol. 6 p. 8.
buckleyi Cast. (Gaz.) *Druce*, *Proc. Zool. Soc. Lond.* 1882, p. 778. *

caecica Cast. *H.-Schäff.* *Außereur.* *Schmett.* p. 143. *
earilla Cast. (Gaz.) *Schaus*, *Ann. Mag. Nat. Hist.* (8) 7, p. 192.
earus Cast. *Cr.* *Pap. Ex.* I. t. 18. f. A, B. *
easumilus Cast. *Hbn.* *Sammlg. exot.* *Schmett.* II. *
catharina Cast. *Preiss*, *Neue Arten Castnia*, p. 7. *
chelone Cast. *Hopff.* *Neue Schmett.* II, p. 7. *
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elitareha Cast. *Westw.* *Trans. Linn. Soc.* (2) 1, p. 176.
cochrus Cast. *F.* *Mant. Insect.* II, p. 25.
eolumbina Cast. (Gaz.) *Bsd.* *Lép. Hét.* I, p. 546.
eombinata Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 14. *
cononia Cast. (Gaz.) *Westw.* *Trans. Linn. Soc. Zool.* (2) 1, p. 188. *
eratina Cast. (Gaz.) *Westw.* *Trans. Linn. Soc. Zool.* (2) 1, p. 188. *
eronida Cast. *H.-Schäff.* *Außereur.* *Schmett.* f. 142. *
eronis Cast. *Cr.* *Pap. Exot.* II. t. 178. *
corrupta Cast. *Schaus*, *Journ. New York Entom. Soc.* IV, p. 147.
eyena Cast. (Gaz.) *Westw.* *Trans. Linn. Soc. Zool.* (2) 1, p. 191. *

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dalmani Cast. *G. R. Gray*, *Trans. Ent. Soc. Lond.* (1) 2, p. 145.
deeussata Cast. *Godt.* *Encycl. Méthod.* 9, p. 799.
defasciata Cast. *Strand*, Seitz, *Macrolep.* vol. 6 p. 8.
delecta Cast. *Schaus*, *Ann. Mag. Nat. Hist.* (8) 7, p. 192.
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diva Cast. *Bthr.* *Lep. Exot.* p. 46. *
dodona Cast. (Gaz.) *Druce*, *Ann. Mag. Nat. Hist.* (6) 17, p. 218.
dolopia Cast. *Druce*, *Ann. Mag. Nat. Hist.* (7) 20, p. 505.
drucei Cast. *Schaus*, *Ann. Mag. Nat. Hist.* (8) 7, p. 191.

ecuadoria Cast. (Gaz.) *Westw.*, *Trans. Linn. Soc. Zool.* (2) 1, p. 189. *
endelechia Cast. *Druce*, *Proc. Zool. Soc.* 1893, p. 280.
erycina Cast. (Gaz.?) *Westw.* *Proc. Zool. Soc. Lond.* 1881, p. 141. *
eudemia Cast. *G. R. Gray*, *Trans. Ent. Soc.* 2, p. 140.
euphrosyne Cast. *Perty*, *Del. Anim. Art.* p. 155. *
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hegemon Cast. *Koll.* *Ann. Wien. Mus.* II, p. 217. *
heliconioides Cast. (Gaz.) *H.-Sch.* *Außereur.* *Schmett.* f. 15. *
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indeora Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 12.
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laura Cast. *Druce*, *Ann. Mag. Nat. Hist.* (6) 17, p. 216.
leopoldina Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 9.
licoidella Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 8. *
lieoides Cast. *Bsd.* *Lép. Hét.* I, p. 527.
licus Cast. *Drury*, *Ill. Ex. Ent.* I. t. 16, f. 1—2. *
linoides Cast. (Gaz.) *Strand*, Seitz, *Macrolep.* vol. 6, p. 14. *
linus Cast. (Gaz.) *Stoll*, *Pap. Exot.* III, t. 257, f. A. *

maeula Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 9.
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marcelserres Cast. *Godt.* *Encycl. Méthod.* 9, p. 800.
mareus Cast. *Jord.* *Novit. Zoolog.* 15, p. 253.
maris Cast. *Dalm.* Monogr. *Castn.* p. 16. *
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meditrina Cast. *Hopff.* *Neue Schmett.* II t. 5, f. 4. *
melanolimbata Cast. (Gaz.) *Strand*, Seitz, *Macrolep.* vol. 6, p. 15.
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miehana Cast. (Gaz.) *Strand*, Seitz, *Macrolep.* vol. 6, p. 14.
mimiea Cast. (Gaz.) *Fldr.* *Reise Novara* t. 79, f. 4. *
modificata Cast. (Gaz.) *Strand*, Seitz, *Macrolep.* vol. 6, p. 16.
mygdon Cast. *Dalm.* Monogr. *Castniae*, p. 20. *
menetriesi Cast. *Bsd.* *Lép. Hét.* I, p. 511.

nervosa Cast. (Gaz.) *Strand*, Seitz, *Macrolep.* vol. 6, p. 15.

orestes Cast. *Wkr.* *List. Het. Br. Mus.* I, p. 26.
orizabensis Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 11. *
palatinus Cast. *Cr.* *Pap. Exot.* II, t. 159. *

- pallasia* Cast. *Esch.* Kotzebue Reise III, p. 217. *
papagaya Cast. *Weslw.* Trans. Linn. Soc. Zool. (2) 1, p. 170. *
papilionaris Cast. *Wkr.* List. Het. Br. Mus. 31, p. 42.
paraguayensis Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 13.
parana Cast. (Gaz.) *Strand*, Seitz, *Macrolep.* vol. 6, p. 17. *
pauperata Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 8.
pelasgus Cast. *Stoll*, Pap. Exot. III. t. 202, f. D. *
pellonia Cast. (Gaz.) *Druce*, Ent. Month. Mag. 26, p. 70.
pelopia Cast. (Gaz.?) *Druce*, Ent. Monthly Mag. 26, p. 69.
peulope Cast. *Schauf.* Nunquam Otiosus I, p. 9.
persouata Cast. (Gaz.) *Wkr.* List. Lep. Het. Br. M. 31, p. 43.
peruviaua Cast. (Gaz.) *Strand*, Seitz, *Macrolep.* vol. 6, p. 14.
phalaris Cast. *F.* Ent. Syst. III. 1, p. 45.
preissi Cast. *Slgr.* = *staudingeri* *Preiss* [nom. praeocc.] Neue und selt. Art. Castnia, p. 7 * (1899).
procera Cast. *Bsd.* Lép. Hét. I, p. 503.
pusillima Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 10*.
pylades Cast. *Stoll*, Pap. Exot. IV. t. 387, Fig. A—B. *

rufimaculata Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 10.
rufolimba Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 8.*
rutila Cast. *Fldr.* Reise Novara, Lep. t. 79 f. 1. *

salasia Cast. *Bsd.* Lép. Hét. I, p. 529.
salvia Cast. (Gaz.) *Weslw.* Trans. Linn. Soc. Zool. (2) 1, p. 190. *
satrapes Cast. *Koll.* Ann. Wien. Mus. II, p. 216. *
schreibersi Cast. *Mikan*, Del. Flor. Faun. Bras. t. 18. *
separatula Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 12.
simulans Cast. (Gaz.) *Bsd.* Lép. Hét. I, p. 547. *

sougata Cast. (Gaz.) *Strand*, Seitz, *Macrolep.* vol. 6, p. 15. *
sora Cast. *Druce*, Ann. Mag. Nat. Hist. (6) 17, p. 217.
staudingeri Cast. *Druce*, Ann. Mag. Nat. Hist. (6) 18, p. 28.
strigata Cast. *Wkr.* List. Het. Br. Mus. 1, p. 30.
subvaria Cast. *Wkr.* List. Het. Br. M. I, p. 25.
subvariana Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 9.*
superba Cast. *Strand*, Archiv f. Naturg. 1912, A. 9. p. 146.
syphax Cast. *F.* Syst. Ent. p. 480.

tarapoteusis Cast. (Gaz.) *Preiss*, Neue Arten Castnia, p. 10.*
thais Cast. *Drury.* Illustr. III. t. 16, f. 4. *
therapon Cast. *Koll.* Ann. Wien. Mus. II, p. 218. *
tricolor Cast. *Fldr.* Reise Novara, Lep. IV, t. 79, f. 3. *
tripunctata Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 14.
tristicula Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 13.
truxilla Cast. (Gaz.) *Westw.* Trans. Linn. Soc. Zool. (2) 1, p. 190. *

umbratula Cast. *Strand*, Seitz, *Macrolep.* vol. 6, p. 10.*
unifasciata Cast. *Fldr.* Reise Novara, Lep. t. 79, f. 5. *
uruguayana Cast. *Burm.* Deser. Rép. Arg. Lép. Atlas II, p. 56 [nicht 66!].

veraguana Cast. *Weslw.* Trans. Linn. Soc. Zool. (2) 1, p. 105. *
viryi Cast. *Bsd.* Lép. Hét. I, p. 515. *

wagneri Cast. *Buchecker*, Syst. Ent. Castn. t. 20, f. 26. *

zagraea Cast. (Gaz.) *Fldr.* Reise Novara t. 79, f. 2. *
zeryuthia Cast. *G. R. Gray*, Trans. Ent. Soc. Lond. (1) 2, p. 144.

2. Family: Zygaenidæ.

This family, for the description of which we refer the reader to Vol. 2 (p. 3; 4) and Vol. X (p. 5), is very poorly represented in America. The forms which occur there are all small and in general appearance as well as in colouring resemble species of other families, especially Lithosias and Micros, so that it is only recently that they have been recognised as belonging to the Zygaenids. They were formerly treated as a distinct family under the name of *Pyromorphidae*, but there is nothing in their structure to justify a separation from the *Zygaenidae*. The head is similar in build to that of the *Zygaenidae* of the Old World, the legs and antennae agree with those of many of the Old World species of this family, the claws are toothless as in the latter, and the submedian vein (vein 1 c) is well developed in both wings.

With the exception of a few species found in the United States, the American Zygaenids are very rarely met with. They are very poorly represented in collections, and their study is consequently very difficult, especially as many of the species are uniform in colour and variable in venation. The classification here adopted must therefore be regarded as merely a temporary one. The number of the species actually existing is evidently very much larger than the number of those as yet known.

The moths are sluggish and in daytime rest on leaves, twigs and low herbage, or suck at damp stones in brooks.

The early stages are only known of a few North American forms; practically no observations have been recorded of the larvae, pupae, food-plants and habits of the moths of Central and South America. All that we know of these species are a few specimens in museums, which, moreover, are generally in a bad state of preservation.

The American Zygaenids all have the tongue well developed and the palpi short. The spurs of the middle and hindtibiae are always very short, and the hindtibia has always only one pair. The spur of the foretibia (epiphysis) is usually present. The absence or presence of this spur is of no great importance, as quite closely allied species differ in this respect. Our division of the Old World *Zygaenidae* into *Zygaeninae* with epiphysis, and *Chalcosiinae* without it, therefore cannot be strictly applied to the American forms. But I believe the American species without epiphysis to be *Zygaeninae* which have secondarily lost this spur.

A. Hindwing with 8 veins.

1. Genus: **Euclimacia** gen. nov.

Antenna of ♂ with short pectinations, of ♀ dentate. Foretibia with spur. Spurs of middle and hindtibiae exceedingly short. Venation differing from that of all other Zygaenids. In the forewing 13 veins (instead of 12), 11 of which branch off from the cell, costal vein very short, the first four branches almost vertical to the costal margin, cell very long, extending beyond $\frac{3}{4}$ of the length of the wing, the first subcostal branch originating at $\frac{2}{5}$ of the cell, the lower median branch being opposite the 4th subcostal branch. In the hindwing the costal vein confluent with the subcostal vein almost to the apex of the cell, the middle and lower radials close together from the lower angle of the cell, the lower median branching off at $\frac{3}{5}$.

One species.

E. tortricalis Druce (9 a). Bluish black; head and thorax with light stripes; abdomen above ringed *tortricalis*. with orange. Wings reddish orange, costal and outer margins of forewing black with pale yellow streaks between the veins, in the hindwing a longitudinal stripe and a band of elongate marginal spots blue-black. — Costa Rica, one pair in the British Museum.

2. Genus: **Malthaca** Clem. (= *Pyromorpha* H.-Schäff. indescr.)

Antennae bipectinate or dentate. Venation complete in both wings, in forewing 12, in hindwing 8 veins. Anterior and posterior angles of the cell of hindwing at the same level or the posterior angle produced. — The fairly numerous species here united have hitherto been placed in a number of genera, which were thought to differ particularly in outline and in some details of venation.

The only character in venation which is apparently fairly constant, and divides the species into two groups, lies in the connection of the costal vein with the cell of the hindwing.

- a) The costal vein of the hindwing is to the greater extent confluent with the cell and the oblique vein which connects the costal vein (vein 8) with the free subcostal branch (vein 7) is short. — Here belong *dimidiata* (genotype of *Malthaca* Clem. = *Pyromorpha* H.-Schäff. indescr. et partim).

radialis (genotype of *Gingla Wkr.*), *josalis*, *aequalis*, *marginata*, *thyesta*, *fusca*, *martenii* and some of the nov. spec.

- b) The costal vein of the hindwing is united to the cell to a lesser extent, and the oblique vein between the costal and the subcostal branch is long. — Here belong *centralis*, *mexicana*, *timon* (genotype of *Coementa Druce*), *correbioides* (genotype of *Felderia Kirby*), *rata* and *morio*.

For the purpose of the present work, however, it is advisable to arrange the species according to colour.

- a) Forewing at least partly yellow or red.

dimidiata. **M. dimidiata** *H.-Schäff.* (= *perlucidula Clem.*) (9 a). Black, slightly purplish blue, foreleg partly yellowish, wings semitransparent, in the ♂ much more broadly and strongly rounded than in the ♀, with a yellow patch extending from the base to about the middle of the costal margin and from there to the upper submedian vein, but sometimes reduced to a narrow costal stripe. Subcostal branches 3 and 4 of the forewing stalked. Early stages described by DYAR in "Psyche" (1897, p. 128). The larva lives singly in oak-woods beneath the fallen leaves, on which it feeds; when full-grown dark velvety brown with brown warts, the upper three of which are placed in large, rather oblique, pale grey patches. Cocoon brownish, sparsely covered with loose white silk. Hibernates as pupa. — Atlantic States and northern Mexico.

centralis. **M. centralis** *Wkr.* (= *notha Edw.*) (9 a). Black, slightly purplish, the bases of both wings, the sides of the pronotum, a frontal spot and a spot behind the eye, as well as the greater part of the palpi yellow. In both wings the two median branches far apart, in the forewing subcostals 3 and 4 stalked or from the cell. — Arizona and Mexico.

mexicana. **M. mexicana** *Druce* (9 a). Black, patagia anteriorly and prothorax laterally orange-yellow, as are also a frontal spot, the palpi, a spot on the forecoxa, some scales on the foretibia, the greater part of the forewing and the costal margin of the hindwing. — Mexico.

correbioides. **M. correbioides** *Fldr.* (9 a). Like the preceding species, but red instead of yellow, all coxae red at least laterally, frontal spot large. As in *mexicana* the costal vein of the hindwing anastomoses with the cell only for a short distance. — Mexico: Cuernavaca; 1 ♂.

erythromelas. **M. erythromelas** *spec. nov.* (9 a). Purplish black, foreleg with reddish stripe. Wings like *M. centralis* in outline; forewing vermilion, a very narrow costal margin, a broader border to the hind and outer margins the last extending almost to the lower angle of the cell purple-black and somewhat irregular on its inner edge, base also purplish black, veins free or subcostal veins 3 and 4 from the same point, upper median branch near the angle of the cell. Hindwing purple-black, with broad vermilion costal stripe, which extends to below the cell and is obtusely pointed towards the apex; upper angle of cell transversely truncate, between subcostal and first radial the oblique vein connecting the angle with the costal vein longer than half the breadth of the cell, first median branch twice as far from the second median as from the first radial. Length of forewing 12 mm. — 1 ♂ in the Oxford Museum (coll. Westwood) from Mexico.

aequalis. **M. aequalis** *Druce* (9 a). Less deeply red than *correbioides*, the black margin narrower, the hindwing quite black without red costal stripe, vein connecting costal and subcostal veins of hindwing short, oblique. In the forewing subcostals 4 and 5 stalked. — Mexico: Coatepec.

marginata. **M. marginata** *Edw.* (9 b). Body black, thorax orange, wings dull orange, with very narrow black margin, which on the forewing is produced along the costal margin to the middle. — Mexico: Vera Cruz.

teos. **M. teos** *Schaus* (9 b). Body black, collar orange. Forewing light brown, at the costal margin yellowish to $\frac{2}{3}$ of its length, hindwing dull orange, the outer margin of both wings narrowly black as in the preceding. Underside dull orange with black outer margin. — Mexico: Vera Cruz. Not known to me. The figure in Biol. Centr.-Amer. which we reproduce here seems to be inexact (as also that of *marginata*).

rata. **M. rata** *Edw.* (9 b). Pale yellow, upperside of head, the antenna, meso- and metanota and upperside of abdomen as well as the outer margin of both wings purplish black, the marginal band somewhat diffuse, especially on the underside of the hindwing, costal margin of forewing very narrowly black to the base. On the forewing subcostals 3 and 4 stalked, in the hindwing the costal vein anastomosing with the cell for a short distance. — Arizona.

radialis. **M. radialis** *Wkr.* (9 b). Body black striped with yellow, underside with grey bands. Wings yellow with black outer margin; in the marginal band of the forewing between the veins nine pale yellow streaks and in the subcostal fork a pale yellow dot; connecting vein between costal and subcostal veins of hindwing perpendicular to the costal, not oblique, lower angle of the cell strongly produced. In the forewing subcostals 4 and 5 stalked. — Mexico: Vera Cruz.

drucei. **M. drucei** *spec. nov.* (= *radialis Druce nec Wkr.*) (9 b). The legs less extended yellowish grey than in *radialis*, forewing with broad black stripe along the hindmargin, which in *radialis* is only indicated by a few scales, in the marginal band 11 pale yellow streaks, marginal band of hindwing broader anteriorly and posteriorly than in *radialis*; connecting vein between costal and subcostal veins of hindwing directed

obliquely basad, the hind angle of the cell less strongly produced than in *radialis*. — Guatemala.

M. josialis Druce (9 b). Head and sides of thorax and abdomen yellow. Wings black, costal and hind margins of both wings yellow, in the hindmarginal streak of the forewing an abbreviated blue-black streak. In the forewing subcostals 4 and 5 stalked; connecting vein between costal and subcostal of hindwing oblique. — Guatemala.

b) Forewing uniformly dark without yellow or red.

M. timon Druce (9 b). Blue-black; hindwing carmine with narrow black marginal band. Veins of forewing from the cell, costal vein of hindwing anastomosing with the cell for a short distance. — Costa Rica.

M. morio Druce (9 c). Blue-black, abdomen red laterally, hindwing blue. Venation as in *timon*. — Guatemala and Costa Rica.

M. xanthura spec. nov. (9 c). ♀: Uniformly glossy blue, upperside of hindwing, the abdomen and the entire underside tinged with green; the last 2 (above) or 3 (below) abdominal segments orange, with slight purple sheen. Tongue dirty yellowish brown. Antenna pointed, bipectinate, the middle teeth about 4 or 5 times as long as they are broad, all scaled. Spur of foretibia distinct. Veins of forewing from the cell (left wing) or subcostals 4 or 5 stalked (right wing); in the hindwing the costal anastomosing with the cell for a long distance, connecting vein between costal and subcostal oblique and short; in both wings the lower median far proximal and in the hindwing the upper median about in the middle between the lower median and the third radial (as in *timon* and *morio*). Length of forewing 15 mm. — 1 ♀ from Ecuador, without any more exact locality (obtained from Herr NEUBURGER, Berlin) in the Tring Museum.

M. fusca Edw. (= *landia* Druce) (9 c). Body yellow, upperside of head and abdomen blackish, underside of abdomen with broad black stripe, legs to the greater extent dirty yellowish brown. Antennae blue-black. Forewing semitransparent, uniformly brownish black, in oblique aspect with blue sheen, scales very narrow, almost like hair. In the forewing the veins from the cell, but subcostals 3 and 4 usually from one point (probably sometimes stalked), in the hindwing the connecting vein between the costal and subcostal short, oblique. — Arizona, and Sonora in Mexico.

M. martenii French (= *barnea* Druce) (9 c). Black, faintly metallic, in the ♂ the inner side of the forecoxa and forefemur yellowish. Wings semitransparent, scales hair-shaped, denser in the ♀ than in the ♂. Venation as in *fusca*. — Arizona, New Mexico, Sonora in Mexico.

M. thyesta Druce (9 c). Similar to the preceding species, but the anterior portion of the thorax and the occiput yellow. Subcostal 2 of the forewing sometimes absent. — Guatemala.

3. Genus: **Gonioprocris** gen. nov.

Like *Malthaca*, but the upper angle of the cell of the hindwing much further produced than the lower angle, connecting vein between costal and subcostal long, radials 1 and 2 of hindwing from the point of the upper angle, but separate, cell between radials 2 and 3 deeply angulate, the upper arm of the angle longer than the lower one. In the forewing the veins from the cell. — Genotype: *G. xena* spec. nov.

G. xena spec. nov. ♂: Brownish black, with slight purple sheen, thorax above slightly yellowish, underside of head, thorax and abdomen pale yellow, likewise the larger portion of the underside of the legs. Frons broader than one eye (in a frontal view). Antenna with long pectinations, serrate at the tip. Forewing semitransparent, hairy, narrow, yellowish grey to the apex of the cell, the veins and a cell-spot blackish, outer area also blackish, in every cellule two yellowish grey stripes which unite forming an ellipse, a diffuse black discocellular band without yellowish grey scales, cell stalked, median and subcostal veins touching. Hindwing vitreous, very sparsely hairy, fringes black with yellowish grey spot below the 2nd median vein, a yellowish grey postmedian spot below the submedian 2. — 1 ♂ in the British Museum, from the Volcans de Agua, Guatemala, 8500 to 10500 feet (CHAMPION).

G. megalops Druce (9 c). ♂: Frons narrow, eyes large. Body black with a green gloss. Wings green, semitransparent. — Guatemala.

4. Genus: **Pseudoprocris** Druce.

Like *Malthaca*, but the antennae simple, incrassate distally much as in *Zygaena*, densely scaled with the exception of the underside of the club. Veins of forewing from the cell; in the hindwing the connecting vein between the costal and subcostal long.

P. gracilis Druce (9 d). Body, antenna and legs glossy bluish green. Forewing dull bluish green; hindwing transparent with dark edges; below both wings with blue-green gloss, which is stronger on the hindwing than on the forewing. — Mexico: Vera Cruz.

dolosa. **P. dolosa** Druce (9 d). Head and thorax (abdomen missing) as well as antenna and legs black, without distinct blue gloss; forewing semitransparent, blackish with dark edges; hindwing transparent with blackish apex and costal margin; on the underside the costal margin of the hindwing densely clothed with green scales. — Guatemala, only 1 ♀ known.

5. Genus: **Tetraclonia** gen. nov.

Forewing with only 11 veins, as one of the subcostal branches is absent, in the hindwing 8 veins. Very closely allied to *Malthaca*. — Genotype: *T. saucia* spec. nov.

- dyraspes.* **T. dyraspes** Druce (9 d). Very like *Acoloithus falsarius*, rather larger. Black, wings semitransparent, the hairs on the hindwing particularly sparse. Collar yellow, black in the middle. A small species. Connecting vein between costal and subcostal of the hindwing short and very oblique. — Mexico: Guerrero.
- cinniana.* **T. cinniana** Druce (9 d). Body black, thorax anteriorly pale yellow, forewing brownish black, a narrow costal stripe, abbreviated distally, and the hindwing pale yellow, hindwing with broad blackish marginal band. Venation as before. — Guatemala.
- ripena.* **T. ripena** Druce (9 d). Black, frons greyish yellow, collar red, abdomen and wings purple-brown. Forewing semitransparent distally between the dark vein-stripes. Hindwing red, with black outer margin. Forewing beneath with red longitudinal smear in the basal half. Veins of forewing from the cell; connecting vein between costal and subcostal of hindwing very short. — Bolivia.
- latercula.* **T. latercula** Edw. Similar in colour to *Malthaca aequalis* and *correbioides*. Forewing red with broad black marginal band, which is continued at the hind margin as a thin streak and also extends for a short distance along the costal margin. Hindwing with red costal margin. — Arizona.
- dyari.* **T. dyari** nom. nov. (= *laterculae* Dyar). Not known to me in nature. According to DYAR the forewing has 11 veins. Forewing red with narrow black margin which at the costal and hind margins is produced basad as a short thin streak. Costal margin of hindwing rather broadly red. — Arizona.
- forreri.* **T. forreri** Druce (9 d). Uniformly black, wings semitransparent. Connecting vein between costal and subcostal of hindwing long. — Mexico: Milpas. In one specimen subcostal 4 is forked, so that 12 veins are present.
- metallica.* **T. metallica** Schaus. Only known to me from the figure; perhaps belongs to *Malthaca*. Head and thorax black, abdomen dark green. Forewing above greenish black, hindwing metallic blue; underside of both wings metallic blue-green. Expanse 30 mm. — Peru.
- saucia.* **T. saucia** spec. nov. (9 d). ♀: Black, everywhere with a fairly strong blue sheen, upperside of forewing somewhat greenish. Forecoxa with a small red lateral spot. Forewing slightly transparent, the scales being very narrow, and the veins darker than the ground. The connecting vein between the costal and subcostal of hindwing short. Antenna pointed, bipectinate, distally dentate, the branches short and pointed, those of the central segments only being about half as long as the diameter of the shaft. Length of forewing 14 mm. — Cushi, Peru (type), and Yungas de Coroico, Bolivia, two ♀♀ in the Tring Museum.

6. Genus: **Chilioproceris** gen. nov.

As in *Malthaca* both wings with venation complete (forewing 12, hindwing 8 veins), but in the forewing subcostal 1 much more proximal than the lower median, while in *Malthaca* these branches originate from the cell at about the same level; none of the veins of the forewing stalked, in the hindwing the costal anastomosing with the cell for a shorter or longer distance, the connecting vein between the costal and subcostal long, apex of the cell deeply angulate, upper and lower angles truncate, projecting about equally far. Antenna of ♂ bipectinate, that of the ♀ simple, slightly flattened beneath. — Genotype: *Ch. melas* Guér. (1839).

Most easily distinguished from *Proceris* and *Pollanisus* by the presence of a strong foretibial spur.

melas. **Ch. melas** Guér. (9 d). Brownish black, antenna blue, body and upper side of forewing dull dark green without gloss, tongue orange-red. On the underside the hindwing and the apex of the forewing faintly but distinctly purple-blue. — Chile.

B. Hindwing with 7 veins (as the 2nd radial = vein 6 is absent).

7. Genus: **Triplocris** Grote.

Frons broad, produced in ring-shape and the frontal surface of this broad swelling somewhat raised

in cone-shape. Forewing with 11 veins, all free, or subcostals 2 and 3 stalked; in the hindwing the connecting vein between the costal and subcostal short. Foretibia with spur and apical thorn.

T. smithsonianus Clem. (9 e). Black, with slight greenish blue gloss; forewing dull dark bluish green, hindwing more blue, both wings slightly transparent, with blue fringes. Tongue quite small, yellowish white; legs short. Length of forewing 6 to 9 mm. — New Mexico, Colorado, Arizona. — Larva described in detail by DYAR in Proc. Ent. Soc. Wash. 5, p. 33 (1902). When fullgrown, with broad black dorsal stripe edged with white, below which is a pale red line, further down a white-edged black line, a pale red one and a black stripe with a broad white lower edge, and a black subventral line. Cocoon opaque, white, in the ground or among leaves. Food-plant: *Allionia nyctaginea*.

T. yampai Barn. Not known to me in nature. Appears to resemble *Seryda cincta* in colouring. According to kind communication from Dr. McDUNNOUGH the frons is similar to that of *smithsonianus*, but not quite so strongly produced. In the forewing 11 veins (not 12 as in *Seryda*), the two middle subcostal branches (2 and 4, 3 absent) from a point or on a short stalk. Black, collar on the upperside and the abdomen (with the exception of the tip and a broad ventral stripe) red. — Arizona.

8. Genus: **Acoloithus** Clem.

Frons slightly convex, not produced as in the preceding species. Tongue well developed. Forewing with 11 veins, all free, or subcostal 4 and radial 1, or radial 3 and median 1, on a very short stalk, in the hindwing 7 veins, connecting vein of costal and subcostal long.

A. falsarius Clem. (= *ruficollis* Druce) (9 e). Black, with purplish blue sheen. Collar orange-red, interrupted in the middle. Wings brownish black, forewing dull purple-blue, hindwing semitransparent. Tongue pale yellow. Length of forewing 6 to 7 mm. — Atlantic States of the U. S. A. southward to Mexico. — Larva on vine, sometimes injurious, when fullgrown 8 or 9 mm in length. Pale olive, green or reddish, with 5 interrupted longitudinal lines, the upper two warts dark, the third pale with the exception of segment 6. Hibernates as pupa.

A. novarius Barn. and McDun. Like the preceding, but the collar uniformly yellow, not interrupted, and complete also on the underside. Head and legs paler than in *falsarius*, eyes much larger, frons correspondingly narrower, evenly convex and distinctly narrowed anteriorly. — Texas.

A. rectarius Dyar (9 e). Entirely greenish black, cross-veins of the hindwing oblique and not angulate in the only specimen before me — Arizona.

A. opacus spec. nov. (9 e). ♀: Body dull blackish green. Antenna slightly incrassate distally, pectinations short, the longest scarcely as long as the diameter of the shaft. Foretibia with spur. Forewing above dull purplish black, hindwing greenish blue, almost without gloss, underside of both wings faintly purplish. In the forewing all veins free, median 1 near the angle of the cell, median 2 far proximal, in the hindwing the upper and lower angles of the cell at the same level, as the apical (concave) angle of the cell is equilateral. Length of forewing 9 mm. — 1 ♀ from the Rio Aguaca Valley, West Colombia, collected by A. H. FASSL at an altitude of about 2000 m.

A. isochrous spec. nov. (= *pusilla* Druce, nec Wkr., err. determ.). Body, underside of both wings, upperside of forewing and part of the tibiae metallic green, abdomen with coppery sheen, especially beneath. Upperside of hindwing purplish black. Underside of both wings opalescent. In the forewing radial 3 and median 1 on a short stalk. Tongue very pale yellow. — 1 ♂ from the Volcano de Chiriqui, in the British Museum.

A. basalis Edw. (9 e). A large species. Blue-green, slightly glossy, hindwing purplish black, with large grey patch extending from near the base to beyond the apex of the cell and bounded anteriorly by the cell-fold. Veins free. — Mexico: Vera Cruz.

A. flora Schaus (9 e). Similar to *basalis*, wings more triangular with the apex more pointed. The yellowish white area of the hindwing smaller, with broad glossy blue edge, especially at the abdominal side. — Costa Rica.

A. viridis Druce (9 e). Also a large species. Veins free, connecting vein between costal and subcostal of hindwing shorter than in the preceding species, about half as long as the cell is broad; in the right forewing 11 and in the left 12 veins! Upperside of body dull green, wings dull purplish green. Antenna and underside of wing and body green and very strongly glossy. — Southern Brazil: Casa Branca.

9. Genus: **Pycnoctena** Fldr.

Forewing with 12 veins, all free; hindwing with 7, connecting vein between costal and subcostal short, very oblique, upper angle of cell much more produced than the lower. Foretibia without spur (♀), the spurs of mid- and hindtibiae fairly long. Antenna stout, densely bipectinate (♀).

angustula.

P. angustula *Fldr.* (9 e). Upperside of head and thorax, antenna and apex of abdomen blackish blue, underside of thorax and the abdomen red. Forewing narrow, dirty yellow, with purple gloss, a diffuse large spot in the distal area of the cell and the margins black. Basal half of the hindwing reddish yellow, distal area vitreous with the exception of the yellowish grey costal margin, fringes brownish black. Length of forewing 10 mm. — 1 ♀ (type) from the Amazon, in the Tring Museum.

10. Genus: **Seryda** *Wkr.*

Forewing with 12 veins, all free; hindwing with the connecting vein of costal and subcostal about as long as half the diameter of the cell, or shorter, upper angle of the cell less produced than the lower, or both at the same level. Foretibia with spur.

cincta.

S. cincta *Wkr.* ♀: Dull blue-black; antenna with faint blue-green gloss, the pectinations stout, the middle ones about three times as long as the diameter of the shaft. Segments 1 to 4 of abdomen entirely red. Wings narrow, forewing above dull blue-black, hindwing and underside of both wings blackish brown, with faint blue sheen. Apex of cell of hindwing deeply angulate. Length of forewing 8½ mm. — 1 ♀ (type) from the Amazon, in the Oxford Museum.

isa.

S. isa *spec. nov.* (9 e). ♂: Like *cincta*, but the abdomen red only laterally on segments 1 to 3. Branches of antenna very thin, long, filiform, slightly incrassate towards the apex, far apart, the central ones about 6 times as long as the diameter of the shaft. Apex of cell of hindwing deeply angled. — 1 ♂ from Guayaquil, West Ecuador; the forewing very much worn.

actinota.

S. actinota *spec. nov.* (9 f). ♀: Body uniformly greenish blue. Antenna blue, distinctly incrassate distally, then pointed, the pectinations longest between the middle and apex, where they are ¼ as long again as the diameter of the shaft. Wings semitransparent, with very distinct dark veins, wings bluish green, elongate, elliptical, without hind angle. Hindwing and underside of both wings blue. Tongue dark. Length of forewing 11½ mm. — 1 ♀ from the Rio Aguaca Valley, West Colombia, found by A. H. FASSL at an altitude of about 2000 m.

thyana.

S. thyana *Druce* (9 f). Body greenish black; tongue pale yellow. Wings semitransparent, black with faint dark edges, scales of underside hair-shaped. Teeth of antenna of ♂ long and thin. — Guatemala.

glaucotis.

S. glaucotis *Hmps.* (= *mystica*, *Druce*, nec *Wkr.*, err. determ.) (9 f). Smaller than *thyana*, tongue blackish, pectinations of antenna of ♂ at most four times as long as they are broad. Otherwise like *thyana*. — Guatemala, 1 ♂ in the British Museum.

anacreon.

S. anacreon *Druce* (9 f). Broad-winged. Black, a spot between the antennae, a larger one at each side of the occiput, the collar (slightly interrupted in the middle) and the patagia, a median stripe on the mesonotum yellow, as is also the forewing, hindwing orange. Distal margin of forewing and apex of hindwing very narrowly black, forewing likewise with faint black smear at the distal margin near the base. — Costa Rica, and Chiriqui in Panama.

constans.

S. constans *Edw.* (9 f). Head, pro- and mesonota and forewing as well as the costal margin of hindwing orange-red. Antenna and abdomen bluish black, distal margin of forewing and the hindwing black. The black marginal band varies in width. Specimens which are yellow instead of orange-red are ab. **sancta** *Neum.* and *Dyar* (9 f). — Arizona and New Mexico.

basirei.

S. basirei *Druce* (9 f). Like the following species only known to me from *DRUCE*'s description and figure. Black; both wings with yellow costal margin. — Mexico: Vera Cruz.

semifulva.

S. semifulva *Druce* (9 g). Almost like *basirei*, but the hindwing yellow with black marginal band. — Mexico: Vera Cruz.

11. Genus: **Harrisinopsis** *gen. nov.*

♂. In the forewing 12 veins, subcostals 3 and 4 stalked, 5 originating near the 1st radial, in the hindwing 7 veins, all free, costal anastomosing with the cell for a short distance, the connecting vein between the costal and subcostal about as long as half the diameter of the cell, very oblique, upper angle of cell not produced further distad than the lower one. Antenna very stout, pointed, middle branches of pectinations about twice as long as the diameter of the shaft. Foretibia with stout spur. — Genotype: *H. robusta* *spec. nov.*

robusta.

H. robusta *spec. nov.* (9 g). ♂: Antenna and body dull greenish blue, abdomen dull green, forewing above bluish green, upper side of hindwing and underside of both wings brownish black with greenish blue gloss in an oblique view, the metallic gloss everywhere faint. Tongue orange-red. — Amazons, 2 ♂♂ in the Tring Museum. A densely scaled, opaque species distinguished by a very stout body.

12. Genus: **Harrisina** Pack.

Forewing with 11 or 12 veins (in the former case subcostal 3 = vein 9 absent), subcostals 2, 3 and 4 stalked, more rarely only 3 and 4, or 2 and 4 (when 3 is absent). In the hindwing 7 veins, connecting vein of costal and subcostal quite short, sometimes the costal and subcostal stalked, the cross-veins usually only slightly angled or not at all, on the whole oblique, as the upper angle is further distal than the lower one. Foretibia with or without spur. Abdomen without long double tail, but with short tufts of hair laterally and at the apex. — The early stages only known of 2 North American species.

A. Forewing with 11 or 12 veins, subcostal 2 always stalked with the next vein: *Harrisina*. s str.

a. Wings quite unicolorous, without yellow markings.

z) Collar yellow or red.

H. americana Guér. (9 g). Foretibia without spur. Brownish black, with faint metallic purplish blue gloss, collar yellow or orange-red. Forewing with 5 subcostals, of which 2 to 4 are stalked (GUÉRIN's specimen in the Tring Museum). Specimens with only 4 subcostal branches (subcostal 3 absent) are ab. **texana** Stretch. Larva in 2 forms: — 1. In July to August on vine, gregarious, at first entirely pale yellow with white hairs; later sulphur-yellow with black warts, prothorax black with yellow edge; disperse before pupation and spin a small whitish tough cocoon. The moth appears in the same year or in the following spring. — 2. On *Lonicera*. Dorsally yellow with black incisions, on each segment a purplish brown transverse band, on which the warts are placed, the bands connected with a broad purple-brown lateral stripe, lateral fold white from segment 6 onward. — Atlantic States, southward to Texas.

H. australis Stretch (9 g). Like the preceding, but the yellow or reddish yellow of the collar extends to the head and mesonotum and is also present beneath, sometimes the whole forecoxae and a part of the forefemora yellow. Specimens of this form also occur with only 4 subcostal branches. Larva like the aforementioned 2nd form of *americana*. — South-Eastern States: Florida and Missouri. Perhaps only a geographical form of *americana*.

H. ruemelii Druce (9 g). Foretibia without spur. Dull blue-black, upper side of head, the collar and the anterior portion of the mesonotum yellow. Forewing with 11 veins, subcostal stalk short, upper median branch at $\frac{3}{5}$ between the lower median and the third radial, i. e. more proximal than in the preceding species. — Mexico: Vera Cruz, Durango.

H. metallica Stretch (9 g). Foretibia with spur. Glossy greenish blue; collar red. — New Mexico and Arizona.

H. charax Druce (9 g). Foretibia without spur. Forewing with 12 veins. Blue-green. Collar carmine. Forewing black, with a faint blue gloss. — Mexico: Guerrero.

H. elongata Druce (9 h). Blue-black, collar yellow. Wings brownish black, somewhat transparent, faintly metallic. Forewing with 12 veins; in the hindwing the subcostal branch and free part of the costal vein together from the upper angle of the cell. — Mexico: Guerrero.

H. dantasi Schaus. Dull black, collar with an orange spot on each side. — Brazil: Nova Friburgo. Not known to me.

β) Collar dark like the rest of the body.

H. coracina Clem. (9 h). Dull brownish black, with slight bluish green gloss. Foretibial spur very small or absent. — Texas.

H. brillians Barn. and McDun. (= *coracina* Dyar, nec Clem., err. determ.) (9 h). As glossy greenish blue as *H. metallica*. Foretibia with distinct spur. Larva yellow, nuchal shield, a transverse band on segments 3 to 12, and the anal plate black, the bands unequal in length, between them purple spots. On vine. — New Mexico and Arizona.

H. guatemalena Druce (9 h). A small species. Dull black. Wings subdiaphanous. Foretibia without spur. Forewing with 11 veins, stalk of subcostals 2 and 4 (3 absent) very short. — Guatemala, 1 ♂ in the British Museum.

H. mexicana Schaus (9 h). Not known to me in nature. A small dull black species with semitransparent hindwing. Pectinations of antenna longer than in *americana*. — Mexico: Vera Cruz.

H. tersa Druce. Body black, very slightly bluish. Antenna greenish black, distinctly incrassate distally, with very short pectinations. Foretibia without spur. Wings transparent, narrow, the margins of both

wings narrowly black, the cellular and submedian folds of the forewing likewise black, with faint purple sheen. Forewing with 12 veins, subcostals 2 and 4 stalked; in the hindwing the costal and subcostal on a short stalk, the cross-veins very oblique, not angled. Length of forewing 11 mm. — Mexico: Vera Cruz.

chalcina. **H. chalcina** *spec. nov.* ♀: Dull bluish green, distinctly glossy in an oblique view. Pectinations of antenna pointed, the longest of them only slightly longer than the shaft is broad. Foretibia without spur. Wings more strongly rounded distally and posteriorly than in *americana*, broader, semitransparent; forewing with 10 veins, as in the right forewing 2 subcostal branches and in the left a radial and a subcostal are absent, in the left wing the two middle subcostals stalked; the lower median branch much more proximal than the first subcostal in both wings; in the hindwing the costal and subcostal on a short stalk, the cross-vein between this stalk and the next vein deeply and almost acutely angled, the upper arm of the angle twice as long as the lower, the radial and median veins further apart than in *americana*. Length of forewing 13 mm. — 1 ♀ in the Oxford Museum (ex coll. WESTWOOD) from Mexico.

virescens. **H. virescens** *Hmps.* (9 h). ♂: Slightly glossy, body blue-green, forewing more purplish blue; hindwing semitransparent, brownish black with purple gloss. Abdomen with a small red lateral stripe at the base. Forewing with 12 veins, narrow. Foretibia without spur. — Brazil: Petropolis.

janeira. **H. janeira** *Schaus* (9 h). Like the preceding, but the 2nd and 3rd abdominal segments red. — Brazil: Petropolis. Not known to me in nature; perhaps not specifically different from *virescens*.

venata. **H. venata** *spec. nov.* (9 h). ♂: Body uniformly dull greenish blue. Foretibia with spur. Wings semitransparent, forewing bluish green with the veins more densely scaled, outer margin half as long as the wing, hind angle distinct, 12 veins, the lower median less proximal than usual. Hindwing with very narrow dark margin, and dark fringes, the scaling the same in colour as on the forewing, but sparse. The underside of the forewing paler than the upper, the costal margin of both wings strongly metallic green-blue, fringes dark blue-green as above. Length of forewing 11 mm. — 1 ♂ from Santa Catharina, Brazil.

invaria. **H. invaria** *Wkr.* (9 i). Narrow winged and small. Blue-black, the upperside of the forewing, the apex of the hindwing and beneath also the apex of the forewing purple; hindwing and abdomen black, with slight green and purple sheen. Forewing with 12 veins, connecting vein of subcostal and costal of hindwing short. — Santarem, Amazonas.

lepta. **H. lepta** *spec. nov.* (9 i). ♀: Body blackish blue, wings purple-blue, antenna bipectinate, the teeth stout, the middle ones scarcely as long as the diameter of the shaft, the latter very slightly incrassate distally. Foretibia without spur. Forewing with 12 veins, subcostal 1 and median 2 rather far proximal, median 1 near the angle of cell; hindwing small, subcostal and costal stalked, apex of cell very oblique, median 2 near 1, the two veins almost 3 times as far apart at the margin as at the cell. — 1 ♀ from the Rio Agnaca Valley in West-Colombia, found by A. H. FASSL at an altitude of 2000 m.

tergina. **H. tergina** *spec. nov.* (9 i). ♀: Dull greenish black. The central pectinations of the antenna somewhat longer than the diameter of the shaft. Foretibia without spur. Wings semitransparent, with dark veins, the scales much more deeply incised than in the two preceding species, and the fringe-scales more deeply slit. Forewing with 12 veins, median 2 far proximal, median 1 almost in the middle between median 2 and radial 3, in the hindwing the subcostal branching off from the cell, cross-veins from the subcostal to the lower angle very slightly oblique, angled before the 2nd radial, 2nd median approaching the first, which is in the middle between the 2nd median and 3rd radial. Length of forewing 13 mm. — 1 ♀ from Rio Dagua, West-Colombia, collected by F. W. H. ROSENBERG.

lustrans. **H. lustrans** *Beutenm.* (9 i). A large broad-winged species. Body and upperside of forewing blue-green, hindwing and underside of both wings purple-blue. Forewing with 11 or 12 veins, median 2 far proximal, 1st median approaching the angle of the cell, in the hindwing the apex of the cell strongly angulate. — Colorado and Mexico (Mexico City, teste DYAR).

cyanea. **H. cyanea** *Barn. and McDun.* Much smaller than *lustrans*, deep metallic blue or green. Forewing with 11 veins, subcostals 2 and 4 stalked (3 absent); in the hindwing the costal and subcostal on a short stalk or originating from the cell close together, upper angle of cell produced somewhat further than the lower. — Arizona.

chalestra. **H. (?) chalestra** *Druce*, described as *Procris (?) ch.* as follows. “Male. — Head, antennae, thorax, abdomen, and legs bluish black. Primaries semihyaline black, darkest at the base; secondaries hyaline, broadly black at the apex and round the outer margin. Expanse 1 inch”. — Costa Rica; in coll. DRUCE, which has lately been acquired by Mr. JOICEY.

aversus. **H. (?) aversus** *Hy. Edw.* Described as *Triprocris*. Not known to me; its position is questionable. “Primaries, lower side of all the wings, and upper side of abdomen bright greenish black. Secondaries above, and all the rest of the body dull black. The wings are narrower and longer than in any of the allied species. It is nearest to *T. atrata* French, from Arizona. 1 ♂. Exp. wings 28 mm. Length of body 9 mm”. — Mexico: Vera Cruz. — “*T. atrata*” is a nom. in litt.

b. The forewing with at least a yellow discal spot.

H. fulvinota *Btlr.* (9 i). Brownish black, with slight purple gloss. Sides of pronotum and of abdomen, *fulvinota*, as well as a triangular discal spot on the forewing yellow. Foretibia without spur. — Southern Brazil.

H. eminens *Schaus* (9 i). Similar to *fulvinota*, but the base of both wings also yellow and the discal *eminens*, spot of the forewing usually larger. The yellow markings varying in extent. — Brazil: Tijuca.

B. Forewing with 12 veins, subcostals 1 and 2 free, 3 and 4 on a long stalk: *Nesace*, *Kirby* (= *Pampa Wkr.*, *Btlr.* preocc.). The figure of the venation which BUTLER gives is erroneous: *Journ. Linn. Soc., Zool. XII*, t. 28, Fig. 13 (1896).

H. mystica *Wkr.* (9 i). Purple-black, without markings. The light spot on the forewing mentioned by *mystica*. WALKER is due to loss of scaling. Antenna stout, distinctly incrassate distally, pectinations longer than the diameter of the shaft, slightly clavate, cross-veins of hindwing obliquely rounded, not angulate. Wings semi-transparent, more densely scaled towards the base. — Honduras, 1 ♀ (type) in the British Museum.

H. splendens *spec. nov.* (9 k). A large species. ♀: Body and upperside of forewing metallic green, *splendens*, the fringes bluish; hindwing above glossy blue, beneath both wings glossy blue-green. The middle pectinations of the antenna more than twice as long as the diameter of the shaft. Foretibia without spur. Median 2 of forewing widely separated from 1. Length of forewing 17 mm. — 1 ♀ from Cuzco, Peru, May 1901 (GARLEPP), in the Tring Museum.

13. Genus: **Stylura** *Burm.*

Distinguished from *Harrisina* by the two long caudal appendages which are present in both sexes, and usually consist of a stout proximal portion and a thinner distal one, but are sometimes almost evenly slender.

S. forficula *H.-Schäff.* (9 k). Metallic greenish black-blue, slightly glossy. Wings semitransparent, *forficula*, with dark veins. Judging from the small number of specimens I have been able to examine more closely, there are several forms. But the differences (in colouring, shape of wings and venation) are so slight that it is not advisable to introduce any new names at present. *S. cirama* *Druce* from Guatemala and Chiriqui in Panama, described and figured as *Harrisina*, also belongs here. — Mexico to Southern Brazil, also from the Leeward Islands.

14. Genus: **Setiodes** *H.-Schäff.*

Antennae incrassate distally, bipectinate. Wings very narrow, forewing with 11 veins, hindwing without innermarginal veins, 6 veins from the cell including the costal, radial 2 absent. In the forewing subcostal branches 1 and 2 on long stalk. — Only known from Cuba and the Bahamas.

S. nana. The smallest American Zygaenid known. Body with white spots. Forewing with transparent *nana*, spot below the cell and a white discal spot. Two subspecies. — **nana** *H.-Schäff.* (= *pygmaeus Grote*), from Cuba, has a white spot on the hindwing. — In **bahamensis** *Dyar* (= *albinacula Hmps.*) (9 k), from the Ba- *bahamensis*, hamas, the white spot on the hindwing is absent. The larva on *Ampelopsis*; bluish white, with 7 narrow purple-brown longitudinal lines (1 median, and on each side 2 dorsal and 1 subventral), the lines connected by a transverse band on segment 5, anterior and posterior segments light red, on the penultimate segment 2 small ocelli on each side. — Although GROTE does not mention the white spots in his description of the body of *pygmaeus*, DYAR is probably correct in uniting *pygmaeus* with *nana*.

15. Genus: **Urodopsis** *gen. nov.*

Tongue and palpi well developed. Antenna (♂) bipectinate-dentate distally. Foretibia without spur, hindtibia with one pair. In the forewing 11 or 12 veins, all free, or radial 3 and median 1 on a short stalk, subcostal 1 and median 2 far proximal. In the hindwing 6 veins, the subcostal and the upper radial branch (veins 6 and 7) absent, the cell bounded costally by the intracellular vein, and not connected with the costal vein (the cross-veins are partly obsolescent also in the forewing), only 2 innermarginal veins present, the 3rd (posterior one) absent. — Genotype: *U. subcoeruleus Dogn.*

U. subcoeruleus *Dogn.* (9 h). Black, with very slight green gloss, the head almost entirely golden green, *subcoeruleus*, strongly glossy. Wings semitransparent with dark veins, with blue sheen in a lateral view, greater part of hind-

wing vitreous. The abdomen ends in a thin truncate tuft of hair-scales. — West Colombia; A. H. FASSL found the species (only ♂♂?) in the bed of a river on wet stones.

pusilla. **U. pusilla** Wkr. Smaller than *subcoeruleus*, without anal tuft. Antenna and upper side of body metallic blue (wings strongly worn). — Venezuela, 2 ♀♀ in the British Museum.

Beside the forms mentioned above, the three following ones possibly also belong to the Zygaenids. As they are not mentioned among the Syntomids, Lithosiids or Arctiids in HAMPSON's Lep. Phal., we here append descriptions of them. The species are unknown to me and the information given by the various authors about their structure is insufficient to identify the family to which the species belong.

chlora. **Lycomorpha chlora** Schauf., Nung. Otiosus p. 11 (1870): Forewing above and underside of both wings green with blue edges, hindwing blackish; antenna filiform, blue with white apex. Expanse 24 to 29 mm. — Venezuela.

desertus. **Lycomorpha desertus** Edw., Papilio 1, p. 81 (1881): Sexes different. — ♂: Wings orange with broad black marginal band, the inner margin of which is almost straight, not curved. Palpi and base of tibiae orange, antenna, abdomen and tarsi black. ♀: much larger than the ♂; thorax and abdomen above and beneath, tibiae and tarsi orange, antenna blackish. Forewing orange with 2 black transverse bands; hindwing orange with black marginal band. Expanse: ♂ 20 mm, ♀ 32 mm. — Arizona. The two specimens were caught in copulation; they have disappeared. The species probably belongs to the *Lithosiinae*.

gundlachiana. **Ira gundlachiana** Neumoeg., Ent. Amer. 6, p. 64 (1890): Thorax and proximal half of abdomen rose-red, abdomen beneath white with black bands. Wings rose-red with black margins, forewing with 2 and hindwing with 1 white dot, forewing moreover with black vein-stripes and black discocellular spot, hindwing very small; with vitreous longitudinal stripe. — Cuba. Seems to belong to the Syntomids. Tibiae without spurs.

In *Urodus monura* H.-Schäff., *imitata* Druce, *modesta* Druce, *xylophila* H.-Schäff., which appear in KIRBY's Catalogue among the "*Pyromorphinae*" (i. e. the American Zygaenids) a small cell is separated from the apical part of the cell of the forewing by an oblique vein running from the subcostal to the discocellular veins, as is frequently the case among the Tortricidae; these species, moreover, have two pairs of long spurs on the hindtibia, which does not occur in any American Zygaenid. These forms are Tortricidae. *Aperla tineiformis* Wkr. (1856), of which the type is in the Oxford Museum, is identical with *Urodus monura* H.-Schäff. (1854).

Alphabetical List

of the American forms of *Zygaenidae* with references to the original descriptions.

* signifies that the form is figured at the place quoted.

- actinota Ser. *Jord.* Seitz, *Macrolep.* vol. 6, p. 26. *
- aequalis Malt. *Druce*, *Ann. Nat. Hist.* (6) 4, p. 82.
- americana Harr. *Guér.* *Icon. Règne Anim. Ins.*, p. 500. *
- anaereon Ser. *Druce*, *Biol. Centr.-Amer. Lep. Het.* 1, p. 41. *
- angustula Pycn. *Fldr.* *Novara Lep.* 4, Taf. 83. *
- australis Harr. *Stretch*, *Entom. Amer.* 1, p. 102.
- aversus Harr. *Hy. Edw.* *Papilio* 4, p. 13.
- bahamensis Set. *Dyar*, *Ent. News* 10, p. 100 (1899).
- basalis Acol. *Edw.* *Entom. Amer.* 3, p. 91.
- basirei Ser. *Druce*, *Biol. Centr. Am., Lep. Het.* 2, p. 331. *
- brillians Harr. *Barn. & McDun.*, *Journ. N. Y. Ent. Soc.* p. 162 (1910).
- centralis Malt. *Wkr.* *Cat. Lep. Het. Brit. Mus.* 36, p. 288.
- chaleina Harr. *Jord.* Seitz, *Macrolep.* vol. 6, p. 28.
- chalestra Harr. *Druce*, *Ann. Mag. N. H.* (7) 3, p. 231.
- charax Harr. *Druce*, *Biol. Centr. Am., Lep. Het.* 2, p. 330. *
- chlora (Lyc.) *Schauf.* *Nunquam Otiosus*, p. 11.
- cineta Ser. *Wkr.* *Cat. Lep. Het. Brit. Mus.* 7, p. 1598.
- cinniana Tetr. *Druce*, *Biol. Centr. Amer. Lep. Het.* 1, p. 41. *
- constans Ser. *Edw.* *Papilio* 1, p. 81.
- coracina Harr. *Clem. Proc. Ac. Nat. Sci. Phil.* 1860, p. 539.
- correbioides Malt. *Fldr.* *Novara Lep.* 4, Taf. 102. *
- cyanea Harr. *Barn. & McDun.*, *Journ. N. Y. Ent. Soc.* p. 162 (1910).
- dantasi Harr. *Schaus*, *Proc. Zool. Soc. Lond.* p. 272 (1892).
- desertus (Lyc.) *Edw.* *Papilio* 1, p. 81.
- dimidiata Malt. *H. Schäff.* *Außereurop. Schmett.* 1, p. 6. *
- dolosa Pseud. *Druce*, *Biol. Centr. Amer. Lep. Het.* 1, p. 38. *
- drucei Malt. *Jord.* Seitz, *Macrolep.* vol. 6, p. 22. *
- dyraspes Tetr. *Druce*, *Biol. Centr. Am., Lep. Het.* 2, p. 330. *
- elongata Harr. *Druce*, *Biol. Centr. Am., Lep. Het.* 2, p. 330. *
- eminens Harr. *Schaus*, *Proc. Zool. Soc. Lond.* p. 272 (1892).
- erythromelas Malt. *Jord.*, Seitz, *Macrolep.* vol. 6, p. 22. *
- falsarius Acol. *Clem. Proc. Ac. Nat. Sci. Phil.* 1860, p. 540.
- flora Acol. *Schaus*, *Ann. Mag. N. H.* (8) 7, p. 183 (1911).
- forficula Styl. *H. Schäff.* *Außereurop. Schmett.* 1. *
- forreri Tetr. *Druce*, *Biol. Centr.-Amer. Lep. Het.* 1, p. 37. *
- fulvinota Harr. *Bllr.* *Journ. Linn. Soc. Lond. (Zool.)* 12, p. 361.
- fusca Malt. *Edw.* *Papilio* 4, p. 43.
- glaucotis Ser. *Hmps.* *Nov. Zool.* 14, p. 328 (1907).
- gracilis Pseud. *Druce*, *Biol. Centr.-Amer. Lep. Het.* 1, p. 38. *
- guatemalena Harr. *Druce*, *Biol. Centr.-Amer. Lep. Het.* 1, p. 40. *
- gundlachiana (Ira) *Neumög.* *Entom. Amer.* 6, p. 64.
- invaria Harr. *Wkr.* *Cat. Lep. Het. Brit. Mus.* 1, p. 240.
- isa Ser. *Jord.* Seitz, *Macrolep.* vol. 6, p. 26. *
- isochrous Acol. *Jord.* Seitz, *Macrolep.* vol. 6, p. 25. *
- jancira Harr. *Schaus*, *Proc. Zool. Soc. Lond.* p. 272 (1892).
- josialis Malt. *Druce*, *Biol. Centr.-Amer. Lep. Het.* 1, p. 120. *
- latercula Tetr. *Edw.* *Papilio* 2, p. 124.
- lepta Harr. *Jord.* Seitz, *Macrolep.* vol. 6, p. 28. *
- lustrans Harr. *Beutenm.* *Bull. Amer. Mus. Nat. Hist.* 6, p. 367.
- marginata Malt. *Edw.* *Papilio* 4, p. 18.
- martenii Malt. *French*, *Papilio* 3, p. 191.
- megalops Gon. *Druce*, *Biol. Centr.-Amer. Lep. Het.* 1, p. 38. *
- melas Chil. *Guér.* *Magaz. Zool. Ins.* Taf. 11. *
- metallica Harr. *Stretch*, *Entom. Amer.* 1, p. 102.
- metallica Tetr. *Schaus*, *Proc. Zool. Soc. Lond.* p. 284 (1892).
- mexicana Harr. *Schaus*, *Entom. Amer.* 5, p. 87.
- mexicana Malt. *Druce*, *Biol. Centr.-Amer. Lep. Het.* 1, p. 41. *
- morio Malt. *Druce*, *Biol. Centr.-Amer. Lep. Het.* 1, p. 123. *
- mystica Harr. *Wkr.* *Cat. Lep. Het. Brit. Mus.* 1, p. 239.
- nana Set. *H.-Schäff.* *Corr.-Bl. zool. min. Ges. Regensb.* 20, p. 106.
- novarius Acol. *Barn. & McDun.*, *Canad. Ent.* 1913
- opaues Acol. *Jord.* Seitz, *Macrolep.* vol. 6, p. 25. *
- pusilla Urod. *Wkr.* *Cat. Lep. Het. Brit. Mus.* 1, p. 112.
- radialis Malt. *Wkr.* *Cat. Lep. Het. Brit. Mus.* 31, p. 128.
- rata Malt. *Edw.* *Papilio* 2, p. 124.
- rectarius Acol. *Dyar*, *Journ. New York Ent. Soc.* 6, p. 44.
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- sancta Ser. *Neum. & Dyar*, *Journ. New York Ent. Soc.* 2, p. 64.
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- venata Harr. *Jord.* Seitz, *Macrolep.* vol. 6, p. 28. *
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3. Family: Syntomidae.

Referring to the comments published in Vol. II (p. 37—38) and Vol. X (p. 61—62) upon this rather homogeneous family of butterflies, I remind the reader of the historical note appended there on the development of our knowledge of the Syntomid forms. To the statement made there, according to which in 1892 (KIRBY's Catalogue) little more than 700 Syntomid forms were known, which number, however, went up already in 1898 (HAMPSON) — six years hereafter — to 1200 and in 1912 (at the publication of the Indian part of our work) to more than 1400, we may now add that we know to-day already more than 2000 *Syntomidae*, of which more than 1800 pertain solely to the American fauna.

If we consider that altogether only 4 species of this family of butterflies are living in Europe, but that almost at no place of Europe there occur more than 2 *Syntomidae* or 3 at most, and that they are absent altogether in many districts — in contrast with the American abundance —, the chief characteristic of the fauna of the warmer parts of America thus becomes evident to us. I say „warmer“, for in the temperate part of the western hemisphere we do not notice any abundance of species nor of specimens of *Syntomidae*. At another occasion we have already remarked that almost the whole of the great number of *Syntomidae* in America is massed together in the tropical part of this continent. In South and Central Mexico it occurs yet in numbers, but to the north they decrease rapidly and, except Florida and the southernmost United States, we only meet with 3 more common forms in the northern part of America, *Scepsis fulvicollis* (26 a), *Lycomorpha pholus* (26 d), and *Ctenucha virginica* (26 g), all of which exhibit dark colours. In South America the number of *Syntomidae* decreases just as rapidly in the polar direction: in South Brazil they are still numerous and in some genera, such as *Antichloris*, *Ctenucha* etc. they still remind us of the abundance of species of the palearctic *Zygaenidae*, but near Buenos Ayres they have already dwindled away to quite few, mostly not common species, in order to disappear completely in Southern Argentina.

The otherwise homogeneous family of the *Syntomidae* still offers a greater variety in the exterior by an extremely detailed mimicry according to most various models, which has also led to divergent secondary modifications. Already when commenting upon the palearctic *Syntomidae* we have hinted at these multifarious imitations. Among the insects serving them as models the relatives of the genus *Zygaena* were the best protected, since these butterflies are in fact attacked by no other enemy of insects except by spiders *). Furthermore several extremely spinous, very aculeate Hymenoptera are favourite models which are shunned with evident dislike even by large animals. We consequently have a zygaeniform group also in the palearctic *Syntomidae*: the *S. phegea*-group having *Zyg. ephialtes*-forms as their models; and secondly the *Synt. germanus*-group imitating yellow-curved wasps. In almost the very same way as the yellow-curved wasps (which are by far superior in number in the palearctic district) recede behind the black and blue *Crabronidae* in the American Tropics, we also find, on glancing over our tables 10—26, that the yellow-banded species are by far inferior in number to the dark-blue, black, or metal-lustrous species.

It is difficult to understand the attempts made again and again just in the *Syntomidae* to contest the serviceableness of such masking. The objection that the disguisings are able to deceive mankind living outside of nature, but by no means an animal living on insects, is entirely wrong and has been so often disproved by experiments that one can hardly understand how it is possible to revert to it again and again. Not only reptiles are deceived and shrink back from them, because they are without the intelligence necessary to conceive the deception, but also insectivorous monkeys not disdaining insectile food, consequently the most intelligent vertebrates, treated an *Aegeria apiformis* I offered them alive, as a wasp **), and they would undoubtedly have treated in exactly the same way a just as well masked *Syntomidae*. Even the savage thinks that the wasp-like butterflies are able to sting, and children in Ceylon, as well as young coloured natives in Brazil are just as much afraid of the wasp-butterflies as of the wasps themselves. The objection that the differences in the behaviour between the model and the copy may be found out by observation, does not hold good in unintelligent animals the actions of which are merely reflex actions caused by the impression obtained by means of the eye.

*) According to statements by Mr. H. BURGEFF, lizards on being fed immediately spit out *Zygaena* which they had greedily snatched up, and afterwards wiped off their mouth energetically several times.

**) Zoologischer Anzeiger 1893, No. 427.

To believe that the enemy is to be kept off by the masking — for instance a spider, Mantis, lizard, bird or the like — and is able to consider that an insect swarming 2 or 3 m above it must be an (edible) *Syntomidae*, because its original, the (more dangerous) Hymenopteron flies nearer to the soil and is not used to fly so high, is a so-called „anthropism“, i. e. a conclusion due to the mistake of assigning human intellectual power to animals.

In a special work on South American *Syntomidae*, C. SCHROTTKY recently turned particularly against the arguments in Vol. V, p. 6, where among other examples of mimicry particularly also the wasp-imitations of the *Syntomidae* are mentioned. Beside some objections having been disproved long ago, there is a relatively new objection made, that the relative rareness of the imitators argue in favour of the futility of the mimicry. But the old observers who laid down the theory of mimicry, have based their theory upon this very rareness which they alleged in favour of the protective theory, since only if the really protected animals are superior in number, an efficacious protection results from the masking. Animals occurring in great numbers, such as the cockchafer, are in no way protected and need not be protected, since they do not die out owing to their prolificness. Consequently just what argues in favour of the protective theory, is here applied for the refutation, and in doing so, SCHROTTKY has also quite overlooked that it is just the lack of specimens of an animal species which is particularly advantageous for a quick, conspicuous and vast transformation. E. HAASE even mentions the rarity of the imitators as a distinctive mark for the decision which is the model and which the copy. Also the fact that a bug, as for instance *Spiniger ater* which is able to sting itself, evidently imitates the *Pepsis*-wasp, is said to argue against the theory of a protective imitation by the *Syntomidae*. We must, however, remark that the *Spiniger* are clumsy insects and in spite of their (feeding-) spike very helpless, but that the *Pepsis* is able to sting all round its body with an almost incredible dexterity and thus represents a quite incomparably more dangerous animal — without counting a great difference in the intensity of the effect of the spike (the *Spiniger* has almost no poison at all).

The fact that the mimetic masking is not quite universally carried through in the *Syntomidae*, has also caused the conclusion that it is superfluous. Since the non-mimetic *Syntomidae* have also withstood the struggle for existence — it was inferred at least — it was not to be understood why the mimetic ones should require this protection. It is, however, neither to be conceived why some ruminants require big horns, others small ones and others again none at all; it cannot be understood why in some animals both sexes are armed, in others, however, only the males. The stag has its antlers from February to October, which are absent during the rest of the year, or which are then so sensitive that they even hinder and imperil it. How would the inference be drawn from this fact alone, that it does not serve it as a useful weapon? Whosoever wishes to be convinced of the serviceableness of the antlers of a stag, may, after having without any risk approached an ever so powerful hind or an antlerless stag, once enter a deer park where there are stags with fully developed antlers. He may also be present at the manipulation often necessary in zoological gardens of embarking well-armed stags, of seizing and removing them, of separating them in their fights etc. etc., and he will have to own that the antlers are not alone a useful, but an almost crafty defensive weapon; and that it is so, in spite of not all the species of stags being provided with them, and though not both sexes, and the males only being temporally provided with them.

Starting from this view, we may divide the *Syntomidae* into two large groups: into such representing an exact copy of other insects, so exact that the original serving as the model may immediately be pointed out; and into such as having on the whole an awe-inspiring exterior, but which may still not be regarded as the immediate copy of certain dangerous insects. To the first group belong, in the palearctic fauna, for instance the *Syntomis phegea* mentioned above, copying a *Zygaena*, to the other group the genus *Dysauxes* in which, we may recognise a type being on the whole little like a butterfly, but more like a saw-fly, for which, however, we are not able to name an insect as its truly copied model. In the Indian fauna, the Syntomid genera *Syntomis* (Vol. X, t. 10, 11) are opposing each other in an imitative manner whilst the *Euchromia* (Vol. X, t. 12) are similar to the original. The same contrast is also met with in America, where we immediately recognise for instance in the *Macrocneme* a copy of the wasp-genus *Pepsis*, in some *Isanthrene* the copies of clearwinged hawk-wasps, in *Pseudosphex* and *Sphecosoma* the copies of social wasps, but where on the other hand many genera exhibit only indistinctly a „hymenopteroid“ exterior, not that of certain aculeata, or even where whole genera, such as *Napata*, *Eucereon*, *Empyreuma* etc. show an exterior deviating from the lepidoptera-type, though not hinting at any distinct originals.

The habits of the nearly 2000 American Syntomid-forms are of course very different: to such an extent that there are hardly common characteristics to be found applicable to all. One may only say as much as that most of them are day-butterflies, appearing particularly when the sun begins to shine very brightly after a copious rain and being in eager search for blossoms abounding in honey, as for instance in South Europe the *Zygaena*-species. The skirts of woods, clearings in the forests, and sunny slopes of mountains are the places, where you may be sure of capturing numbers of *Syntomidae* at any season in Tropical America. If among

many, otherwise numerous exploits (as for instance the so-called Bogotá-exploits) there are relatively few *Syntomidae* found, it would be wrong to infer therefrom a scarcity of *Syntomidae* in these districts, since the mostly unintelligent (Indian) collectors are subject to being deceived by mimicry in just the same way as the enemies of the butterflies are, against which the masking is directed. Whoever glances over the numerous new species which are established here in the following pages from Colombia, and considers which great part originates from the exploit of one collector — of Mr. A. H. FASSL at Teplitz —, will be able to estimate what enormous treasures of *Syntomidae* are still to be brought to light, if the upper course of the great tributaries of the Amazon River will once be more minutely examined with regard to more insignificant insects.

It is just in the level, damp-hot lowlands, where the *Syntomidae* gather in particularly great numbers. The fact that just in the almost extremely prolific Syntomid country of Colombia, according to FASSL near Bogotá, this group of butterflies is only very sparsely found, shows us that in a vertical direction the same rapid and often sudden decrease of *Syntomidae* takes place as towards the higher latitudes. In Santos, being at a low altitude and close to extensive swamps, the Syntomid fauna is very much more abundant than in the neighbouring, though higher elevated São Paulo; just like at the more elevated suburbs of Rio de Janeiro, where it appears again more copiously than near Petropolis high up in the Organ Mountains, where I sometimes did not get sight of any Syntomid at all in excursions lasting several days, what hardly ever occurred near Rio and never near Santos. According to an account by Prof. Dr. DRAUDT, in Mexico, owing to the orographical formation of the country, southern forms go far up to the north on both the coasts along the temperate and hot altitudes, whereas on the high plateau of the interior northern forms go far to the south; this is very well to be followed up as far as the valley of Mexico. There are no confines here between north and south, but in the greatest part of the country a division into western and eastern forms which are equalized again only in the south, towards the Isthmus of Tehuantepec. The reason for this is to be found in the entirely different hygrological conditions of the two coast districts. The eastern coast has no real dry period at all, whereas on the western coast absolute aridness is prevalent in winter. The range of the *Syntomidae*, therefore, naturally is the greatest in the districts of the eastern coast between 3000 and 1500 m, where the luxuriant vegetation is never intermitted during the whole year owing to the incessant humidity, for which reason one generation follows here the other. The western coast and the highlands of the interior, on account of the desert-like character, has only very few species thriving only in the oasis-like depressions and glens.

The conduct of the different Syntomid species frequently depends on their mimetic relations. A disguise is, of course, then most effective, if not only the exterior shape, but also the demeanour, the way of flying, the attitude when being at rest etc. are adapted to the model. This is the case in many species in so excellent a way that merely by these peculiarities of the attitude and conduct the mimetic pendant would have to be recognized. Already in Vol. X (p. 62) I have mentioned that a *Trichura* (*Tr. dixanthia*, 18 d) being common near Santos, has a yellow spot at the side of the 3rd abdominal segment, over which, when being at rest, the hyaline wings are placed in such a way that it appears at those places, where in the *Pimpla*-like model-wasp the mark of the wings (called stigma or carpus), being distinct in most of the Hymenoptera, is found. The female *Pimpla*-wasp, however, has besides a thicker and particularly strong ovipository sting, because the ichneumons of this genus prick more pupae than larvae and therefore, in order to pierce also the cocoon, need a particularly strong and long sting. This sting, being one of the most conspicuous organs, must be imitated, which is done in the *Tr. dixanthia* by a thread-like chitinous appendage attaining the thickness necessary for the deception by means of densely arranged scales. In *Tr. cerbera* (18 d), approximating this species, this appendage sometimes grows so long that it exceeds the length of the whole animal. In a similar way we find, in the genus *Macrocneme*, the hind-tibiae monstrously thickened by a pinnate scaling, so that the genus was denominated hereby. The most interesting fact, however, is that the owner of these legs succeeds in becoming entirely similar to the model — the crabronidae *Pepsis* — by means of letting these long legs hanging long down when flying, so that its harmless, velvety, little paws are trailing along exactly like the spinous prehensile feet with which the wasp uses to carry about its victims — enormous spiders of the forests or roads. The blue *Pepsis*-wasp, vulgarly called *marimbondo* by the Brazilians, may certainly be considered the most dreaded insect of the districts there. It even easily vanquishes birdspiders, and natives told me repeatedly that children may die from its stings. Thus it is quite comprehensible that all kinds of insects of different orders agree in copying this rapacious animal, as for instance beside the Reduviid *Spiniger* mentioned above, also the grass-hopper *Scaphura nigra*.

In models from the group of the fold-wasps, the costal margins darkened by folding the wings on the one hand, the strangulation of the waist on the other hand, are to be exactly copied in order to become mimetically similar, and the degree, in which this is performed by certain *Pseudosphex*, precludes any casual similarity: compare for instance *Ps. steinbachi* (10 e), *klagesi* (10 d) and their allies. *Phaeosphexia opaca* (10 c) exhibits a shape of the body which deviates from nearly all the Lepidoptera by the abdomen being differently shaped, and which would be unexplainable unless the animal assumes the resemblance of a wasp by a freak of nature. *Bombopsyche ruatana* (10 k) represents a tiny bee; *Pompilopsis tarsalis* an Eumenid. The most favourite model, however, is the said *Pepsis*. Among its imitators and other Syntomid genera, being somewhat allied to each

other, I mention besides the *Macrocneme* also the *Antichloris*, *Pompiliodes*, *Saurita*, *Calonotus*, *Psoloptera*, *Ichoria*, *Eriphioides*, *Horama*, and *Pseudopompilia*-species. As in many districts 2 species of wasps belong to the most common *Marimbondos*, one of which has quite blackish-blue forewings, the other such with white apices, we also have two different types of imitators: *Pompiliodes aliena* with, and *Pomp. tenebrosa* without white apices of the wings; *Macrocneme evelina* with them and *Macr. lades* without them; *Pterygopterus leucomelas* with and *Pt. caeruleus* without them, and so on. To the imitators of quite different insect-orders belong yet the *Correbia* and *Correbidia*, as well as single species of *Dycladia*, which have copied the uneatable species of coleopters of the soft-winged genus of *Colobothea*.

As regards the habits of the *Syntomidae*, it is easily comprehensible that they are not the same in all the more than 1800 American species. It seems also that the behaviour is not the same in the different countries. SCHROTTKY, for instance, reports that in Paraguay the *Syntomidae* are the most common in the dense forest. The contrary is the case in Brazil, where the *Syntomidae*, like all the diurnal butterflies, are absent altogether on account of the lack of flowers. On the other hand, they bustle about on open hillsides, on the slopes of mountains, on clearings, and on broad roads; at any rate I have gained the impression that they in any case need sunshine which is entirely absent in the dense woods.

As SCHROTTKY infers from this behaviour the inefficiency of the masking of the *Syntomidae*, the actual behaviour of the mimetic species must be also dealt with here. SCHROTTKY furthermore concludes that the theory of the protective mimicry is disproved by the fact that the *Syntomidae* are timid butterflies. „If indeed“, he argues, „any protective effect is produced by the similarity to valiant wasps, this would be expressed by the behaviour of the animal and the butterflies themselves would show their confidence in their mimicry by being to a certain degree phlegmatic“. What is missed here by the observer, I have been able to observe in fact in so great a number of American *Syntomidae* that I must consider it to be common to all the mimetic forms. Not one Syntomid known to me is difficult to capture; many may simply be taken with the hands, or they scarcely fly off; certainly they are not more timid than their patented models. The *Pepsis* wasps, it is true, in spite of their fearful venomous sting, also fly off on approaching them uncautiously; they are even much less confident than their European allies *Ammophila sabulosa*, *Psammophila viatica* etc. swarming about before our feet on sunny roads. I cannot make out which of the mimetic *Syntomidae* SCHROTTKY has meant in his observations; he only mentions the *Macrocneme*, and with respect to them I must absolutely contest the behaviour stated by him. The only true fact is that the animals, when flying, exhibit a swift flight (exactly like their models!); but when they sit on a blossom, one may often capture one specimen from a bush, without the one next to it taking to flight.

Some *Syntomidae*, however, are so daring that they do not even fly up on being touched, but move their abdomen in a wagging way, with their wings being spread, consequently just as if they would wish to threaten thereby, as also some of our *Aegeriidae* do. Already in dealing with the *Syntomis*-species of the *germanus*-group (Vol. II, p. 38) I have mentioned that the *Syntomis* copy even the jerking movements of the model wasp (*Polistes*), and this also applies to very many American species.

I have thought it necessary to deal with this matter particularly exhaustively, because a real disproof of the explanation of the protective mimicry would render the exterior and the biological behaviour of most of the American *Syntomidae* incomprehensible; all the other commentaries one has tried to give with respect to its exterior being unlike a butterfly have not been able to stand the ground of a logical examination and do not throw any light whatever on many biological peculiarities making the presumption of a protective mimicry easily comprehensible.

Although most of the *Syntomidae* (in contrast with very many butterflies of Tropical America) seem to be bound to a certain season, still members of the family are met with rather all the year round. The time when most of the Brazilian trees are blossoming, seemed to me to be also the height of the season for the *Syntomidae*; on such blossoming trees, I found particularly the larger species, *Isanthrene*, *Homoeocera*, *Cosmosoma*, *Gymnelia*, *Mesolasia*, and the like. *Trichura*, *Tipulodes*, *Ctenucha*, *Napata* are fond of sitting on umbels, about in the attitude of our *Zygaena*, and *Macrocneme*, *Dinia*, *Antichloris*, *Pseudomya*, *Psoloptera* love bushes covered with blossoms. Even the small Papilionaceae growing in low bolsters of blossoms and replacing in America our *Thymus*, are much frequented by some low-flying forms, as we have them before us in certain *Abrochia*, *Diptilon*, *Loxophlebia*, *Pheia*, *Chrostosoma*, *Leucotmemis* and many others.

Particularly favourite plants for *Syntomidae* are furthermore the Senecio-species, also Eupatorium, Vernonia, Solidago, and similar herbs; sometimes *Syntomidae* are gregariously met with there, and the said blossoms seems to be for the American *Syntomidae* the same what the thistles and scabious are for the *Zygaena*-species with us. JÖRGENSEN has observed that *Syntomidae* were sucking up the sap of Senecio to which the stings of Hymenoptera on the stalk and leaves of the plant provided access.

Although the *Syntomidae* love the day-time and the sun, yet they also fly at night and like to go on

the electric light by which, for instance, KARL E. HOFFMANN has captured in Mexico all the species hitherto known from there. The flight commences at about 9 p. m.

The American *Syntomidae* are often extremely local, some species being bound to particular slopes of mountains, clearings in the woods, banks of rivers, and the like. The flying-place sometimes amounts to but few square fathoms, and often it is a single blossoming tree or a certain bush which we may day by day successfully search for a certain species. This behaviour might be considered to be somewhat analogous to that of the *Erycinidae* likewise representing small, often metallic-glistening, elegant and extremely local butterflies, and it is interesting to remark that also in these Rhopalocera a great number of American forms (more than 1000) are opposed by about 200 Indians and but 1 from Europe proper; a strange zoogeographical analogy!

Extraordinarily little is known about the life-history of the American *Syntomidae*. The larvae are not very rare and I remember of having very often found the velvety-haired larvae being provided with long, projecting hair-tufts on the front and hind part of the body, running about on walls and rocks. But only very exceptionally I succeeded in breeding them. Many seem to be monophagous or oligophagous, at least they would not accept any of the foodplants given to them; nor does the search for pupae provide us with any clue in this respect; the cocoons being often very fine and similar to a small, woolly bird's egg, are to be found much more frequently in clefts of the rocks, beneath wall-covers and flat stones than spun to the leaves of the food-plant. Still the lack of our knowledge may often be due to the fact that the mostly insignificant representatives of this family of butterflies being scarcely indigenous in Europe are met with but very little special interest, as I have said already elsewhere.

With respect to the morphology, the neurulation is to be remarked upon as particularly important. The fact that members of distantly separated genera often have the same model — for instance the *Euagra*- and *Agyrta*-like forms, or the imitators of *Cosmosoma stibostictum* —, naturally also causes secondary congruences among the different imitators, and in such cases the neurulation, as a rule, must be examined in order to remove doubts and mistakes.

In Vol. II it was already mentioned that the resemblance of the *Syntomidae* to the *Zygaenidae* is merely external and may in some cases be due to mimicry; it is quite unlikely that the two families are closely allied; this is proved, beside many other facts, particularly by the behaviour of the larvae. There exist, however, relations to the *Arctiidae*. The *Eucereon* and *Halisidota* are not very remote from each other, and also in the *Automolis* and *Belemnina* we may observe certain transitional forms. In delimiting these families we follow the excellent catalogue of Sir GEORGE HAMPSON, on which also all the important works hitherto have been founded.

The head is rather small with relatively short palpi projecting but little beyond the head and mostly protecting a strong sucker, the antennae of medium length or long, nearly always distinctly doubly combed, sometimes mimetically altered, seemingly thickened by scaling and feathering, ringed in white, distorted, or rolled wasp-like. Eyes bare, semiglobular, rather small; forehead broad. Thorax with distinct seams, sharply defined collar, projecting patagia above which there are often strongly secreting neck-glands. The dorsal covering often metallic, frequently with very much velvety hair or also smooth as a mirror. Abdomen likewise very often with variegated markings, coiled, with metallic spots, at the end often hemochrome or orange-yellow warning-colours. The first abdominal rings in the ♂♂ of many genera bear ventrally a large valve extending in some *Pheia*-species almost to the end of the abdomen. The legs are mostly strong, often adorned with trousers, hair-tufts or feathers, the hips frequently (in the ♂♂ oftener than in the ♀♀) with a white, red, or metallic lustre, the tibiae usually with spurs of medium length. Forewing lancet-shaped, rather pointed, frequently similarly shaped to those of *Hymenoptera* and then often hyaline in order to attain a still greater resemblance to them; the hindwings always small, oval, sometimes only a tiny scale; sometimes they are so rudimentary that they are unable to use them for flying, and the forewings perform the flight alone. Most of the *Syntomidae* are about the size of the European species of the family, i. e. the size varies between that of a *Dysauxes ancilla* and of a *Syntomis phegea*. The neurulation on the hindwing is often considerably reduced, a characteristic mark of the family is the absence of the costal vein (vein 8) which, however, in the forms being more closely allied to the *Arctiidae*, may occasionally be present as a short rudiment not reaching the costal margin. The forewing always has a closed discocellular. As to further particulars see the diagnoses of the genera *).

1. Genus: **Phaeosphecia** Hmps.

The only species which exhibits a great external likeness to *Pseudopompilia mimica* Druce (21 k), is distinguished by a strongly strangulated second abdominal segment, an abdomen being abruptly expanded

*) There are some words yet to be said with respect to the copulation-apparatus exhibiting in the ♂♂ of many tropical genera such an asymmetrical structure as probably in hardly any other family. The asymmetry is effected by the stunting of a valve, while on one side between the uncus and valve a peculiar, smaller or larger appendage is inserted pretending to be a valve and belonging to the IX. tergite. Thereby the one valve is displaced more ventrally. But there occur also symmetrical valves with the said appendage being developed on both sides, which is presumably analogous to the anal appendage found by DAMPF in the *Olethrentinae*. (M. DRAUDT.)

behind the stylus and then running to a point, a well developed sucker, erect palpi with long scale-hairs at the 1st joint; the short ctenodont antennae being serrate at the ends are above in the middle set with thick and rough scales. The neurulation of the wings similar as in the following genus, but on the forewings both the upper subcostal veins are petioled, the lower radial vein and the upper median vein do not approach each other. On the hindwings the subcostal and the uppermost radial are unpetioled, the lower median vein and the lowest radial are standing on a long petiole, the middle radial and the upper median vein are absent; the cell is very narrow, the transverse vein short and oblique.

opaca. **P. opaca** Wkr. (= *vespa* H.-Schäff.) (10 c) is unicolorously bluish-black with a metallic lustre; the shaft of the antennae above and the 2nd abdominal ring laterally and beneath whitish. The hindwing exhibits below the base of the cell a small, triangular hyaline spot. Known only from the Amazon (Pará, Sa. Catharina).

2. Genus: **Orcynia** Wkr.

Large and robust with a well-developed sucker, erect palpi with a short, obtuse terminal joint. The long, narrow forewings are distinguished from the allied genera by both the upper subcostal veins rising separately from the cell, while the lower radial and the upper median vein likewise rise separately, but run very near and parallel to each other for about half their length, the upper median vein rising close at the lower cell-angle. Forewings as in the preceding, but the subcostal and the upper radial vein are short-petioled.

calcarata. **O. calcarata** Wkr. (10 c). The sole, hornet-like species has dark-brown wings; the inner-marginal vein of the forewing has a steel-blue reflection particularly towards the margin. The body is black. The anterior area of the palpi, forehead, vertex, collar, covers of the shoulder-covers, thorax and anterior hips are yellow-spotted like the 3 first abdominal rings. Antennae and ends of the posterior tarsi orange-brownish. Occurring in Brazil (Amazon, Pará) and lying before me also from East Colombia from the Upper Rio Negro (Coll. FASSL).

3. Genus: **PseudospheX** Hbn.

Smaller, ichneumon-like animals of mostly dark colours with the abdomen strongly strangulated at the base, whereby the habitus of the wasps is most deceptively copied in single species. The palpi, being steeply appressed to the head, are very hairy downward, like a beard. The ♂ exhibits on the ventral side a large valve covering the 2nd and 3rd segments. The neurulation is not quite constant in the species. The two lower radials and the upper median vein of the forewing rise from one place, the lowest subcostal vein rises nearer to the apex than the third.

strigosus. **P. strigosus** Druce (10 c) resembles the *Amycles*-species with the exception of the strangulated abdomen; the whole animal is blackish-brown, which colour turns more reddish towards the light, diaphanous apical spot. The forewings also exhibit 2 diaphanous streak-spots below and behind the cell. On the forewings the lower median vein rises from the cell-angle. In Mexico it was found in the States of Vera Cruz, Tabasco, Jalisco and Yucatan, as well as in Guatemala; the species flies together with the Hymenoptera *Parachartergus apicalis* from which it is hardly discernible at a hasty glance.

sericeus. **P. sericeus** Schrottky. (The figure denoted as *sericeus* on t. 10 c does not represent this species, but *P. polybia* Kaye.) Somewhat larger than the preceding, and distinguishable by the wings being dusted in a rusty brown and being hyaline outwards below the anterior median vein, as well as by the two first, light-brown coloured abdominal rings. The body is otherwise black; the palpi inside and at the apex brown; the hind part of the head and the upper surface of the thorax sparsely, the middle of the antennae more abundantly scaled in a metallic blue; the base of the antennae whitish, the apex brown. Legs light brown with darker femora and white forehips. The first abdominal ring exhibits above a velvety-black basal spot, the ventral valve being white-margined. Expanse of wings: 26 mm. From Paraguay.

causa. **P. causa** spec. nov. (10 c) greatly resembles *strigosus* in its exterior, but as the lower median vein rises farther down, it belongs to the following group and is at once distinguishable by the blackish-brown costal part being but slightly lighter towards the apex: the apex of the wings remains brown. The antennae are scaled in an intense metallic blue, somewhat longer ctenodont and the terminal third being shorter and more compact in proportion to *strigosus* is white. The very long-bearded palpi are proximally rusty-brown; the forehead with greyish white hair. The hindwings are somewhat lighter than in *strigosus*. — Described according to a ♂ from the Upper Cauca-Valley (Colombia, 1000 m). Type in the Coll. FASSL.

polybia. **P. polybia** Kaye (10 c, as *sericeus*) has a black head and thorax. The eyes are finely margined by white; the two basal thirds of the antennae are bluish-black, the thinned apical third dull black. The black abdomen exhibits at the strangulated segment laterally an oblique, white streak. The yellowish-hyaline forewings are broadly scaled in brownish in the costal part; the hindwings yellowish-diaphanous. Legs yellow with a velvety-black inner side of the femora. Expanse of wings: 26 mm. Brazil (Castro [Paraná]) in April.

pellax. **P. pellax** spec. nov. (10 c) approximates *polybia*. The body is black, the head, particularly near the forehead and collar, interspersed with coarse, bluish-silvery hairs; the 3 first abdominal rings above with a

chestnut-brown lustre. Ventral valve brown, like the 3rd ventral segment margined by silvery white, at the 2nd segment laterally an oblique white streak; the posterior margin of the 2 or 3 next ventral segments is orange-brownish. The ventral sides are intensely iridescent in a metallic blue. Legs orange-yellow, hips and ends of femora silvery-white, the femora inside and above dark brown. The faintly yellowish hyaline wings exhibit brown costal- and inner-marginal stripes, the apical third of the forewing is sealed in a greyish-brown down as far as the middle radial. A ♂ from the Amazon (BANG-HAAS) without the antennae; the antennae in the figure are restored.

P. noverca *Schaus* (10 d) has a black body being covered with sparse, whitish-grey, small hairs which are somewhat denser on the forehead and at the collar. The antennae are black; the forehips are silvery white, the legs for the rest black except the under surface of the hind tibiae and-tarsi which are yellow-brownish. The basal two thirds of the costa and proximal margin of the hyaline forewings are jet-black, the cell thinly sealed in brown, which sealing gradually disappears towards the apex. In the submedian space, in the middle between the base and the rise of the lower median vein, there is a brownish oblique band. Common from August to November and from March to May on compositae in South Brazil, Paraguay and Argentina.

P. jonesi *Kaye*. Head black, the eyes finely margined by white; the two basal thirds of the antennae are purple-black, the thinner terminal third brownish. Abdomen above lustrous brown, beneath the segments are margined by yellow. Wings faintly yellowish-hyaline. Legs yellowish with darker femora. Expanse of wings: 20 mm. — Brazil (Santos) in March.

P. exsul *Rothsch.* (10 d) the patria of which is uncertain, probably originating from Brazil (Rio de Janeiro or Sa. Catharina), is a small, jet-black species, only the legs are orange-brown. Ventral valve edged in grey. The diaphanous wings are orange-brownish in the basal two thirds, while the apical third is of a more greyish tinge. Costal and proximal margins brown.

P. klagesi *Rothsch.* (10 d). Head black; collar orange-yellow; shoulder-covers striped in orange-yellow; the brown thorax exhibits posteriorly a transverse yellow band. The first 3 abdominal segments are dark red-brown, the others black. The legs are reddish-brown, the forehips and tibiae white; antennae black. The hyaline wings exhibit a dark-brown costal-marginal half and at the base a similar inner-marginal stripe. Venezuela (Caura River) in June.

P. garleppi *Rothsch.* (10 d) is a somewhat larger species with a black body. Collar yellow, so are the shoulder-covers which exhibit a black median stripe; metathorax with a yellow transverse stripe. Forehips and ventral valve white; anterior tibiae black, tarsi yellow; middle- and hind-hips black, tibiae and tarsi yellow. Antennae red-brown, at the tips yellow. The hyaline wings have narrow red-brown margins, the apex of the forewing, from the cell-end down to the middle radial, is brown. Described from Bolivia.

P. aurifera *Klages*. Head and thorax dark-brown; antennae orange-brown, in the thickened part with a purple reflection; both the last joints of the palpi, the forehead and head behind the eyes grey-haired, neck, collar and thorax covered with golden-yellow hairs. Legs orange-brown, forehips darker. Abdomen orange-brown, the 2nd segment laterally and below silvery-white, as well as the lateral spots and hind-margin at the 3rd segment. Wings yellowish hyaline with brown veins and fringes; forewings above the median and the middle radial vein dusted in brown, as well as the 2 basal inner-marginal thirds. This species with an expanse of 28 to 30 mm was described from Venezuela (Suapure), but it also occurs in Colombia.

P. caurensis *Klages* (10 d). An easily recognizable, larger species. Head and thorax, antennae and legs brownish orange-yellow, forehips silvery-white; the lower part of the forehead and the hind enclosure of the eyes white, the vertex exhibits a black spot. The 3 first abdominal rings brownish-orange, the rest of the abdomen black with a purple reflection. The first abdominal ring exhibits subdorsally black lines, the posterior half of the 4th is curled in yellow. The ventral valve and the 3rd ventral segment are margined by silvery white. The yellow-hyaline forewings are thinly sealed in yellow-brownish at the costal and proximal margins and outward of the discocellular as far as down to the middle radial; this part as well as the antennae, on being placed oblique to the light, show an amethystine reflection. Venezuela.

P. steinbachi *Rothsch.* (10 e). Likewise a larger species greatly resembling the preceding. It differs by its one-coloured golden-yellow head and orange-yellow forehips; the 2 first abdominal rings are chestnut-brown, the third one exhibits a black transverse band, the others are quite black (in *caurensis* the 4th shows yet a yellow hindmarginal ring). In Venezuela apparently not rare; known also from Bolivia.

P. polistes *Hbn.* (= *eumenides* *Newm.*) (10 e) has a one-coloured, reddish yellow-brown abdomen without any markings; the head and thorax are black and yellow marked. The wings are faintly yellowish hyaline, in the apical half down as far as the middle radial dusted in brownish. Widely distributed from Mexico through Guatemala, Venezuela as far as Brazil (Amazon, Pará, Matto-Grosso). — In **v. melanogen** *Dyar* described from Mexico (State of Vera Cruz) the abdomen is black with yellow hindmargins of the segments, the yellow colour of the thorax is confined, too, and there occur transitions to the typical form, the black colour of the abdomen being brightened up to brown.

- laticinctus*. **P. laticinctus** *Hmps.* (= *fasciolatus* *Druce*) (10 c). The body is yellow; the palpi are black-banded, the forehead is whitish with a black band between the antennae; collar, shoulder-covers and thorax striped in black. The first abdominal ring is black-striped in the middle and on the lateral tubercles; the other segments exhibit black transverse bands. The hyaline wings are darkened by yellow-brownish in the costal-marginal half down as far as the middle radial. The species flies in Guatemala.
- deceptans*. **P. deceptans** *Zeruy* (10 e) differs from *laticinctus* to which it is very closely allied, by unicolorously lemon-coloured palpi and forehead and the much narrower, yellow hindmarginal bands of the abdominal segments, and at the collar the fore- and hindmargins are yellow. — Described from Brazil (Blumenau in Sa. Catharina); a specimen undoubtedly belonging hereto is before me from Colombia (Muzo), from the Coll. FASSL.
- ichneumoncus*. **P. ichneumoncus** *H.-Schäff.* (= *polybioides* *Burm.*) (10 e) one of the most ichneumon-like species with a black, somewhat purple-lustrous abdomen. The antennae are brownish or black with a purple reflection. The yellow-brownish hyaline wings, being somewhat opalescent, have brown veins. — In the typical form *crabronis*. the wings are for the most part covered with black-brown hair-scales which are absent in ab. **crabronis** or only quite faintly indicated in a light brownish; the latter form seems to be more common. From Central America through Brazil to Paraguay, Uruguay and Argentina.
- hyalozonus*. **P. hyalozonus** *Fldr.* (10 d) resembles the following species by its size, but it is immediately recognizable by quite black palpi and more intensely blue-lustrous forewings with a hyaline inner margin. The forehead is grey, the abdomen beneath at the first segment spotted in whitish, both the first segments below narrowly margined in white. The hindwings are hyaline with fine black veins and margin, and the costal margin is dusted in dark brownish-grey. Colombia (Bogotá).
- rubripalpus*. **P. rubripalpus** *Hmps.* (10 e) is a large, strong species with a dull greenish-black body, at once recognizable by the conspicuously red-coloured palpi and forehips. The wings are dark blackish-brown with a purple-violet reflection. Beneath the cell-base of both wings there are narrow hyaline stripes. Brazil (Santos).

4. Genus: **Sphecosoma** *Btlr.*

It differs from the preceding genus by the upper median vein of the forewing rising below the radial veins; the third subcostal vein rises nearer to the apex than the lowest. The genus likewise contains very ichneumon-like, mostly smaller species.

- angustatum*. **S. angustatum** *Möschl.* (= *testaceum* *Druce*, *gracile* *Klages*) (10 e) exactly resembles *Pseudosphex polistes* in the colour and marking of the body; the hyaline wings have a brownish-yellow costal margin and proximal margin. From Guatemala, Panama, Surinam, Venezuela. — In **nigriferum** *Dyar* described from Mexico (State of Vera Cruz: Santa Rosa) the abdomen is blackened with yellow hindmargins of the segments; the shaft of the antennae is black; the legs have no red colouring. Flying in August.
- perconstrictum*. **S. perconstrictum** *Zerny* greatly approximates the preceding and particularly the dark shape of it, and is easily discernible by the palpi being dark brown at the inner side and by the black-brown, not yellow-red antennae. The abdomen is black-brown with yellow hindmarginal edges growing gradually posteriorly narrower, the 2nd segment is below lustrous white. The wings are faintly yellowish hyaline, the costal- and proximal margins of the forewings narrowly light brown, veins and fringes of all the wings brown. Expanse of wings: 24 mm. Brazil (Sa. Catharina).
- rufipes*. **S. rufipes** *Rothsch.* (10 h) differs from the similar *angustatum* by entirely white palpi, the quite black head with a yellow transverse line behind the base of the antennae, and the black-brown, orange-curved abdomen; the first segment is red-brown. The antennae are darker, only at the apex orange. Described from Venezuela.
- aurantiipes*. **S. aurantiipes** *Rothsch.* (10 h). Palpi and forehead are yellow, the vertex black; collar yellow, in the posterior half black; shoulder-covers yellow, outside bordered by black; thorax in front black, behind yellow. The first abdominal ring is brown, the other part of the abdomen black, yellow-curved; the whole under surface is yellow, the legs orange. The hyaline wings exhibit an orange coloured costal margin and proximal margin. From Venezuela, Paraguay and Bolivia. The specimens from the latter two countries are considerably smaller than those from Venezuela.
- trinitatis*. **S. trinitatis** *Rothsch.* (10 h). Head, palpi, thorax and legs are yellow, collar, shoulder-covers and thorax black-striped; the two first abdominal segments are brownish yellow, the second one with a red-brown ring, the rest of the abdomen black, at the costal margin of the segments yellow-curved. The hyaline wings have a brownish-yellow costal margin and proximal margin. Antennae red-brown. Trinidad, in December.
- arctatum*. **S. arctatum** *Wkr.* (10 h) is recognizable by the orange-yellow abdomen curved in bluish-black; head, thorax and the 2 first abdominal rings are light yellow, with bluish-black spots and markings. The wings are hyaline with fine black veins and margins; costal margin and base of the inner margin yellow. Expanse of wings: 28 mm. Amazon (Ega).
- meridionale*. **S. meridionale** *Schrottky* is much smaller than the preceding (expanse of wings: 22 mm). Head black, on the forehead and vertex yellow-banded; palpi, collar, shoulder-covers and under surface yellow. Antennae

brown, in the middle darker with a violet-blue scaling; thorax black, marked by yellow. First abdominal ring dark-yellow with a black median line, the 2 next segments brown, the anterior one with yellow lateral margins, the 4 following ones are black with yellow rings, the last is quite black. The hyaline, iridescent wings have light-brown veins and a proximal margin dusted in the same colour; costal- and distal margins are black. Paraguay, flying in July, on blossoms of *Ageratum conyzoides* L.

S. *deceptrix* *Hmps.* (= *fasciolatum* *Druce*) (10 h). Head whitish with a black band between the antennae *deceptrix*, which are of an orange-yellow colour like the palpi and legs, only the base of the antennae is black. The body is yellow, the collar, shoulder-covers and thorax are striped with black, the abdomen with black bands. Wings hyaline with a red-yellow costal margin and proximal margin, distal margin and base of the proximal margin narrow black. Costa Rica, Guatemala, Panama, also from Peru (Marcapata) (BANG-HAAS). It differs from the very similar *cognatum* by both the lower radial veins of the forewing rising from the same place.

S. *nigriceps* *Hmps.* Head and thorax are black; palpi at the base yellow, in front with whitish hair; *nigriceps*, collar and shoulder-covers striped yellow, chest, ventral side and legs yellow. The first abdominal ring is yellow, at the sides black, the 3 next ones orange-brownish with yellow ring-indentations, the 4 last ones black, curled yellow. The hyaline wings have fine, brown veins and margins; the costa of both wings and the proximal margin of the forewings are yellow, the costal-marginal half of the latter dusted in brown. Expanse of wings: 26 mm. Bolivia.

S. *simile* *Schaus* (10 h) from Venezuela (Aroa) has a yellow body; the vertex exhibits a black spot; *simile*, the collar and shoulder-covers are margined with black, the thorax marked black. The first abdominal ring exhibits above 2 black dots, and on the lateral tubercles black streaks; beginning from the 3rd one, the segments are banded black; the black of the 4th ring extends as far as the ventral side. The hyaline wings exhibit a black distal margin being expanded to a spot towards the apex.

S. *mathani* *Rothsch.* (10 h). Head and palpi are yellow; collar orange with narrow black margins; *mathani*, shoulder-covers yellow, bordered by black; thorax yellow with a black centre. The orange-coloured abdomen with the leaden-coloured ring-indentations makes this species and the following easily recognizable. The hyaline wings are yellow at the costal margin and the base of the inner margin, the black distal margin is somewhat expanded between the upper radial and the 4th subcostal vein. From the Amazon (Teffé, captured in September).

S. *plumbicincta* *sp. nov.* (10 h) is very closely allied to the preceding species. It differs by quite black *plumbicincta*, antennae with a slight purple reflection, a large black spot on the vertex, the collar being black only at the base, but entirely orange-yellow in the posterior half, as well as by the much more extensive apical spot by which it also resembles the small *Isanthrene*-species. The whole under surface inclusive of the 3 pairs of hips is light lemon-coloured, the legs on the whole orange. The two first abdominal rings are also above lemon-coloured; the first exhibits a large, black median spot with a metallic blue centre, on each of the lateral tubercles a black streak, the second segment with a broad, black, longitudinal streak; the other rings are above orange with leaden-coloured segmental indentations; those on the 3rd and 4th rings are laterally continued downward as black transverse bands. At the base of the costal margin there is a snow-white spot bordered by black. The costal margin is hyaline in the basal third, only the subcostal is faintly coloured yellowish; only the median third of the costal margin is of a bright orange-red; the median vein is orange-yellow as far as the place from which the two lower radial veins rise, the other veins are black. The proximal margin is broadly black at the base, only at the distal base it is orange. Panama (Chiriqui, ♂ BANG-HAAS; Lino, 800 m, ♀ FASSL). Type in Coll. FASSL.

S. *melapera* *Dogn.* Head, collar, and shoulder-covers lemon-coloured, palpi with an orange-yellow *melapera*, terminal joint, antennae black; vertex black-spotted, collar in front, shoulder-covers outside bordered by black, thorax black with yellow lateral spots. The 3 first abdominal rings lemon-coloured, the others orange; the first ring exhibits a black median streak, the second a large black dorsal spot with a metallic-green reflection in the centre, next to it on both sides a black spot, the third a smaller, four-cornered spot; the other rings are black and curled in a metallic green. Under surface and legs lemon-coloured, tarsi orange, above black. Wings hyaline with black margins and a black apical spot; subcostal margin, median and proximal margin yellow. Expanse of wings: 26 mm. Colombia (Cauca River) in July.

S. *abdominale* *Schaus.* Head yellow with a brown spot on the vertex, palpi yellow with ochreous *abdominale*, terminal joints; antennae dark-brown; collar in front black, behind yellow; thorax yellow, black-spotted with ochreous-yellow, black-bordered shoulder-covers. The two first abdominal rings are yellow, the first exhibits subdorsal, black spots covered with brown scales and on each side of it a black transverse streak; the other segments are ochreous brown, beneath yellow. Legs yellow and ochreous, anterior and middle tarsi striped in black. The wings are hyaline with black veins and fringes; the costal margin of the forewings ochreous yellow, as well as the median between the 2nd median and 3rd radial; at the base of the costal margin a white dot. Expanse of wings: 27 mm. Venezuela (Caura Valley).

S. *sparta* *Druce.* Head and palpi yellow; antennae black with a brilliant red shaft; collar black, *sparta*, bordered by yellow; thorax black with a white line at the base; abdomen black, curled yellowish-white;

legs, thorax and venter light yellow. Wings yellowish hyaline, veins finely black. Expanse of wings: 26 mm. Described from Colombia.

- testaceum.* **S. testaceum** Wkr. (10 i) from British and French Guiana and the Amazon (Pará) greatly resembles *angustatum* (10 e) in the colouring, though it is easily discernible by the much less strangulated abdomen. The head is black, the palpi yellow. The antennae are yellowish-red, the shaft is in the middle for a short distance black. The costal part of the forewing is faintly brownish as far as the cell-fold.
- metamela.* **S. metamela** Hmps. is smaller than the preceding and at once distinguishable by the orange abdomen the 3 last rings of which are quite black; besides the head is yellow, only the vertex is black, the antennae are quite black; the first abdominal ring exhibits above 2 fine black streaks. The yellowish hyaline wings are dusted orange-brownish in the costal-marginal half. Expanse of wings: 24 mm. Paraguay.
- vicinum.* **S. vicinum** Schrottky is deep dark-brown on the body with single blue, interspersed scales, palpi and forehead sparsely whitish-haired; the middle of the antennae mostly scaled deep dark-blue. Legs brown, forehips yellowish. The abdominal rings 4 to 6 are light brown at the hindmargin, like the ventral side. Wings yellowish hyaline with light-brown veins; costal- and distal margin blackish-brown, proximal margin dusted more light-brown. Expanse of wings: 24 mm. Paraguay, frequently flying in July on *Ageratum*-blossoms.
- abnorme.* **S. abnorme** Hmps. (10 i) deviates from the typical forms in the veins by a well-developed, long and broad cell of the hindwing; the proximal margin of the forewing exhibits beneath, the costal margin of the hindwing above in the ♂ long and dense hair. The colour of the body is orange, on the abdomen more brownish. The vertex is black and leaden-coloured, collar and shoulder-covers black, bordered by orange, the thorax black-striped. The two first abdominal rings above blackish, the first one with an orange dorsal spot; the hind segments exhibit silvery-blue dorsal bands. The hyaline wings are finely black on veins and margins, the subcostal is orange; the black margin expands somewhat towards the apex. Expanse of wings: 30 mm. Lower Amazon (Massauary).
- nigricornis.* **S. nigricornis** Rbl. is closely allied to *cognatum* (10 i), but it differs by its unicolorously blackish head and palpi; the back of the thorax is dark, too, only at the shoulder-covers with some interspersed, orange, small scales. Legs outside brownish, inside orange; hips dark with yellow scales. Abdomen above blackish with broadly orange-banded ring-indentations. The under surface is unicolorously orange as far as the anal end. Wings hyaline. On the forewing the middle radial is brought very near to the upper one by a strong curve; the discocellular is not quite closed. Expanse of wings: 26 mm. Described according to 1 ♂ from the Central Cordilleras between Mediacon and Ibagué.
- cognatum.* **S. cognatum** Wkr. (= *fasciolatum* Btlr.) (10 i). Body light-yellow, palpi and legs more orange, the latter black-banded, forehead white, base of the antennae black; collar black-bordered, shoulder-covers and thorax black-striped; the two first abdominal rings are dorsally and subdorsally black-striped, the other segments black-curved. The wings are hyaline with fine black veins and margins, the costal margin and base of the proximal margin yellow. Expanse of wings: 26 mm. Mexico, Colombia and Amazon. — The species differs from the very similar *deceptrix* (10 h) by the two lower radial veins of the forewing rising separately.
- meerkatzi.* **S. meerkatzi** Strand deviates from the preceding by its black antennae; forehead, palpi and legs are just as yellow as the body, not orange; only the anterior and middle tarsi are above dark; the wings are brown-yellowish hyaline. Expanse of wings: 21 mm. Brazil (Maranhão).
- melissa.* **S. melissa** Schaus (10 i) has quite black antennae. Head and thorax marked black and yellow, forehead and a band across the vertex white. The abdomen is black and yellow banded. The hyaline wings have narrow black margins, a black apical spot and at the base some orange colouring. Known from Brazil.
- surrentum.* **S. surrentum** Druce (10 i) has a yellow first abdominal segment with 3 black longitudinal stripes which are connected at the hind-margin by a black transverse beam, the 2nd segment exhibits orange-yellow lateral spots, the rest of the abdomen is black. Head and thorax are orange and black. The yellowish-hyaline wings have a narrow, blackish costal margin. From Bolivia and Peru.
- ecuadorum.* **S. ecuadorum** Druce (10 i) is distinguished by the carmine costal margin, only the base and the extreme apex are black, for the rest the wings are hyaline with fine black veins and margins. Head and thorax are black and orange-yellow, the abdomen black except the three first yellow-curved segments. Ecuador, also from Peru (Marcapata).
- melanotum.* **S. melanotum** Hmps. (10 i). Head, thorax and abdomen are black, on the forehead and vertex intermixed with white hairs; the 2nd strangulated abdominal segment is yellow, the third, in the ♀ also the 4th, yellow-margined; legs and ventral valve yellow. The hyaline wings with very fine black veins and margins exhibit a yellow subcostal stripe, so are the proximal margin, as well as the costal margin on the hindwing, of a yellow colour. — Bolivia (Corvico).

S. albipalpe *sp. nov.* (26 i) greatly approximates the preceding and is at once recognizable by the 2nd *albipalpe*. and 3rd palpal joints being all white in front; the terminal joint is of a somewhat yellowish tinge; also the 2 first joints of the antennae are white. The body is quite black, on the head and the edges of the shoulder-covers intermixed with sparse silvery-grey hairs; also the 2nd and 3rd segments of the abdomen are quite black, the former exhibiting laterally an oblique yellow streak. Venter likewise black, only the hindmargins of the segments somewhat yellowish-haired. Legs orange-brownish, forehips lemon-coloured. The hyaline-forewings are in the discocellular somewhat yellowish; the costal margin is yellow only between the uppermost radial and the lowest subcostal vein, as well as the proximal margin in the distal half. Expanse of wings: 24 mm. According to a ♂ from the Amazon (BANG-HAAS).

5. Genus: **Pseudosphecosoma** *Strand.*

Very closely allied to *Sphecosoma* and differing merely by the presence of a very short upper median vein on the hindwing, whilst on the forewing the uppermost subcostal vein stands simultaneously with all the others on one single common pedicle. Only 1 species:

P. vespoides *Strand.* Head and thorax are yellow; a transverse band on the vertex, spots on the collar *vespoides*. and shoulder-covers are black; so is the middle of the dorsum; on the hind part of the dorsum there is a T-shaped black figure. Abdomen above brown, beneath yellow like the legs; only the tarsi and hind tibiae are above brownish. Antennae red with black indented teeth. Wings brown-yellowish hyaline with brown veins, fringes, costal- and proximal margins. Expanse of wings: 24 mm. Brazil (Maranhão).

6. Genus: **Bombopsyche** *Hmps.*

Only one, sombre species being separated from the genus *Pseudosphex* by shorter palpi, the sudden, not gradual, expansion of the abdomen behind the footstalk; on the forewing the lowest radial rises separately from the lower cell-corner, the two median veins from a place below it, the middle radial above it.

B. ruatana *Druce* (10 k) is a unicolorously black animal; on the forewing the marginal third as far *ruatana*. as down to the upper median vein is more thinly scaled and lighter; the hindwings exhibit a small narrow hyaline spot below the base of the cell. Known from Honduras (Island of Ruatan).

7. Genus: **Pompilopsis** *Hmps.*

The sole species differs from *Sphecosoma* by the second abdominal segment not being strangulated as it is there, but also the third one; behind the very thin footstalk the abdomen expands rather suddenly, in order to taper off gradually towards the apex. No essential difference in the neurulation.

P. tarsalis *Wkr.* (= *semihyalina* *Wkr.*, *vespiformis* *Herr.-Schäff.*) (10 i). The very peculiar, slenderly *tarsalis*. built animal is not to be mistaken for another species. Body dull greenish-blue-black, tarsi light-grey. On the hyaline forewings, a diaphanous brown band extends from the proximal margin before the middle to the costal margin and along the latter to the apex, a similar spot is situated at the inner-angle, cut off by the lower median vein. Transverse vein and costa deep metallic blue. Hindwings, except the hyaline base, diaphanous brown with a blue reflection. In the ♀ the brown band of the forewing does not reach as far as the apex and the spot of the inner-angle is absent. From Mexico (Tabasco) through Guatemala as far as Brazil (Pará).

8. Genus: **Pompiliodes** *Hmps.*

This genus contains some species all of which resemble more or less the *Amycles anthracina* (12 l). The abdomen is but very little strangulated. On the hindwings the two median veins stand on a conjoint pedicle with the lower radial, the upper median vein rises from the lower close before the margin; the first radial vein and subcostal pediculate or not.

P. albomarginata *Druce* (10 k) is the largest species, immediately recognizable by hyaline hindwings *albomargi-* *nata*. with black veins and a rather broad marginal band and the short double ctenodont antennae. The white apical third of the forewing is very extensive and extends as far as the inner-angle. Costa Rica and Panama, also from Mexico.

P. aliena *Wkr.* (= *flavifascia* *H.-Schäff.*) (10 k) is a true copy of *Amycles anthracina* and distinguishable *aliena*. not only by the differences of neurulation, but also by the absence of the red neck-spots and the unicolorously black-brown hindwings. It differs from the preceding species by its smaller size, dark hindwings, a marginally grey-bordered, white apical spot of the forewing and, like the following species, serrate and ciliate antennae. From Guatemala, Venezuela, Brazil (Manas, Pará, Ega) and Peru (Marcapata).

P. postica *Wkr.* (10 k) differs from the preceding species by more stretched, more pointed wings, and *postica*. the much smaller extent of the whitish marginal spot which is to be seen only between the lower radial veins

and fades away in the brownish surroundings without any bordering. The apex is grey down as far as the middle radial. The hindwings are grey, lighter and more diaphanous than in *aliena*. Known from Panama and the Amazon.

tenebrosa. **P. tenebrosa** Wkr. (10 k) from the Amazon District has still somewhat narrower and quite unicolorously black-brown wings, only the apical third is an idea lighter grey, the white brightening is absent altogether.

9. Genus: **Paramya** Hmps.

The species forming this genus are very differently composed in their exterior. A mark common to all is that the subcostal and the upper radial of the hindwing rise from one pedicle; on the forewing the upper median vein rises below the lower cell-angle sending forth the two lower radial veins.

intersecta. **P. intersecta** Hmps. (10 k) has hyaline forewings with black veins and in the marginal area internerval stripes; distal margins and proximal margin as far as the submedian fold broadly black; hindwing black with the costal-marginal area being diaphanous. The body is blackish-brown. Amazon (Pará).

aenetus. **P. aenetus** Schaus (10 k) is black on the body, with bronze-green, black-veined wings. The hindwings exhibit below the median narrow, hyaline stripes. From Brazil (Castro Paraná, Sa. Cruz).

flavia. **P. flavia** Schaus (10 k) entirely resembles a small, yellow *Cosmosoma*, recognizable by the hindwings the proximal margin of which is orange-yellow at the base, then broadly black. The ♂ antennae are long-combed. Brazil (Castro Paraná).

picta. **P. picta** Druce (10 k) is an unmistakable species with very narrow wings. The forewings are in the disc hyaline diaphanous, turning yellowish towards the smoky grey-brown apex. The base and proximal margin are orange-yellow; a triangular median spot with the point showing towards the base and a somewhat faded spot in the distal third of the proximal margin are black. The hindwings are orange with a black apex. The body is orange-coloured, head, antennae, legs, and the 4 last abdominal segments are black. From French-Guiana.

chrysonota. **P. chrysonota** Hmps. (= ? *hoffmannsi* Rothschild.) (10 k) somewhat resembles the common *Leucotmemis nexa* (13 a) and greatly deviates from the other species of the genus. Black; antennae with a white tip; forehead and collar, as well as the meso- and metathorax with metallic blue spots which are more whitish on the thorax. The abdomen shows golden-green dorsal, lateral and ventral stripes. The black forewings exhibit an oblong hyaline spot below the middle of the cell, two more are between the upper median vein and the middle radial, as well as traces above and below the upper radial, on the hindwing there is a hyaline spot below the base of the cell, some more behind the cell. From the Amazon (Itaituba). I presume that the *Calonotos hoffmannsi* described by ROTHSCHILD likewise from Itaituba belongs hereto.

10. Genus: **Homoeocera** Fldr.

Large, strong species, partly resembling humble-bees or blow-flies, with a stout, woolly-haired thorax; the antennae are thickened in the middle, here occasionally provided with a hairy cover. The cell of the hindwing is extraordinarily short, the lower radial and the lower median vein on a long pedicle. A peculiarity of many (maybe all?) male species is that the whole body, evidently only as long as the animal is fresh, is entirely wrapped up by a tangled mass of woolly, white or light-grey hair being matted into balls. This wool apparently issues from the sides below the ventral valve, where it peeps out in the shape of long locks. Before me are *acuminata*, *stictosoma* and *staminea* showing this peculiarity.

lophocera. **H. lophocera** Druce (10 k). A very imposing animal with a black body and a scarlet apex of the abdomen; on the shoulders are large, white spots. The hyaline wings have very broad, black margins, the forewings a median band. The doubly combed antennae are strongly thickened in the middle part of the shaft and exhibit here yet a thick hair-tuft. Brazil (Santos). The species is distinguishable from *Mesolasia paula* (18 d) almost only by the neuration.

gigantea. **H. gigantea** Druce (10 a) is the largest species with a deep velvety-black body and scarlet palpi and legs; the abdomen exhibits dull greenish-blue rings. The hyaline wings are broadly black at the base, the margins and transverse veins. From Guatemala and Costa Rica; also a specimen from Mexico (Misantla) with a much more extensively black apex of the wings.

leuce. **H. leuce** Maassen (10 l), placed to *Dasysphinx* by the author, to *Sarosa* by HAMPSON, I consider to be decidedly a *Homoeocera* according to a specimen before me from the Coll. SEITZ, on account of the antennae being strongly thickened in the middle. The body is brownish-black, posteriorly with a bronze-green reflection. The steel-blue legs are white at the joints and tarsi. The hyaline wings have very broad black margins and median spot. The base is black on almost $\frac{1}{4}$ of the surface of the wings with a faint green lustre. The

shaft of the otherwise black antennae is white from the middle to shortly before the tip above. The ♂ before me having been used for the figure originates from Bolivia; the species was described from Colombia.

H. duronia Druce. Head, palpi, thorax and abdomen are black, the antennae black with a white tip. *duronia*. The abdomen exhibits on the ventral side a bright, bronze-green reflection. The first abdominal ring and the last 4 segments are red-curved. Characteristic are the snow-white legs. The wings are hyaline, the forewings with a broadly black base and costal margin, a black median spot and apex; the hindwings are broadly black at the proximal margin. Colombia.

H. sandion Druce. Head and antennae black, neck and collar orange-yellow; thorax and abdomen *sandion*. greenish-black, the latter at the base and laterally banded orange-yellow; legs orange, black-curved. Wings hyaline with black veins and margins. Expanse of wings: 36 mm. Colombia (San Juan; Choco).

H. garleppi Rothsch. has a black body, the front half of the abdomen with a steel-green lustre. The *garleppi*. legs are black, the basal two fifths of the anterior and middle tarsi white, three quarters of the hind tarsi white. Forewings yellowish hyaline, the margins, base, and a discocellular spot broadly black; the hindwings are less yellow, at the base and margins black, the proximal margin grey. — The much larger ♀ has longer and narrower wings all of which are uniformly yellow. — From Peru (Marcapata and Huancabamba). Distinguishable from the similar *leuce* (10 l) by yellowish wings, differently coloured legs and the antennae being white-coloured only beneath at the tips.

H. watkinsi Druce, allied to the preceding, has a black head and thorax, and a metallic-green abdomen; *watkinsi*. neck, base of the thorax and ventral side white; the abdomen on each side shows 4 yellowish-white spots, beneath 2 red ones. Legs black and white. On the hyaline forewings the veins, the base, a spot at the cell-end and a large spot at the distal margin below the apex are black; on the hindwings the veins, a spot at the cell-end, and the distal margin are black, the proximal margin is broadly snow-white. Expanse of wings: 40 mm. From Uruhuasi in South Peru.

H. tolosa Druce (10 l). Black; vertex and collar spotted in a metallic blue; the first abdominal ring *tolosa*. exhibits large white spots, the others show metallic blue subdorsal spots, at their hindmargin there are single, interspersed, red-yellow scales; on the ventral side of the 2nd to 4th segments there are indistinct, white transverse bands. The wings are hyaline, faintly yellowish with black veins and distal margins; an orange-yellow subcostal stripe and two similar ones separated by black at the proximal margin. Described from Ecuador (Intaj).

H. sahacon Druce (10 l). The velvety-black body is spotted in a metallic blue on the forehead, vertex, *sahacon*. collar, thorax, legs and at the abdomen laterally and sublaterally; the 2nd to 4th abdominal rings exhibit lateral orange bands, and the last segment beneath an orange spot. The yellowish hyaline wings have black veins and margins, at the base of the forewing there is a blue spot, the bases of the costal- and proximal margins are orange-striped. Panama.

H. staminea spec. nov. (11 a). Body black. On the collar and the shoulder-covers on each side a *staminea*. white, metallic-blue opalescent spot, a similar one in the middle of the metathorax. The first abdominal ring exhibits above 4 large white spots, the 2nd and 3rd rings are above unicolorously mealy light-yellow, in another ♂ snow-white, beneath black. Ventral valve silvery white, from its lateral margins there emerge dense heaps of yellowish-grey woolly threads wrapping up the whole legs. Wings hyaline with narrow black margins and veins. The black margin of the hindwing projects proximally like a tooth between the proximal margin and vein 1, as well as between this and the lower median vein. Forehips white, hind tibiae white-spotted. One male specimen originates from East Colombia (Upper Rio Negro), a second ♂ from Bolivia (Rio Songo, FASSL).

H. trizona Dogn. approximates the preceding: body black, palpal base laterally white-spotted, on *trizona*. the shoulder-covers a metallic blue dot, forehips white; the 3 first abdominal segments exhibit fine, light yellow rings. The hyaline wings, somewhat milky and blue iridescent, are finely bordered by black, with black veins, at the transverse vein broader black, as well as at the proximal angle of the hindwing. Expanse of wings: 40 mm. Venezuela (Merida).

H. rodriguezi Druce (10 l) has a velvety-black body with a broadly yellow-curved abdomen; forehips *rodriguezi*. and ventral valve of the ♂ white-spotted. The hyaline wings are at the base broadly black, the veins, margins and discal band likewise black; on the hindwing the black at the proximal angle expands in two long teeth. ♂ antennae shortly ctenodont. Mexico and Guatemala.

H. crassa Fldr. (11 a) differs from the similar *rodriguezi* by much narrower yellow abdominal rings, *crassa*. white subdorsal dots on the first two segments, furthermore white dots on the vertex, collar, shoulders and in the black base of the forewing; the transverse vein and distal margin are much finer black and the male antennae are serrate in the middle, not doubly ctenodont. Costa Rica, Colombia.

H. stictosoma Druce (11 a) has a great likeness to *acuminata*, but the somewhat more stretched wings *stictosoma*. have a yellowish tinge and orange-yellow costal- and inner-marginal stripes. The black spot at the anal angle of the hindwing is much smaller and the apex of the forewing extensively black. Colombia (Muzo).

H. acuminata Wkr. (= *leucostalacta* Burm., *dalsa* Schaus) (11 a). The velvety-black body exhibits *acuminata*. on the forehead, collar, shoulders and the 2 first abdominal segments white spots margined by a metallic blue; blue spots are also on the head, on the legs and medio-dorsally, also on the abdomen, antennae black with white

tips. The hyaline wings have a black base with a blue spot, black margins and veins. The black of the margin of the hindwing expands very much between the lower median vein and the anal angle. Distributed from Bolivia to Argentina.

magnolimbata. **H. magnolimbata** *Dogn.* greatly resembles the preceding, but it is somewhat larger; different by quite black, blue-reflecting antennae; the body is much more copiously spotted white: on the metathorax lies a large white spot margined by metallic blue, beginning from the 4th ring there are white lateral spots and on the ventral side 2 rows of spots. Forehips white bordered by blue, hind tibiae white-spotted. The black distal margin of both wings expands somewhat towards the apex. French Guiana in September.

rhodocera. **H. rhodocera** *Schaus* has red antennae with yellow tips. Legs black with red tarsi; palpi black; beneath blue-striped. Head and thorax are black, on the collar there are some interspersed, blue scales; the black abdomen exhibits metallic violet-blue dorsal and lateral lines, at the first ring a yellow transverse line, and at the 2nd ring laterally a white spot and a yellow line; on the venter a white spot. Forewings yellowish diaphanous, along the costal margin brownish; veins black except the 2 uppermost subcostal veins which are of a reddish tinge; fringes dark brown, the distal margin of the hindwing near the anal angle black. Expanse of wings: 38 mm. Chiriqui.

bombiformis. **H. bombiformis** *Rothsch.* The whole body is in the ♂ olive-brownish, the last rudimentary segment orange-reddish, from which long-haired, forcipated valves are projecting; legs brown; antennae black. The ♀ differs by a quite orange-yellow under surface and a well-developed, last, orange abdominal segment. Wings yellowish hyaline, base, distal and proximal margins, as well as the apex of the costal margin are black. — From Peru (Marcapata).

11. Genus: **Neotrichura** *Druce.*

The long cell of the hindwing from the lower angle of which the lower radial and lower median vein rise unpetioled, separates the only species from *Homoeocera*; in the ♂ the strongly convex costal margin of the hindwing is turned over and provided with a cover of white, woolly hair.

penates. **N. penates** *Druce* (= *dukinfieldia Schaus*) (11 b) has a black body with metallic blue-green spots on the forehead, at the base of the abdomen, as well as lateral and sublateral rows of spots. The hyaline wings have broad black margins, in the inner margin there are 2 oblique brownish streak-spots. Distributed from Panama to Paraguay.

12. Genus: **Isanthrene** *Hbn.*

Rather many species form this group of small and large, wasp-like animals. The colours are preponderantly yellow and black, often there are blue metallic spots. The wings are almost entirely hyaline, with a narrow or without a margin. The antennae are somewhat thickened in their middle part, shortly doubly ctenodont. The palpi project beyond the head. The cell of the hindwing, owing to the discocellular running very obliquely, is so small that it is not visible from above. On the forewings the upper median vein rises far away from the lower cell-angle from which both the lower radial veins rise likewise separately, or also from the same place.

felderi. **I. felderi** *Druce* (9 l). The body one-coloured yellow; the neck, anterior margin of the collar; one transverse streak each on the pro- and mesothorax, a longitudinal streak on the metathorax, and small spots quickly decreasing in size on the dorsum of the first abdominal segments are black. At the articulation of the forewings there is a minute, white, black-margined spot; antennae black. Wings hyaline with yellow costal and proximal margins. The distal margins and an extensive apical spot are black. Distributed from Mexico through Guatemala, Costa Rica as far as Ecuador. The colour of the body varies from light greenish-yellow to brownish orange-yellow. The latter variety of colour may be separated as **aurantiaca** *form. nov.* (9 l).

schausi. **I. schausi** *Rothsch.* (10 g) differs from the allied *felderi* by the quite one-coloured, deep orange-yellow body without any black markings, and it may be merely an unspotted form of *aurantiaca*. Mexico (Huatusco).

pentagona. **I. pentagona** *Schaus* (9 l) differs from the preceding by the absence of the black apical spot of the forewing and by the broad black rings of the last 5 abdominal segments and the much smaller size. The forehead is whitish, between the antennae a black spot; collar and shoulder-covers black striped and margined; thorax with blue-black median stripes. Costal and proximal margins of the hyaline wings with reddish stripes, fringes reddish. Peru.

crabroniformis. **I. crabroniformis** *Stgr.* (9 l) has scarlet antennae and legs; the former are at the base of the shaft often more or less black. Head and thorax are black with yellow markings. The steel-blue abdomen exhibits

subdorsal and lateral yellow spots on the 4 first segments. The pair on the first ring, often also the one on the second, are connected. Forehips of the ♂ white, of the ♀ yellow. From Costa Rica, Panama, Colombia, and Venezuela. — The specimens from the latter country, to be separated as *venezuelana* Stgr. (i. l.) (9 l), *venezuelana*. differ by the black being increased, whereby, particularly at the proximal margins, the yellow is pushed back; the antennae are black to beyond the middle, only the tips are red, and on the legs the tarsi likewise turn black.

I. thyestes Druce (9 l) is easily recognizable by the yellow abdomen being scarlet at the apex and provided *thyestes*. only with narrow black ring-indentations. Legs, antennae and venter are scarlet, only the tarsi are black; forehips yellow. Only from Ecuador.

I. cajetani Rothsch. (10 a). This magnificent large species approximates *thyestes* and differs particularly *cajetani*. by the absence of the red of the abdominal apex. The legs are blackish brown, forehips white; palpi black; head golden-yellow; the antennae scarlet, at the tips orange-yellow; collar and shoulder-covers golden-yellow with black margins; thorax golden-yellow, black-banded. The golden-yellow abdomen black-curved, the last segment black with subdorsal yellow spots. The intensely yellow hyaline wings exhibit a black distal margin growing very much broader from the lower radial vein towards the apex; the basal $\frac{4}{5}$ of the costal margin are golden orange, the proximal margin black with orange-yellow stripes. 3 ♂♂ from Central America (?), Coll. FELDER (Tring).

I. ustrina Hbn. (10 a). The body is black, on the shoulder-covers and metathorax spotted yellow; *ustrina*. antennae quite black, tibiae and tarsi carmine, hips in the ♂ white, in the ♀ black. On the two first abdominal rings 2 pair of yellow spots, behind them subdorsal and sublateral rows. Wings hyaline, veins, margins, a spot at the transverse vein and a large apical spot black. Expanse of wings: ♂ 50, ♀ 60 mm. Cuba; Brazil (São Paulo).

I. melas Cr. (= *flavicornis* F., *vespoides* Wkr.) (9 m) approximates *incendiaria* (10 a), the antennae, *melas*. however, are more extensively red, head and thorax are more intensely marked in yellow, and the 4 first abdominal rings exhibit larger yellow spots. The black legs are yellow-striped. Found from Surinam to Paraguay.

I. pyrocera Hmps. (= *incendiaria* Druce) (9 m) entirely resembles *perbosci*, the antennae, however, *pyrocera*. are brighter red-yellow, the thorax is much more marked yellow, and the abdomen exhibits 4 pair of large yellow spots, in the ♀ 5. From Mexico and Ecuador.

I. perbosci Guér. (= *pompiloides* Wkr.) (9 m). A very large, strong species with orange-yellow antennae. *perbosei*. Body and legs jet-black with a varying number of lemon-coloured subdorsal spots on the abdomen; also the shoulder-covers and the collar frequently show yellow spots. Wings yellowish hyaline with black veins and margins. At the base and costal margin the brightly brownish-red colour of the under surface shows through. Proximal margin of the hindwing broadly black. The forehips in the ♂ are snow-white, in the ♀ black. In Mexico and Guatemala apparently not rare. — Usually only the first abdominal ring shows yellow spots, there occur, however, as much as 5 and even 6 dorsal spots (= *maculata* form. nov.) (9 m). *maculata*.

I. championi Druce (9 m) is a gigantic species very well recognizable by its jet-black body and bright *championi*. brown-yellow wings. The antennae are orange-red; the abdomen exhibits on the first segment two little conspicuous, yellow, small spots. The middle segments are white-spotted on the ventral side. The margins of the wings are very fine black, the inner-marginal half of the hindwing more extensively black. Beneath, the costa and veins of all the wings are scarlet. From Panama (Bugaba, Chiriqui).

I. echemon Druce (10 b) greatly resembles the preceding, on an average smaller, the abdomen unspotted, *echemon*. unicolorously black. The main difference is the black distal margin of the forewing growing broader towards the apex and being entirely absent in *championi*. Guatemala.

I. incendiaria Hbn. (10 a) greatly resembles *perbosci*, but it is easily discernible by the antennae being *incendiaria*. black, only at the tips orange-yellow. The spots on the first 4 abdominal rings are more lemon-coloured, not so orange-yellow, the first segments exhibit also laterally yellow spots beside the subdorsal ones. — The form in which there are yellow spots only on the first 3 abdominal segments has been denominated *maxima* Btlr. — *maxima*. Both the forms fly in Brazil (Rio de Janeiro, Espiritu Santo).

I. tryhanei Rothsch. (10 b). Head and palpi black, on the forehead a yellow spot; thorax velvety- *tryhanei*. black; abdomen velvety-black, the dorsum of each segment exhibits a steel-blue spot, the 3 last rings quite steel-blue; on the first segment yellow subdorsal spots, on the second yellow lateral streak-spots. The legs and forehips are black, half of the femora red, anterior and middle tibiae red, hind tibiae red-speckled, tarsi black. Antennae red. Wings yellow hyaline, the basal two thirds of the costal margin orange, the proximal margin broadly black; the black distal margin expands, from the lower radial vein, to a large apical spot. Proximal margin of the hindwing black. 1 ♀ from Trinidad.

I. columbiana Rothsch. (10 b) from Bogotá (Colombia) differs from the preceding species by considerably *columbiana*. broader forewings which are less intensely yellow, and by quite unicolorously black legs; besides almost the whole costal margin and the basal half of the proximal margin are orange yellow.

- drucei*. **I. drucei** *Rothsch.* (10 f) is a somewhat smaller species from Colombia. Head yellowish white, palpi yellow; collar, shoulder-covers and thorax reddish-yellow, striped and bordered by black; abdomen black with a steel-blue lustre; the dorsum of the 1st segment exhibits 2 white longitudinal spots with a yellow centre, the 3 next segments subdorsal reddish-yellow transverse spots. The yellow, hyaline wings are, between the veins, dusted brownish, the margins, except the costal margin, are narrowly black, a black apical spot. Base of the hindwing yellow. The legs are cinnamon-brown, middle and hind tarsi black-brown, forehips white. Antennae red-brown.
- pertyi*. **I. pertyi** *H.-Schäff.* is black on the body; the 2nd abdominal ring exhibits orange, subdorsal spots and white dots, as well as yellow lateral spots; the 2nd to 4th rings show ventrally 2 rows of bluish-white spots. The wings are hyaline, in the costal-marginal half yellowish, with fine black veins and margins; at the base of the forewing is a blue spot; a subcostal stripe and 2 stripes at the base of the proximal margin are orange. Expanse of wings: 42 mm. Brazil (Espiritu Santo).
- azia*. **I. azia** *Druce* (26 k) is distinguished from all the other species by bright metallic-green spots on the palpi, vertex, collar, metathorax and abdomen, the other part of the body is black; antennae at the tips yellow; tarsi orange. The abdomen on the two first rings is dorsally white-spotted, the 3rd ring shows lateral and sublateral, white spots. The wings are diaphanous yellow with fine black veins and margins; at the base of the forewing a green spot, a subcostal stripe and 2 stripes at the base of the proximal margin are orange. At the inner angle of the hindwing the black distal margin expands to 2 teeth. Expanse of wings: 42 mm. Guatemala.
- pelor*. **I. pelor** *Druce* (10 f) has a brown body; palpi, the sides of the forehead, and the basal joints of the antennae anteriorly yellow, vertex and collar blue-spotted. Antennae yellow at the tips. Legs black and yellow, hips yellowish white. The abdomen shows on the first 4 segments narrow yellow ring-indentations, on all the segments subdorsal and lateral spots; the ventral valve is white-margined. The faintly yellowish hyaline wings have narrow black margins being somewhat broader at the apex of the forewings. Costal margin yellow. Described from Ecuador.
- aterrima*. **I. aterrima** *Wkr.* (= *phyleis* *Druce*) (10 b) has a unicolorously black body; the abdomen shows a purple reflection; the two first segments show white lateral spots and are ventrally white-bordered. The hind hips, as well as parts of the tarsi are yellowish-brown. Antennae red-yellow, the first two thirds of the shaft above black. The yellowish hyaline wings are in the costal half orange-brownish; on the hindwings the otherwise very narrow black distal margin between the inner angle and the lower median vein is broader. Ecuador (Sarayaue), Amazon (Ega).
- mathani*. **I. mathani** *Rothsch.* Head black, spotted in a metallic blue; collar black, bordered by orange; shoulder-covers orange with a blue basal spot and black margins; thorax spotted in a black blue; abdomen black with very large, subdorsal, metallic-blue spots, at the base with a yellow transverse band; at the other rings fine orange segmental indentations, the last ring quite orange. Legs dark-brown, with metallic-blue bands, hips white-spotted. Wings diaphanous yellow with black veins, distal margin and large apical spot, costal and proximal margin orange in $\frac{4}{5}$ of their length. Expanse of wings: 38 mm. — Cundinamarca; Colombia.
- fulvipuncta*. **I. fulvipuncta** *Hmps.* (= *varia* *Hmps.* pr. p.) (10 b). Body blackish-brown, on the forehead, vertex and collar with small blue-silvery spots; antennae red-yellow; shoulder-covers indistinctly striped orange. On the first abdominal ring 2 orange dots, on the two next ones subdorsal orange spots, on the next segments subdorsal, indistinct, leaden-coloured, blue-spotted bands. On the ventral side the 1st segment shows a white transverse band, the 2nd sublateral white, and the third blue spots. Wings faintly yellowish hyaline, in the costal-marginal half somewhat darker yellow; 2 silvery-blue basal spots; costal and proximal margin orange-brown, distal margins narrowly blackish. Panama (Chiriqui, Lino).
- varia*. **I. varia** *Wkr.* (10 b) strikingly resembles the preceding species and differs above all by the presence of yellow (not orange-brown) spots only on the two first abdominal rings, not on the third; the silvery-blue spots on forehead and collar being present there are absent here, but on the other hand there is here a blue spot, beside the one on the vertex, on the metathorax; the antennae are red-yellow, the first $\frac{2}{3}$ of the shaft above black. On the ventral side the 2nd segment shows a white transverse band, the 3rd and 4th segments exhibit sublateral white spots, the 5th blue spots. Amazon (Pará); Rio de Janeiro.
- joda*. **I. joda** *Druce*. Body black, hind head, mesothorax, and spots on the last abdominal segments deep ultra marine blue; the 4 first abdominal rings margined by light yellow. Antennae black. Wings yellowish hyaline; base, proximal margin, fringes and an apical spot are black. Antennae black. Peru, Bolivia. The species shows a likeness to the *Cosmosoma lucens* *Dogn.* figured on t. 10 a, though it is larger.
- basifera*. **I. basifera** *Wkr.* (= *grenadensis* *Btlr.*) (10 a). Black; the antennae at the tips and beneath orange; forehead, collar, metathorax and legs with metallic blue spots, tarsi orange yellow. The two first abdominal rings above yellow, the following ones subdorsally and laterally blue-spotted. Wings slightly yellowish diaphanous, at the base there are two metallic-blue spots; costal and proximal margins orange; distal margin and a large apical spot black. Venezuela (Merida), Colombia, Bogotá.

I. basiferoides *Strand* is closely allied to the preceding, distinguished by a narrower black marginal *basiferoides*. band of both wings, at the base of the forewing is only 1 blue spot, forehead and metathorax are quite black, as well as the antennae; the 2 first abdominal rings have narrower white-yellow transverse bands. Expanse of wings: 42 mm. Peru.

I. crabronides *Dogn.* (10 f). Head and thorax black, spotted in yellow. On the vertex and mesothorax *crabronides*. metallic violet-blue spots. Abdomen brownish orange, the 4 first segments black-curved. Antennae yellow-brown; legs yellow, the tibiae above and the tarsi blackish. Wings yellowish hyaline, in the costal marginal half down to the middle radial vein darker yellow. Only the extremest fringes are black, on the hindwings, towards the proximal angle there is somewhat broader black colouring. In Colombia apparently not rare.

I. atrizonata *Dogn.* (10 f) seems to be a very variable species, for before me are two specimens differing *atrizonata*. from each other, which do not coincide entirely with the original description, one of which has been diagnosed as *atrizonata* by the author himself. Palpi black with a yellow terminal joint; forehead and base of antennae yellow, vertex black intermixed with metallic blue scales. Neck yellow; collar black and yellow, shoulder-covers black, bordered by yellow; thorax black and yellow spotted. Abdomen black with subdorsal and sub-ventral, metallic blue macular series, each segment with yellow bands. The legs are black with blue spots, the tarsi yellow. The wings are yellowish hyaline, at the base of the forewing with a metallic blue spot. Veins and distal margins narrowly black, the latter somewhat broader towards the apex of the forewing, as well as towards the proximal angle of the hindwing. — In one of the specimens before me only the 3 first abdominal rings are yellow-margined, the rest of the abdomen is spotted in black-blue; in the second specimen, however, the rest of the abdomen is quite yellow, only the 3 first rings are black-banded and blue-spotted, the 4th segments exhibits subdorsal black spots. From East Colombia (Medina, 5000 m).

I. dorsimacula *Dogn.* (10 f) is a rather little, stoutly built species; palpi and head are yellow, the vertex *dorsi-* blackish. Antennae yellowish brown; thorax yellow and black spotted, on the metathorax metallic blue scales. *macula*. The first abdominal ring is almost quite light yellow, the following segments black with subdorsal, blue spots and orange-yellow median spots increasing in size posteriorly, so that beginning about from the 4th segment orange-yellow belts are formed; the last segments are almost quite orange. Wings yellowish hyaline with very narrow black margins; at the base tiny blue spots. From East Colombia (Medina, 500 m).

I. notipennis *Btlr.* (10 g). Head black, forehead white, on the vertex blue scales, the palpi yellow and *notipennis*. the antennae orange. The thorax is black and yellow striped; legs orange with small black spots. The abdomen is black, the two first segments whitish-yellow and orange-red banded, the others show metallic blue subdorsal stripes. The wings are yellowish hyaline, the forewing in the costal half as far as down to the middle radial orange-brownish, the base of the proximal margin likewise orange. The narrow black distal margins grow somewhat broader on the hindwing between the proximal angle and the lower median vein. Amazon (Villa Nova).

I. profusa *Hmps.* (10 g) is very closely allied to the preceding species and differs chiefly by the more *profusa*. extensively yellow colouring of its body. Head and thorax are orange, the latter black-striped; forehead whitish; the antennae are orange, at the shaft partly black-coloured. At the abdomen the 4 first rings are entirely orange, only narrowly margined by black; the rest is coloured as in the preceding species, also exhibiting blue lateral spots. The wings are lighter than in *notipennis*, the black spot of the proximal angle of the hindwing sometimes bordered by orange. Brazil (Ega, Sao Paulo).

I. vespiformis *Btlr.* (10 g) likewise greatly approximates *notipennis*; it differs from the two preceding *vespiformis*. species by its larger size and narrow yellow belts on the 4 first abdominal rings, the one on the 3rd segment being the broadest; the 4 first segments are beneath entirely yellowish-white. The forewings are in the costal half not so dark as in *notipennis*. From the Amazon District (Villa Nova).

I. porphyria *Wkr.* (= *machile* *H.-Schäff.*) (10 g). Head yellow, palpi, antennae and legs orange; collar *porphyria*. and thorax yellow, striped in black, on the metathorax metallic blue scales. Abdomen black with a purple lustre; the 3 first segments show orange-coloured rings, the fourth a yellow one, on which there are ventral, white spots. Subdorsal and sublateral, metallic-blue spots. The yellowish hyaline wings exhibit at the base of the costal margin a small black and metallic blue spot; costa and basal half of the proximal margin orange; the narrow black distal margin expands, from the lower radial vein, to a large apical spot, it also projects proximally between the submedian fold and the lower median vein. From Surinam to the Amazon District, reported also from Peru.

I. minor *Btlr.* (= *bromus* var. *Wkr.*) (10 g) is one of the smallest species resembling *felderi* (9 l). It *minor*. has a black head, the forehead and spots above the eyes are white. The rest of the body is yellow, shoulder-covers and thorax black-striped; on the abdomen black segmental lines. The narrow black distal margin of the hyaline wings expands to an apical spot. A subcostal stripe and the base of the proximal margin are orange. Described from Brazil, the patria not being precisely mentioned.

monticola.

I. monticola Schaus (10 g) has an ochreous-yellow body. Palpi with a black terminal joint; antennae white with a black basal half and tip. Collar and thorax black-spotted; the first abdominal ring shows above and laterally black spots, the other segments black intersegmental spots. The wings are hyaline with ochreous-yellow veins and margins; the latter at the apex and proximal angle broader ochreous-yellow, proximally bordered by black; at the base of the subcostal and inner-marginal vein there are short, black streaks; on the hindwings the veins and proximal margin are finely black. Expanse of wings: 34 mm. Costa Rica (El Sitio), also from Panama (Lino).

13. Genus: **Hyda** Wkr.

It is very closely allied to *Isanthrene* from which it differs only by shorter palpi, the short and stout abdomen, comparatively broader and shorter wings, as well as by the antennae being only in the middle part thickened and serrate-dentate.

basilutea.

H. basilutea Wkr. (= *xanthorrhina* H.-Schäff.) (11 b) is a very characteristic, unmistakable species. The body is lemon-coloured, very strangely contrasted by the orange-coloured parts: collar, shoulder-covers and the abdominal segments 5 to 7. A spot on the hind head and metathorax, subdorsal spots on the first abdominal segment, as well as dorsal spots on the following segments are black. The hyaline wings have a broad, orange base; close at the base of the costa we notice a yellow and black spot. Margins of the wings and veins narrowly black, apex of the forewing and anal angle of the hindwing more extensively black. The species is distributed from Colombia to Brazil. — From West Colombia (Rio Aguaca Valley, 2000 m) there is a local form before me: **f. aguacana** form. nov. (11 b) (type in Coll. FASSL) being distinguished by its larger size and quite unicolorously lemon-coloured abdomen, without the black dorsal spots of the typical form. The black apical spot is greatly reduced.

aguacana.

14. Genus: **Autochloris** Hbn.

A well characterized group of equably looking, more than medium-sized, very stoutly built species. The broad hyaline wings mostly exhibit a very strong, black neuration and extensive, black margins. On the forewings the uppermost subcostal vein rises from the cell, the upper median vein distinctly below the cell-angle. The cell of the hindwing is well developed and visible from above. The shaft of the antennae is thickened in the middle part. In contrast with *Homoeocera*, the woolly hairing of the thorax is absent.

capistrata.

A. capistrata F. (= *selecta* H.-Schäff.) (11 b) is one of the smallest species very easily recognizable by the entirely scarlet abdomen with triangular black dorsal spots, a black thorax with an orange collar and shoulder-covers; most characteristic, however, are the black patches on the wings, which are entirely strewn over with metallic silvery-blue scales, whereby the species greatly resembles *Phoenicoprocta eximia* (12 c) which, however, has but very little red on the abdomen. — The species was described from Brazil (?), but it lies before me from the Antilles, Porto Rico, for which reason it probably has the same range as *eximia*.

carminata.

A. carminata Hmps. from the Bahama Islands may be merely a form of the preceding with a carmine collar and shoulder-covers, of the same colour are the palpi in front; thorax and legs striped in carmine. The abdomen is of a deeper carmine, and the white sublateral spots being rather large in *capistrata* are here much smaller; the venter is black-banded, the neck white. Expanse of wings only 32 mm.

jamaicensis.

A. jamaicensis Schaus. Head and thorax black, on the collar and shoulder-covers carmine-striped intermixed with small white hairs, partly with a metallic blue lustre. Abdomen carmine with a black median stripe and black hind-margins of the segments; beneath light brown; legs black, blue-striped; tarsi white-curved. Wings hyaline with black margins; the forewings with a broad black apex, a large black spot at the cell-end and a smaller one in the middle of the cell, not reaching the median. The hindwings are bordered by black, too. Antennae black with yellow tips. Expanse of wings: 39 mm. Jamaica.

jansonis.

A. jansonis Btlr. (11 b) is the most variegated species: the abdomen is above on the first ring yellowish-white, the other rings exhibit broad, metallic blue, subdorsolateral spots, between them orange-red segmental bands, the last rings are above quite orange. The wings are yellowish hyaline with fine black veins and very broad margins. Costa Rica and Panama. — In **bogotana** form. nov. (= subsp. 1. Hmps.) the orange dorsal bands disappear more or less and remain to a slight degree only subdorsally. The ventral valve and the following segment are white, the following rings beneath yellow. Colombia (Bogotá).

*bogotana.**bijuncta.*

A. bijuncta Wkr. (= *consociata* Wkr.) (11 b) has a black body; vertex and collar are blue-spotted; shoulders and sides of the metathorax exhibit white spots. The first 2 or 3 abdominal rings show subdorsal bluespots, the three last segments are orange-yellow; into the first of them the black colour of the body extends as a dorsal spot. The hyaline forewings, like in the following species, exhibit a black transverse beam in the submedian space below the middle of the cell. Amazon (Ega).

A. proterva *spec. nov.* (11 c) has an entirely black body. Vertex, collar and the sides of the 2nd and 3rd abdominal rings are spotted in a metallic blue. The forehead, on each side a spot below the collar, and lateral spots at the 1st abdominal segment are white; the 7th abdominal ring is posteriorly at the sides narrowly margined by red. Antennae, legs and the under surface one-coloured black-brown. The hyaline wings exhibit broad black margins and a black transverse beam between the proximal margin and median before the middle of the cell. Described according to 1 ♀ from French Guiana (type in Coll. DRAUDT). *proterva*.

A. flavipes *spec. nov.* (11 c) is rather closely allied to *cuma* from which it differs by the yellow coloured under surface of the 5 last abdominal rings; the whole last segment, as well as the hind-tibiae and tarsi are entirely ochreous yellow. The white dorsal spots of the two first segments are adjoined by large orange-yellow lateral spots. The black transverse beam between the median and the proximal margin is absent, but it is indicated by a punctiform thickening at the former. Between the submedian fold and the proximal margin there is an ochreous-yellow stripe; the proximal margin of the forewing is likewise yellow-coloured. Described according to 1 ♂ from East Colombia (Rio Negro, 800 m). Type in Coll. FASSL. *flavipes*.

A. cuma *Druce* (11 c) is particularly in the female one of the largest species with a black body; vertex and collar spotted in a metallic blue. Shoulders, thorax and forehips white-spotted. The lustrous blue abdomen exhibits laterally large, triangular, scarlet spots, the last 4 rings are beneath quite red. On the two first rings there are subdorsal white spots. The hyaline wings are broadly margined with black, proximal margin and median are connected by a black transverse band before the middle of the cell. Colombia, Bolivia, Peru (Marcapata). *cuma*.

A. caunus *Cr.* (11 c) is velvety-black, only the first abdominal segment suffused by blue, the 5 last segments orange-yellow with a black dorsal spot on the first of them. Wings as in *cuma*. Expanse of wings: 38 mm. Surinam; Brazil (São Paulo). *caunus*.

A. xanthogastroides *Schaus* (11 d) resembles *Gymnelia xanthogastra* (11 i) by the colouring of the body and the very narrow black margins of the wings. Body black, the first abdominal rings are blue-spotted, the last ones orange. Forehips and spots on the shoulders are white. I obtained also numbers of the species from Argentina (Misiones), and it is possible that the *G. xanthogastra* reported from there is the present species. Paraná; São Paulo. *xanthogastroides*.

A. mathani *Rothsch.* (11 c). Head and palpi black, vertex and collar with metallic blue spots. Thorax black. The first abdominal ring is reddish-yellow, the following rings metallic blue with black transverse bands and median line; the last segment vermilion. The yellowish hyaline forewings exhibit a broad black apical spot; the basal half of the costal margin and an inner-marginal stripe are orange-yellow; at the cell-end a black median spot. The hindwings are less intensely yellow. From Colombia (Cundinamarca) in August. *mathani*.

A. completa *Wkr.* (11 d) differs from the following species by orange-red lateral bands at the hind-margin of the abdominal segments; behind the white ventral valve the venter is yellow-banded. Amazon (Pará); Peru (Marcapata). *completa*.

A. xenodorus *Druce* (11 d). Body black. On the vertex and collar metallic blue spots. The sides of the thorax below and the hips with white spots. The first abdominal ring exhibits above a broad white or yellow transverse band, the following rings subdorsal metallic blue spots, the last 3 segments are above curled in orange-red. Antennae black, before the tips white. Wings hyaline with broad black veins, discoidal spots and margins. From Mexico (Misantla; Tabasco) and Guatemala. *xenodorus*.

A. cincta *Schaus* is rather similar to the preceding, but much smaller and easily distinguishable by its ochreous-yellow ventral side. The first abdominal ring is yellow, the 3 last ones dark-red, the ventral valve white; instead of the subdorsal blue spots, the abdomen exhibits a dorsal row and on each side another row. Expanse of wings: 35 mm. French Guiana (St. Jean Maroni). *cincta*.

A. ectomelaena *Hmps.* (11 d). Body black, vertex, shoulders and thoracic sides white-spotted, the collar metallic blue spots; hips white. The first abdominal ring is above white with a black median line; the other segments exhibit dorsal and subdorsal rows of blue spots and sublateral rows of white spots; anal end orange. The hyaline wings exhibit extraordinarily broad, black margins, otherwise they are as in most of the species. Brazil (Sao Paulo). *ectomelaena*.

A. aroa *Schaus* (11 d) has a black body; on the vertex there is a blue spot; on the thorax white spots, forehips white. The abdomen exhibits on the dorsum and at the sides small, metallic-blue spots, between them at the sides red segmental indentations with the exception of the first segment, the anal end is scarlet; sublaterally there are white spots being united to a transverse band on the third segment on the ventral side; towards the anal end these spots turn reddish. The wings as in the other species. Venezuela (Aroa). *aroa*.

- suffumata*. **A. suffumata** *spec. nov.* (11 e) is a species very easily recognizable by the uncommonly great extent of the black colour. Body black; vertex, collar and the abdominal sides with metallic blue spots. The last abdominal segment and hind-margin of the penultimate segment brick-red; a sublateral row of yellow-red spots. Forehead, a spot below the collar and forehips white. The black forewings exhibit hyaline spots in and below the cell, between the middle radial and lower median vein, and a small, narrow spot lies between the upper radial and the lowest subcostal vein. The black hindwings are hyaline in the cell, behind and below it. Described according to 1 ♀ from East Colombia (Medina, 500 m, A. H. FASSL).
- laennus*. **A. laennus** *Wkr.* (11 e). Black, antennae at the tips white; on the shoulder a white spot. Vertex, collar and subdorsal spots on the 4 first abdominal rings metallic blue, the last 3 segments red, frequently with black dorsal spots. Wings hyaline with black veins, broad margins and discoidal spots; the middle spot of the hindwing is confluent with a triangular widening of the margin towards the proximal margin. Forehips in the ♀ black, in the ♂ like the large ventral valve white. From Brazil (Rio de Janeiro, Santos), very common.
- simplex*. **A. simplex** *Wkr.* (11 d) entirely resembles the following species, but the last 5 abdominal rings are red-margined and the last segment is quite orange-red, besides there are sublateral white spots. HAMPSON presumes in the species before us the ♀ of *collocata*. Amazon District (Pará).
- collocata*. **A. collocata** *Wkr.* (11 e). Head, thorax and abdomen are black; collar spotted in a metallic blue; spots on the shoulders, the hips at the sides of the metathorax are white. The abdomen shows subdorsal rows of metallic green spots; the last 2 segments are orange-curved. The ventral valve is white-margined and the 6th and 7th segments show on the ventral side a large, red-yellow spot. The wings as in the allies. From the Amazon District (Ega).
- whitelyi*. **A. whitelyi** *Druce* (11 e) from Peru has a black body; vertex and collar are blue-spotted; at the sides of the forehead, on the shoulders and thorax there are white dots; the forehips are white. The first abdominal ring is above yellowish-white, the other segments exhibit dorsal and lateral rows of blue spots, as well as lateral red articular indentations, the 4 middle segments besides sublateral white spots. The hyaline wings with very broad, black distal margins do not exhibit any peculiarities.
- serra*. **A. serra** *Schaus.* Head, thorax and abdomen black. Hind thorax and hips white-spotted; the abdomen shows lateral rows of metallic-blue spots, on the 4 middle segments between them carmine spots. Wings as in the allied species. Brazil (Rio de Janeiro).
- enagrus*. **A. enagrus** *Cr.* (11 e) is distinguished by the absence of every red colour. The black abdomen shows dorsal and subdorsal metallic blue-green macular stripes; shoulders and thoracic sides white-spotted, forehips white; vertex and collar are spotted in a bluish green. — f. **dexamene** *Druce* shows at the first abdominal ring lateral white spots. Surinam; Amazon (Ega; Sao Paulo).
- almon*. **A. almon** *Cr.* is unmistakable by the golden-green colouring of the abdomen; the body is black, on the collar green-spotted; the abdomen shows two very broad, golden-green subdorsal stripes beginning from the 3rd ring; also at the inner-marginal base of the forewing there is a green spot. The wings are hyaline with very broad black margins. Surinam. The species resembles the *Ixylasia semivitreata* figured on t. 11 e.
- simulans*. **A. simulans** *Druce* has quite black wings; on the forewings only the cell and a stripe below it are hyaline, on the hindwings the base. The body is black, the sides of the abdomen green and the base white. Expanse of wings: 40 mm. Cayenne.

15. Genus: **Sarosa** *Wkr.*

Exteriorly looking like *Cosmosoma*, distinguished by the woolly hairing of the thorax, in the veins there is no essential difference. Palpi erect. Single species also resemble *Isanthrene* from which, apart from the woolly thorax, they differ by the non-thickened antennae.

- ignicolor*. **S. ignicolor** *Mén.* (11 f). Head and thorax black-brown, shoulders pink-spotted; collar and shoulder-covers with white dots. The first abdominal ring is above pink, the 3 last ones orange-red, the others black-brown. The hyaline forewings are at the base pink, veins, margins, middle-spot and apical spot are black; on the hindwings the base and the submedian fold are likewise pink, the margin and apical spot black. The position of this species, not having been found again, remains uncertain. Expanse of wings: 42 mm. Described from Brazil (Minas Geraes).
- sesiiformis*. **S. sesiiiformis** *Wkr.* has like the preceding an entirely woolly haired abdomen. The body is black; spots on the forehead, thorax and first abdominal ring, as well as bands on the others are olive-yellow; thoracic sides and legs are spotted in a metallic blue, of the same colour are subdorsal and sublateral macular series at the abdomen; tarsi at the ends orange. The wings are hyaline with black margins, veins and internerval streaks in the marginal area. Expanse of wings: 40 mm. Venezuela.

S. xanthotarsis *Lathy* is closely allied to the preceding, but easily discernible by quite orange-coloured tarsi and proximal margin of the forewing, the veins being also orange-coloured towards the base. From Venezuela; may-be only a form of *sesiiformis*. *xanthotarsis*.

S. epona *Dogn.* is allied to the preceding, though it is smaller and differs by its more extensive yellow colouring; head and thorax are yellow; costal and proximal margins of the forewings are likewise yellow, so are the veins in the proximal half of the wing. Expanse of wings: 33 mm. Venezuela. *epona*.

S. xanthobasis *Druce* (11 f). This beautiful, large species has an orange-yellow thorax and abdomen. Head and collar black with metallic blue spots. The 3rd abdominal ring exhibits above a small, black spot which may also be absent, the 4th a triangular, small, black spot adjoining the last, black, metallic blue reflecting segments. Wings hyaline with black veins and margins, the base of the forewing is orange. Hitherto known only from Ecuador. *xanthobasis*.

S. connotata *Hmps.* (11 f) forms the connecting-link between the preceding species and the following *notata*; from the latter, to which it is very closely allied, it differs by the base of the wings being orange-yellow like in *xanthobasis*, furthermore by a large black spot on the metathorax and by the somewhat more extensive black colour of the abdomen; the triangular, black, metallic blue-pupilled dorsal spots have their points towards the head, their bases being directed analwards, what in *notata* is more or less distinctly just the contrary. Another mark of distinction is the very small lower half of the discocellular of the hindwing: in *notata* it is much larger, for which reason the veins 2 and 4 are much shorter petioled. Distributed from Venezuela (Merida) to Peru. *connotata*.

S. notata *Btlr.* (= *ufentina* *Druce*) (11 f) greatly resembles *connotata*, but immediately distinguishable by the black, not orange base of the forewing, the shoulder-covers being also black-margined. The abdomen exhibits above a more or less developed row of black, metallic-pupilled spots which may also be entirely absent: **innotata** *form. nov.* (= ab. 1 *Hmps.*) (11 f). The species occurs in Colombia, Bolivia, Peru, Ecuador und Venezuela (Merida), whilst *innotata* originates from Ecuador. *notata*. *innotata*.

S. acutior *Fldr.* (11 g) is smaller than the preceding and at once recognizable by the orange head. The first 4 abdominal rings are orange-yellow, black-margined, the 2nd segment exhibits a broader band with blue subdorsal spots in it; the last segments are black with small, subdorsal macular stripes. Wings yellowish hyaline with fine black veins and margins; the costal-marginal area orange, as well as the proximal margin and the apex of the hindwing. Ecuador, Amazon. *acutior*.

S. boenninghauseni *Rothsch.* (11 g) faintly resembles *Isanthrene basifera* (10 a) or *joda*. The body is black. Neck and thorax exhibit some orange hairs. At the abdomen steel-blue lateral spots, on the first segment above a yellow transverse-streak, the second and third exhibit yellow rings. The wings are yellowish hyaline, the costal margin, the cell-end and the basal inner-marginal half are orange; a subbasal spot above vein 1, the distal half of the proximal margin and the distal margin are grey-brown, a grey-brown, large spot lies at the anal angle of the hindwing. Described from Brazil (Rio de Janeiro). *boenninghauseni*.

S. klagesi *Rothsch.* (11 g). Black; the forehead is yellow-margined, vertex metallic violet-blue; collar and shoulder-covers at the base yellow-spotted. Abdomen dorsally and laterally with metallic violet-blue spots. Wings yellowish hyaline with black veins and margins, at the base of the forewing a metallic-blue spot; on the hindwings the black distal margin projects inwardly like a tooth near the proximal angle. The legs are black, the tibiae metallic blue with a black ring, the tarsi orange. Venezuela. *klagesi*.

S. helotes *Druce*. Head deep metallic blue; collar, thorax and abdomen brilliant orange, collar black-margined; the abdomen shows 3 rows of metallic blue spots, the last segment being black. Wings as in the following. Expanse of wings: 50 mm. Colombia. *helotes*.

S. ozora *Druce* (11 g) has a brownish-black body, posteriorly with a greenish reflection; antennae-tips and tarsi white. The 1st and 5th abdominal rings exhibit above orange bands, the latter also lateral spots. Wings hyaline with narrow black margins and veins, the forewings are greenish at the base and along the proximal margin. Expanse of wings: 44 mm. Colombia. *ozora*.

S. lutibasis *Hmps.* Body deep black; forehead, vertex, collar, metathorax, femora and tibiae blue-spotted; hind-hips yellowish-white. The abdomen exhibits on the first ring a yellowish-white basal spot and articular line, on the second ring sublateral yellowish-white spots, and on all the segments subdorsal, metallic blue spots. Wings yellowish hyaline with broad black margins and veins; at the base a blue spot; at the costal margin and above and beneath vein 1 orange stripes. Expanse of wings: 36 mm. Panama. *lutibasis*.

S. pompilina *Btlr.* (11 g) greatly resembles the preceding and *mora*, but it is not so jet-black, but more brown-black; shafts of the antennae above red. The blue-black abdomen shows a whitish basal spot, subdorsal, leaden-coloured stripes and white lateral spots. Wings yellowish hyaline, costal margin and base of the proximal margin striped in carmine. Panama; Ecuador; Brazil. *pompilina*.

mora. **S. mora** *Schaus* likewise greatly resembles *lutibasis*, differing by orange-red tips of the antennae, yellowish-white, distally blue-bordered spots on the collar, orange-yellow tarsi. The abdomen exhibits also sublateral blue spots. The wings are brownish hyaline, veins, distal margin and internerval stripes in the marginal area are black; base of the proximal margin, costal margin and transverse vein red-brown. Costa Rica (Sixola), Panama (Chiriqui).

meridensis. **S. meridensis** *Schaus*. Head and thorax black, with blue spots on head and collar. The 1st and 2nd ring of the blackish abdomen are yellow-banded, the other rings exhibit violet-blue lateral spots; at the 2nd ring there are yet yellow lateral spots and, as on the 2 following rings white sublateral spots. Legs black and blue striped, tarsi ochreous yellow, forelips opalescent. Forewings yellowish hyaline with black veins, margins and broad apex, subcostally and at the proximal margin light-brownish. Hindwing more whitish hyaline with a narrow black border and yellow costa. Antennae black, before the tips yellow. Expanse of wings: 35 mm. Merida (Venezuela).

16. Genus: **Dasy Sphinx** *Fldr.*

Siphon well-developed, palpi short, pointing straight forward the whole body is densely covered with woolly hair; stoutly built. Veins of the wings as in *Sarosa*.

mucescens. **D. mucescens** *Fldr.* (11 h) is one of the largest *Syntomidae* known, the whole body is thickly covered with black-brown hair being blue-green at the tips. Wings hyaline with fine black veins and distal margin; base, costal- and proximal margins and discal spot broad black, base with blue-green hair; proximal margin of the hindwing white. Expanse of the wings: 72 mm. Colombia (Bogotá).

volatilis. **D. volatilis** *Schaus*. Much smaller than the preceding, black; the neck shows 2 large, white spots, the abdomen 2 rows of white spots, above as well as sublaterally; legs white-spotted. Wings hyaline with black veins and fringes; in the marginal area between the veins there are broad whitish stripes; base, costal- and proximal margins orange; on the hindwing the proximal margin and a dot at the angle of the transverse vein are black. Expanse of wings: 40 mm. Costa Rica (Volcano Poas).

17. Genus: **Lasiosceles** *Hmps.*

The very peculiar species known so far stands rather isolated. The second palpal joint is long-haired and extends as far as the vertex, the third being moderately long. The male antennae are very short ctenodont, at the tips serrate-dentate. Thorax and base of abdomen thickly woolly-haired. The lower median vein of the forewing rises below the lower cell-angle, the middle radial above. On the hindwing both the median veins and the lowest radial stand on a common pedicle, also the subcostal vein is petioled with the upper radial. On the upper surface of the hindwings the whole marginal half and an area extending along the submedian fold towards the base is covered with rough scent-scales.

erythrozonata. **L. erythrozonata** *Hmps.* (11 h). Head and thorax are deep blackish-brown with a blue reflection. Thorax, anterior and middle hips and the greater part of all the femora are carmine. Legs otherwise black. The blue-black abdomen is above and at the sides banded in carmine. At the base of the first segment there are lateral, long, red hair-tufts. On the ventral side, between the 3rd and 4th segments, dense tufts of rather coarse whitish scent-hairs are protruding. The forewing is in the basal third and in the costal-marginal half velvety-black, otherwise greyish-brown. In the disk 4 hyaline spots beneath each other, the lowest being the smallest; behind the cell 4 similar hyaline spots. Hindwings black-brown with 2 hyaline spots behind the cell above and below the middle radial. The scent-scales are of a yellow-grey colour. — Before me are 2 male specimens, one from Panama (Chiriqui) from where the species was described, the other from Costa Rica (southern side of the volcano Irazu).

18. Genus: **Gymnelia** *Wkr.*

It contains mostly robust species with a stout, round abdomen. The thorax is woolly-haired, the wings are broad. The shafts of the antennae are not thickened, in contrast with the genus *Homoeocera* which is otherwise very much like it. On the forewing the upper subcostal vein rises freely from the cell, whilst on the hindwing the lower median vein and the lower radial rise from a common pedicle. We quote the 3 species *cocho*, *pitthea* and *chimaera*, which are otherwise reckoned to this genus, though they look very differently, in the genus *Pseudosphenoptera*, since *P. basalis* seems to be the ♀ of *pitthea*; both have several times been found in copula.

lyrcea. **G. lyrcea** *Druce* (11 g). Body orange-yellow, thorax marked in black. The abdomen is yellow with black rings which grow broader above on the 3rd to 5th segments and form spots being metallic blue-pupilled. Beginning from the 6th segment, the abdomen is quite black with metallic blue transverse bands. The hyaline

wings exhibit a black apical spot; costa of the forewings yellow; the inner-marginal part of the hindwings exhibits a black, lobular appendage. Ecuador.

G. peratea Dogn. (11 h) resembles *lyrcea*, but it is much larger. The body is orange-yellow as in *peratea*. *lyrcea*. The terminal joint of the palpus and the antennae are black; anterior half of the collar black; shoulder-covers at the base black-spotted and distally broadly margined by black. The orange-yellow abdomen is above metallic greenish-blue, beneath black-curved. The 3 last segments are in single specimens quite black and blue, among 6 specimens before me, however, only in one of them. The wings are hyaline, the apex black only between the 5th and 3rd subcostal veins; the proximal margin of the hindwing broadly black, at the proximal angle with long yellowish hair. Only from Colombia, where it is apparently not rare.

G. plumosa Rothsch. Body orange, on the thorax a black discal spot; the abdomen shows a series *plumosa*. of black, dorsal bands. Antennae strongly combed, brown. Wings yellowish hyaline, base and costal margin orange, distal margin grey-brown. Length of forewings: 17 mm. Colombia (Cañon del Tolima), in December. The species has remained unknown to me, it seems to resemble *Poec. vespoidea* (14 i).

G. latimarginata Hmps. (11 h) looks exteriorly exactly like an *Autochloris*. The body is black; thoracic *latimarginata*. sides and hips white-spotted; shoulder-covers orange-striped. First abdominal ring with a yellowish-white band being parted by a black dorsal spot; the other rings are blue-spotted on the sides of the dorsum, with orange-yellow segmental lines between, the last rings are also above provided with orange-red transverse bands increasing in width towards the anal end. The wings faintly yellowish hyaline, as in *Autochloris* with broad distal margins. Colombia (Bogotá).

G. taos Hmps. (11 h). The body is black; the forehead, vertex, collar, metathorax and legs are spotted *taos*. in a metallic blue; shoulder-covers orange-striped. Abdomen with subdorsal, metallic-blue spots and narrow orange-red transverse bands which grow somewhat broader above, resembling spots; on the ventral side sublateral blue macular series. The hyaline forewings are of a yellowish tinge towards the base, with a metallic-blue basal spot; a black apical spot. Colombia. — From Argentina a subspecies has been described: — f. *jujuyensis* *jujuyensis*. Jørgensen in which the yellow colouring is increased, as for instance the basal half of the palpi, the face between and below the antennae, the posterior margin of the eyes and pronotum, tibiae and tarsi, as well as the whole underside of the thorax and abdomen are ochreous-yellow; the sublateral blue spots are absent.

G. doncasteri Rothsch. (11 i) has an orange body, the third palpal joint is black, antennae black, on *doncasteri*. the head at the base of the antennae black spots, the base of the collar black, shoulder-covers and thorax black-striped. The abdomen is black-curved, on the 3 last segments subdorsal, metallic-blue spots. Wings hyaline with black fringes and apical spot; costa at the base yellowish, the basal half of the proximal margin broadly black with a yellow stripe; at the proximal margin of the hindwing a black, hairy, lobular appendage. Venezuela.

G. jordani Zerny (= *baroni* Rothsch. [praeocc.], *ottonis* Rothsch.) (11 i). Head black, on the forehead *jordani*. an orange spot; vertex and collar metallic-blue, black-bordered; shoulder-covers orange, distally black; thorax black. First abdominal ring reddish-yellow with a large spot, otherwise the abdomen is metallic steel-blue, with deep orange-red segmental indentations, which colour is expanded to a spot on the dorsum of each segment. Hips orange; femora black and metallic blue; tibiae orange, at the base metallic-blue, tarsi at the basal half orange, at the apex black. Antennae black. Wings faintly yellowish hyaline with black, narrow borders and a small apical spot. Ecuador; Peru.

G. gemmifera Wkr. (15 a) is a very conspicuous, large species; head and thorax are black, with metallic- *gemmifera*. blue spots and on the shoulder-covers with orange stripes, thorax and legs orange-haired. The black abdomen, being orange-haired at the base, shows subdorsal rows of very large, crescentiform, metallic-green, transverse spots. The wings are yellow hyaline with black veins and margins, the discal spot and a spot at the base of the forewing being metallic-blue. Expanse of wings: 54 mm. Venezuela.

G. boettgeri Rothsch. (11 i) is a small, insignificant species with a unicolorously greenish-olive body, *boettgeri*. only the thorax being orange; antennae black, legs blackish olive. The wings are faintly yellowish hyaline, the base of the forewing and the inner-marginal area of the hindwing olive; the proximal half of the hindwing is covered with thick, long hairs. Peru (Huancabamba).

G. plagiata Rothsch. Body black; legs, underside and antennae more brownish; thorax and a large *plagiata*. spot in the basal half of the abdomen both above and beneath pale reddish-yellow. Wings reddish-yellow transparent with black veins and margins. Expanse of wings: 25 mm. Peru (Carabaya), in April.

G. ockendeni Rothsch. (11 i) is a small species from Peru with a black body. The abdomen shows *ockendeni*. on the second and third segment carmine lateral spots, on the same rings sublateral white spots; the last segment is beneath spotted carmine. The legs are black, the forehips and tibiae carmine. The hyaline wings show a broad black basal part and black margins.

- tarsipuncta.* **G. tarsipuncta** Schaus. Body black; ends of antennae and spots on the legs white. Shoulders and upperside of the first abdominal segment red. Wings hyaline, veins, costal- and distal margins narrowly black; on the forewings more than one third of the base is black, the discocellular and apical spot; on the hindwing the base and the proximal margin are black. Expanse of wings: 41 mm. Brazil (Sa. Catharina).
- xanthogastra.* **G. xanthogastra** Perty (11 i) resembles a species of the humble-bees: anterior body deep velvety black with metallic-blue spots on the vertex, legs, and subdorsal spots on the 3rd abdominal segment (which are absent in the ♀), beginning from which the abdomen is rufous-orange. Forehead and forehips in the ♂ white. The wings are entirely hyaline with fine black borders and veins, at the base of the forewing is a metallic-blue, small spot. This beautiful species occurs in Brazil, furthermore it is reported from Paraguay and Argentina; it is met with almost during the whole year, the most frequently in October—December and March—May on the most various compositae. The habitat Argentina may possibly refer to *Autochloris xanthogastroides* Schaus.
- paranapanema.* **G. paranapanema** Dogn. greatly resembles the preceding, differs, however, by its black forehead and the abdomen the first 3 rings of which are entirely black and the 4th partly black; on the other orange-red rings there are subdorsal black spots being blue-iridescent on the first rings. Wings as in *xanthogastra* (11 i). Expanse of wings: 43 to 44 mm. Brazil (São Paulo).
- torquata.* **G. torquata** Druce (11 i) is one of the largest species; entirely black, only the posterior half of the abdomen, beginning from the fourth segment, is scarlet; ventral valve and a median stripe beneath brown-black; on the forehead 2 white dots, antennae at the tips white. On the hyaline wings the basal third is black, veins and margins, on the forewing the discal and apical spots broadly black. From Brazil (Rio de Janeiro).
- baroni.* **G. baroni** Rothsch. (11 i) resembles *Homococera duronia* and has a black body covered with thick woolly hair; at the base of the antennae two white dots, antennae steel-green; the distal half of the collar is brick-red. The abdominal rings 1, 5, 6 and 7 show 2 brick-red, subdorsal spots each. The first two pair of legs are black, at the joints white-banded, the hindlegs black with white tarsi and spurs. The wings are golden-yellow hyaline, the costal margin steel-green, at the base with a brick-red spot, at the proximal margin an orange-red stripe; veins, discoidal spot, distal margins and apical spot broadly black. Ecuador.
- pilosa.* **G. pilosa** Rothsch. (11 k) is a most peculiar, unmistakable animal. The body is black with a metallic-green reflection, particularly on the abdomen. The collar exhibits laterally a white spot; the shoulder-covers are long white haired at the distal margin and apex; the second and the 4th to 7th abdominal rings exhibit above one orange-red transverse band each, the fourth and fifth sublateral orange spots. On the dorsum, in the middle of the orange bands, there are tufts of loose, white hairs; the same white hair-tufts are at the sides and on the ventral side. The antennae are black with white tips; legs black, at the joints white-spotted, hips long and vastly white-haired. The hyaline wings are quite faintly coloured yellowish, at the base greenish-black with a white spot. The proximal margin is in the basal half black, then whitish; between the vein 1 and the submedian fold a yellow, long spot. Between the middle radial and the lowest subcostal vein the distal margin is rather strongly drawn in, so that the apex becomes somewhat sickle-shaped; both the upper radial veins are distally brought very much nearer. The discoidal spot and subapical spot which is the broadest between the upper and middle radial vein, are black. The hyaline hindwings are in the innermarginal halves whitish, with long white hair; on the lower median vein and between the two upper radials, the black distal margin is strongly drawn in; the discoidal spot is black. Before me from Peru (Marcapata). Only ♀♀ are known hitherto, possibly belonging to the following of which I only know ♂♂.
- buckleyi.* **G. buckleyi** Druce (11 k). Black; tips of the antennae, ends of the tibiae, and tarsi white; abdomen with a green reflection, on the first ring with 2 orange-red dorsal spots, on the 4th with lateral and sublateral bands, the 5th and 6th with orange lateral spots. Wings hyaline with black veins, basal area broadly black with a white dot; proximal margin, a large, square discal spot, apical spot with an undulate proximal bordering and a marginal spot below the lower median vein black. Expanse of wings: 46 mm. Ecuador.
- flavicornis.* **G. flavicornis** Druce (11 k). Head and thorax black, antennae orange-yellow, abdomen blue-black. Wings black with a blue reflection and hyaline spots: 2 in the cell-end, a large, wedge-shaped one below them and a stripe above the inner-marginal vein, 3 spots behind the cell between the lower median vein and the middle radial, as well as oblong spots above and below the upper radial vein. Hindwing with an oblong spot below the cell, a spot between the lower median vein and the lower radial, and 2 oblong spots behind the cell. Expanse of wings: 54 mm. Ecuador.
- herodes.* **G. herodes** Druce (11 k). Head and thorax black; tips of the antennae and 1st joint of the tarsi white; abdomen metallic greenish. Wings black with a blue reflection; costal margin of the forewing greenish; between the penultimate subcostal vein and the upper median vein there is in the marginal area a large hyaline spot with an irregular proximal bordering, traversed by black veins. Expanse of wings: 38 mm. Ecuador.

19. Genus: **Mallodeta** Bllr.

5 species of medium size, recognizable by the abdomen being very slender at the base and provided with short hair-tufts on the last 4 segments. The neurulation is the same as in *Cosmosoma*.

M. sanguipuncta Druce (14 k) is a very imposing species from Ecuador. The body is black; the antennae are white at the tips; shoulder-covers striped carmine; collar in some specimens with white dots; forehips white-spotted; the femoral end, tibiae and tarsi white. The first abdominal ring shows above two white dots, the first and third segments subdorsal carmine spots; from the 3rd to 7th segments the abdomen is dorsally, laterally and sublaterally white-dotted. The hyaline forewings exhibit a broad black base and apical spot. On the underside the base of the wings is carmine. *sanguipuncta.*

M. sortita Wkr. (= *deyrollei* H.-Schäff., *alecyra* H.-Schäff.) (12 a) resembles the following species, *sortita.* but it has no orange spots on the abdomen and besides the dorsal white spots are absent on the first segments, only on the last ones there are such, the lateral ones, however, are present. The forewing exhibits at the inner margin two strong orange stripes. Brazil (Rio de Janeiro, Sa. Catharina).

M. consors Wkr. (= *norma* H.-Schäff.) (12 a). Black with minute white spots on the vertex, shoulders and abdomen, the spots of the two last abdominal rings are larger; the second, strangulated segment shows a pair of subdorsal, orange-yellow spots. Wings faintly yellowish hyaline, orange at the costal margin and base of the inner margin, the distal margin being narrowly black. Brazil. *consors.*

M. clavata Wkr. (12 a) has a quite unicolorously black body. The wings are hyaline, the distal margin narrowly black. In the subcostal area there are traces of orange-yellow colouring. Brazil. *clavata.*

M. parthenii F. (= *multicincta* Wkr.) (12 a) has shorter palpi than the other species, with quite a short terminal joint; the ♂ bears a ventral valve at the 1st segment, being absent in the other species. The black body, being finely white-curlled and laterally red-spotted, makes the species easily recognizable; collar and shoulder-covers are white-bordered and red-spotted, the first abdominal ring subdorsally red-spotted; the ventral side is white. The wings are hyaline with black veins, margins and apical spot; the discal spot exhibits a metallic-blue line. Hayti. *parthenii.*

20. Genus: **Phoenicoprocta** Hmps.

About 20 medium-sized species with frequently very black marked forewings. The abdomen is mostly magnificently yellow and red and besides decorated with blue metallic spots and exhibits hair-tufts at the last segment. The lower median vein rises on the forewings at a great distance from the cell-angle. On the hindwings the cell is not visible owing to the oblique course of the discocellular.

P. chrysorrhoea Hmps. (12 a). Body black, on the forehead, vertex and collar with metallic-blue spots; the abdomen exhibits on the first segment above a blue spot and subdorsally orange spots, the anal tuft being orange; forehips white and carmine. Wings hyaline with black veins and moderately broad margins, a broad black apical spot of the forewings. Expanse of wings: 34 mm. Colombia (Bogotá). *chrysorrhoea.*

P. flavipicta Hmps. differs from the preceding by its more brownish colour of the body, yellow shoulder-covers and similar spots on the collar, white forehips, yellow middle- and hind-hips, yellow transverse bands from the 2nd to the last abdominal ring and yellow, white-margined ventral valve. British Guiana. *flavipicta.*

P. metachrysea Druce (12 a). Head, thorax and abdomen are black, forehead and shoulder-covers spotted in a metallic blue. The abdomen exhibits dorsal and subdorsal rows of silvery-blue spots. From the 3rd segment there begin orange-yellow subdorsal spots increasing in width towards the last segments, in order to touch each other above on the penultimate segment; anal bush orange. Ventral valve and the last segment but one also beneath with orange spots. Forehips white. The hyaline wings exhibit rather broad black margins, at the base of the wings a blue spot. Described from Cayenne. *metachrysea.*

P. vacillans Wkr. (12 a) has a black body with a carmine anal tuft, spots on the forehead, vertex, collar, shoulder-covers and thorax are metallic blue, dorsal and lateral spots at the abdomen are more silvery greenish-blue; forehips white and red. The hyaline wings exhibit broad black margins. Occurring from Venezuela to Bolivia. — **auriflua** form. nov. (12 b) may be the name of the subspecies sometimes flying among the typical form, in which the anal tuft is of an ochreous-yellow to orange tinge. — In another form: **punicea** Strand (= ab. *punicea*. 1 Hmps.) beside the anal tuft also the last 3 or 4 segments are carmine. In the form: **nigropeltata** Strand from Trinidad the ventral valve is black with a white hind-margin. *vacillans.*

P. analis Schrottkey (= *nigrivalvata* Dogn.) (12 b) greatly approximates the form *incandescens* of the preceding species, from which it differs by the orange-yellow colour of the 3 last abdominal segments, quite white forehips without any lateral red, and an entirely black ventral valve. Described from Paraguay, before me also from Peru (Pachitea), and reported from Argentina (Misiones). *analis.*

- haemorrhoidalis*. **P. haemorrhoidalis** *F.* (= *frontalis* *Wkr.*) (12 b) from Brazil has an entirely black body; the forehead and vertex are covered with metallic-blue scales, the anal tuft is interspersed with red. The wings are hyaline with black-grey veins and margins. A discoidal spot and the apex of the forewing are black.
- baeri*. **P. baeri** *Rothsch.* (12 b). Head and collar metallic-blue; palpi black; antennae black with white tips; thorax and abdomen black with a metallic-blue median line; the penultimate segment exhibits an isabel-yellow band, the anal tuft is black and carmine, forehips white, at the base red-spotted. On the black forewings the basal two thirds of the discocellular and a spot below it are hyaline. Hindwings hyaline with broad black margins. Brazil (Rio Uruhu, Goyaz).
- steinbachi*. **P. steinbachi** *Rothsch.* (12 b). Head and collar metallic lustrous greenish-blue, shoulder-covers and thorax black with greenish-blue stripes; the abdomen is black, above with a series of small, pale grey spots; anal tuft carmine. Palpi black, antennae black with white tips. Forehips and posterior tarsi white, the other parts of the legs are black. The wings are hyaline with broad black margins, the forewings have a large, black discoidal spot. East Bolivia.
- sanguinea*. **P. sanguinea** *Wkr.* (15 a) has a black body; head and forehead blue-spotted; collar blue, bordered by carmine; shoulder-covers carmine; the abdomen exhibits subdorsal, carmine macular stripes and a similar anal tuft, on the 1st ring metallic-blue spots, on the others green-silvery, dorsal and subdorsal spots; hips carmine, forehips above white. Wings as in the allies. Expanse of wings: 32 mm. Honduras.
- trinitatis*. **P. trinitatis** *Strand* greatly resembles the preceding, but on the forewings the upper median vein rises farther in front of the cell-angle; collar blue with a black margin, shoulder-covers in the basal half blue-scaled, thorax above with a blue, black-margined median longitudinal band; forehead one-coloured blue; hips inside white, at the apices outside reddish; palpi shorter. Expanse of wings: 31 mm. Trinidad (Caparo).
- lydia*. **P. lydia** *Druce* (12 b). Head black with a blue forehead. Palpi and antennae black, the latter with white tips. Collar and shoulder-covers orange with black margins. Middle part of the thorax metallic blue. Legs black, forehips laterally scarlet, anteriorly silvery white. Abdomen orange, towards the anal end and beneath scarlet. On the 1st segment laterally a metallic blue spot, on the 2 or 3 next ones silvery green spots. On the dorsum metallic greenish-blue spots with black margins growing smaller or disappearing altogether, towards the middle growing very large again on the 2 or 3 last rings. Forewings black with hyaline streaks in the cell and 2 below it, 5 behind the cell. Hindwings hyaline with black veins and margins. From Mexico (Orizaba; Tabasco).
- chamboni*. **P. chamboni** *Dogn.* greatly approximates the preceding from which it differs by the following marks: behind the cell on the forewing there are only 4 hyaline spots, the one between the median veins being absent. The first palpal joint with orange-red hair; antennae before the tips white-spotted, the tips black; thorax quite black, with blue spots; abdomen above bluish-black, on the first 5 segments orange-yellow subdorsal spots, anal hairing carmine, ventral valve quite black, the other part of the venter carmine-pink, the last rings black with a blue reflection. San Salvador.
- rubiventer*. **P. rubiventer** *Hmps.* (= *sanguinea* *Druce*) (12 c) is well-marked by red subdorsal macular series running through to the red anal tuft, and an entirely red underside of the abdomen. Panama.
- astrifera*. **P. astrifera** *Btlr.* (12 c). The body is black with a red anal tuft and red subdorsal streaks only on the first 4 abdominal rings, whereby it differs from the preceding; also the ventral valve in the ♂ is red-margined, otherwise the venter is black. Metallic-blue spots are on the forehead, vertex and thorax, the collar being blue, bordered by orange as the shoulder-covers. The abdomen exhibits metallic-blue spots on the dorsum and the sides of the first segment, green-silvery dorsal and lateral spots on the rest of the abdomen. The hyaline wings are very broadly margined by black. From the Amazon (Porto Alegre).
- ignicauda*. **P. ignicauda** *spec. nov.* (12 c) is very closely allied to the two preceding species; it is easily discernible by red subdorsal streaks being only to be seen on the first abdominal ring, as well as by the 4 last abdominal rings being above and beneath entirely red, the two first of which exhibit black and metallic-blue dorsal spots; Collar and shoulder-covers are quite black. All the rest like in the preceding. A ♂ from Cuyaba, Province of Matto Grosso (BANG-HAAS).
- cubana*. **P. cubana** *Druce*. Head and thorax black with small blue spots; neck and collar orange. The abdomen is above in the larger proximal half orange, the rest, as well as the sides and venter carmine. Above the segments are bordered by metallic blue. Forehips white. On the hyaline forewings the veins and margins, as well as broad apical spots black, strewn with silvery blue scales. Also the hyaline hindwings are broadly bordered by black, at the inner margin carmine. Expanse of wings: 28 mm. Described from Cuba.
- eximia*. **P. eximia** *H.-Schäff.* (12 c) has a black body with a metallic-blue reflection; collar and shoulder-covers oranges. On the first abdominal ring there are small subdorsal red spots; the four middle segments exhibit sublateral white dots. The forewings are black with single metallic-blue scales; below the base of the cell is an elliptic hyaline spot, a spot in and below the middle of the cell, and 5 oblong spots between the lower median vein and the lowest subcostal. Hindwings hyaline with a broad black margin. Under surface

of the wings with metallic-blue spots. — The extent of the black colour varies, sometimes there are preponderantly hyaline spots, so that the black discoidal spot is separated from the inner-margin: f. *portoricensis* *form. nov.* *portoricensis*. (= ab. 1 *Hmps.*) from Porto Rico, sometimes the hyaline spots are still more reduced: — f. *reducta* *form. nov.* *reducta*. (= ab. 2 *Hmps.*) occurring in St. Cruz. The type of the species flies in Cuba.

P. *thera* *Druce* (12 c) is black, on the forehead, collar, and laterally and dorsally on the abdomen *thera*. with blue spots; spots on the shoulder-covers, as well as subdorsal spots on the first abdominal segment are orange; forehips and ventral side carmine. The wings are similar to those of the following species. From Mexico (Tabasco).

P. *mexicana* *Wkr.* (12 c). Head, thorax and base of the abdomen deep velvety black, abdomen orange-yellow, analwards warming into scarlet, with black segmental indentations. Wings as in *lydia*. Legs scarlet with black tarsi. Ventral valve in the ♂ black. The species is common in Mexico (Orizaba; Jalapa). *mexicana*.

P. *teda* *Wkr.* (12 c) is one of the smallest species: the body is black-brown with carmine spots *teda*. at the base of the palpi, at the shoulder-covers, as well as lateral spots along the abdomen. The first abdominal ring exhibits laterally a white spot, the ventral valve in the ♂ and the first abdominal rings on the ventral side being white. The wings are hyaline with broad, brown-black margins, the forewings exhibit yet a median band and at the base a carmine spot. From Brazil (Sa. Catharina, São Paulo).

21. Genus: **Eunomia** *Hbn.*

Above all distinguished by the antennae being thickened shortly before the tips, whereby they resemble certain *zygaenidae*; they are besides doubly ctenodont in the ♂. The abdomen is rather short and broad and the first segment exhibits on both sides a vesicle above which, subdorsally, there are yet tubercles. The wings are rather broad without any important particularities of the neurulation; on the hindwing the subcostal vein is short petioled with the uppermost radial. The species on the whole inhabit certain groups of islands.

E. *colombina* *F.* (= *fasciatella* *Mén.*) (12 d). Similar as the following, somewhat smaller, with broader *colombina*. wings; the venter is also beneath black, white-curved with a middle row of red spots; the abdomen shows on the first ring dorsal and lateral red spots, the 3rd segment a red ring; ventral valve red. Hayti; Honduras; Brazil.

E. *rubripunctata* *Btlr.* (12 d) resembles the preceding species, but it is larger, with more stretched *rubripunctata*. wings, and differing by the entirely red underside of the abdomen. Head and thorax are black, the first palpal joint, vertex and anterior half of the collar carmine; collar and shoulder-covers with fine white margins. The carmine abdomen is only on the dorsum black with numerous fine white transverse lines. Forewings hyaline with a red, discoidal spot being bordered by black. The margins and a large apical spot are black, the veins in them finely marked in white. The distal margin expands somewhat also below the lower median vein, in which there is some carmine scaling. The species flies in Jamaica.

E. *latenigra* *Btlr.* (12 d) has a black body; the first joint of the palpus, as well as a stripe at the second *latenigra*. joint, a line on the forehead, the anterior half of the collar, as well as the underside of the thorax are carmine; the shoulder-covers are bordered by white. The abdomen, except the last segments, is beneath and on the sides carmine; on the last segments short white dorsal streaks. The hyaline wings exhibit broad black margins, being expanded to large spots in the apical halves. From the Bahama-Islands, occurring also in Honduras.

E. *nitidula* *H.-Schäff.* is the smallest species, with 3 pair of red spots on the thoracic sides; the first *nitidula*. abdominal ring is carmine, the others black with 2 fine white rings each. Venter carmine. Expanse of wings: 26 mm. Cuba.

E. *caymanensis* *Hmps.* Body black, white-striped, collar and shoulder-covers bordered with white. *caymanensis*. Thorax, sides of the forehips and the femora above carmine except the ends, for the rest the legs are white-striped, the anterior side of the hips white. The black abdomen shows series of subdorsal white and carmine streaks, on the posterior segments above white articular lines, the last segment being white-spotted, with lateral red stripes, the venter at the base carmine, for the rest red-banded. Wings as in the other species, the black marginal colour dusted with white. Expanse of wings: 32 mm. Grand-Cayman near Cuba.

E. *insularis* *Grote* (= *elegantula* *H.-Schäff.*) differs from the preceding by its much smaller size, entirely *insularis*. white forehips, whereas the thorax, middle and hind-hips and the distal part of the hind legs are carmine. The abdomen is black with white segmental lines which are broader on the 2nd and 4th rings; the 1st ring shows a white median spot, all the other rings red dorsal and lateral spots. Venter at the base carmine, in the ♂ with white stripes. Cuba.

22. Genus: **Pheia** *Wkr.*

Mostly small butterflies the exterior of which resembles that of the *Cosmosoma*-species, with hyaline wings. Antennae with comb-like or saw-like teeth, the palpi extending beyond the vertex are erect. Distinguished by the discocellular of the hindwing running so obliquely that the cell is not visible at all in the butterfly being

normally distended, but is entirely covered by the inner margin of the forewing; the lower median vein and lower radial are standing on a long footstalk, the upper median vein and middle radial are absent, and the upper radial vein and the subcostal rise in common from the upper cell-end. On the forewing the middle radial vein, in contrast with *Loxophlebia*, rises from the lower cell-angle.

- elegans*. **Ph. elegans** Druce (= *drucei* Kirby, *cingla* Schaus) (12 d). Wings faintly yellowish hyaline, veins and margins black; the black border of the distal margin grows particularly broader at the apex of the forewing and projects somewhat inward on the lower median vein. A costal stripe as far as the apical spot, and spots at the base of the inner margin and vein 1 are orange-yellow. The palpi being yellow at the base are black. The forehead covered with white hair, vertex black with metallic-blue scales. Collar and shoulder-covers orange-yellow margined by black, metathorax with a large, metallic-blue spot. Abdomen orange-yellow, the 3 last segments black, triangular black dorsal spots with metallic-blue scales, blue subdorsal spots on the 2nd and 3rd segments. Legs yellow and black, antennae black. Mexico, Guatemala, Costa Rica, Panama, Venezuela.
- costalis*. **Ph. costalis** Rothsch. (12 d) distantly resembles *Ph. elegans*, but it is much smaller and neater, of a more slender structure. Body orange; the forehead is silvery white, palpi and antennae black; thorax black-spotted; abdomen above with a series of black median spots, the last two segments quite black with blue-grey spots. The wings are hyaline, at the base and four fifths of the costal margin orange, as well as at the inner margin; margins and apical spots for the rest black; the inner-marginal area of the hindwing black with orange-yellow hair. From Bolivia, taken at an altitude of 1000 m.
- gaudens*. **Ph. gaudens** Wkr. (12 d) likewise resembles *elegans*, but it has an orange-yellow head, with a black vertex spotted in a metallic green. The orange-yellow abdomen exhibits black transverse bands which are dorsally expanded to triangular spots and exhibit dorsal and lateral, large, metallic-green spots. Hips and abdominal end beneath yellow, in *elegans* black. Venezuela, Amazon (Pará), Peru.
- flavicineta*. **Ph. flavicineta** Dogn. (26 k). Body black; palpi yellow with a black terminal joint, collar orange-yellow, a transverse streak between the antennae and shoulder-covers with single, whitish hairs; metathorax with an orange-yellow transverse band. The abdominal rings show above small white dorsal spots; the first rings exhibit a yellow lateral band, the following ones an orange lateral spot each; venter black, with yellow-white rings, ventral valve yellow. Hindlegs quite yellow, the forelegs black and yellow. At the base of the hyaline forewing is a white spot, costa yellow. Argentina (Tucuman).
- xanthozona*. **Ph. xanthozona** Dogn. (12 c), a very small, insignificant species from French Guiana, has a black-brown body. The forehead is white; collar and shoulder-covers orange, bordered by black. The 3 first abdominal rings are above and on the sides orange-yellow, beneath white. Hips white. The wings are hyaline, in an oblique exposure to light strongly iridescent, with black veins and margins; median and apical spots of the forewing very extensive. The specimen before me was taken in February.
- sperans*. **Ph. sperans** Wkr. (12 e) is one of the largest species; the body is black; forehead and vertex blue-spotted, on the collar, shoulders, meso- and metathorax there are white and blue spots; on the shoulder-covers indistinct orange spots. The abdomen exhibits dorsally, laterally and ventrally stripes of silvery-green spots. The wings are hyaline with broad black veins and margins; on the forewing a large black median and apical spot. Colombia; Amazon-District.
- haematosticta*. **Ph. haematosticta** Jones (12 d) has a black-brown body. Thorax and forehips white-spotted, middle and hindhips entirely white. Collar and shoulders red-spotted. The 3 first abdominal segments on the ventral side white. Antennae black, only beneath near the tips white. The hyaline wings are rather broadly margined by black; in the black base of the forewing there is an elliptic red spot; apical spot extraordinarily broad. South Brazil (Paraná; Santos).
- pyrama*. **Ph. pyrama** Dogn. (12 d) is a small insignificant species with a black body. On the forehead two white spots, the base of the shoulder-covers red, also in the posterior half of the collar there are single, interspersed, red scales. Hips and underside of the first abdominal rings in the ♂ white, in the ♀ black. The hyaline wings have black veins and broad black margins, very extensive discoidal and apical spots. French Guiana, March and September.
- haemapera*. **Ph. haemapera** Schaus (12 e) from Brazil (Sa. Catharina) is a smaller species with a deep velvety-black body, only the collar and the extremest end of the abdomen exhibit carmine spots. Wings hyaline with broad black margins and discoidal spots. The hips and the ventral side of the first abdominal rings are yellowish-white.
- discophora*. **Ph. discophora** Dogn. is a small species with an expanse of the wings of 24 mm; body black, on the shoulder-covers, thorax and first abdominal ring orange-spotted; narrow angular indentations on the other rings and the ventral side are orange-yellow; tarsi orange-striped, the posterior ones quite orange. The hyaline wings are distinguished by a very large black, orange-dusted discal spot; subcostal orange. Colombia.

Ph. regesta *sp. nov.* (12 e) is allied to *daphaena*. Body black-brown. Collar vermilion, bordered by *regesta*. black; on the shoulders a small indistinct red spot, shoulder-covers red-striped. The abdomen exhibits small dorsal and subdorsal spots of very sparse metallic blue-green scales which are somewhat more prominent towards the anal end. Antennae shortly before the tips white. The wings are hyaline and strongly iridescent; margins black-brown. Median spot very large, almost circular; apical spot very extensive; also on the lower median vein the distal margin projects far inward. 1 ♀ from Cuyaba, Province of Matto Grosso (BANG-HAAS).

Ph. daphaena *Hmps.* (12 e) has a black body; forehead and vertex are white-spotted; collar, shoulders *daphaena*. and shoulder-covers with large carmine spots. The abdomen exhibits on the first segment 2 white dorsal spots, on the following segments metallic-green subdorsal spots, which are more and more laterally placed towards the anal end; the 2 first rings on the ventral side white. The hyaline forewings are broadly striped carmine at the costal and inner margin; distal margins, median and apical spots black. Flying in Dominica and Santa Lucia.

Ph. utica *Druce* (12 e). The absent red subcostal stripes of the forewings easily distinguish the species *utica*. from *daphaena* which it otherwise resembles very much; the abdomen shows above likewise 2 large white streak-like spots, the metallic-green colour, however, is altogether absent. Expanse of wings: 26 mm. Mexico (Guerrero).

Ph. lateralis *Klages* is allied to the preceding, from which it is easily distinguished by broad, carmine *lateralis*. subdorsal stripes on the abdomen, which suddenly grow narrower beginning from the 6th segment, being also placed more laterally and turning more orange. The 3 first rings exhibit a broad white ventral stripe. The abdomen exhibits above yet 2 rows of golden-green spots. Venezuela.

Ph. sandix *sp. nov.* (12 e) is very nearly allied to the preceding species and is exteriorly easily discernible *sandix*. by the orange, not carmine colour. The head is black-brown, in the neck 2 small white spots. Collar, shoulders, shoulder-covers and thorax orange; shoulder-covers distally black-margined, on the pronotum 2 round black spots. Abdomen black-brown; the first segment exhibits 2 yellowish-white subdorsal longitudinal spots, the other rings small, metallic-blue, subdorsal spots, as well as broad, orange lateral stripes; on the 2nd and 3rd segments this stripe extends as far as the ventral side. Antennae black with white tips; legs black-brown, median tarsi white. The wings are hyaline, at the base, the costal and proximal margins broad orange, finely bordered by black; a square median spot, the distal margin, apical spot and a spot below the lower median vein are brownish black. 1 ♀ from Cuyaba (BANG-HAAS).

Ph. albisigna *Wkr.* (12 f) is one of the larger species of quite black-brown colour of the body; on the *albisigna*. neck and mesothorax small white spots; on the collar and shoulder-covers carmine dots. The abdomen exhibits on the first ring above a large, square, yellowish-white spot; the 2nd and 3rd segments are laterally yellowish, beneath white; forehips and spots at the sides of the thorax white. Wings hyaline with black margins, discoidal and apical spots. Widely distributed and not rare from Honduras, Venezuela, Guiana, the Amazon District.

Ph. bisigna *Kaye* is easily discernible from the preceding by its smaller size and two white spots *bisigna*. above on each of the first two abdominal rings; on the shoulder-covers large, carmine spots, collar quite black. Expanse of wings: 27 mm. British Guiana. May be a *Loxophlebia* and identical with *klagesi* which would then become synonymous.

23. Genus: **Loxophlebia** *Btlr.*

Like *Pheia*, but the middle radial vein of the forewing rises distinctly above the cell-angle. By this distinctive mark it also greatly resembles the genus *Mesothen* from which it is discernible by the non-angled, very obliquely running discocellular of the hindwing.

L. picta *Wkr.* (12 f). This pretty, small species is easily recognizable. The head is black, forehead *picta*. and tips of antennae are white. Thorax and abdomen are orange-red with a black, blue-spotted median stripe; the first abdominal ring exhibits silvery-white subdorsal spots; the 2 last segments are quite blue-black. On the hyaline wings are of orange-yellow colour: the base, a subcostal stripe, the lowest subcostal, the radial veins and the upper median vein and a spot at the distal margin below the upper median vein, on the hindwings all the veins and the basal half of the inner margin are yellow. Distributed from Guiana to the Amazon (Pará).

L. flavipicta *Schaus.* Head and palpi black with a white forehead. Thorax and abdomen orange- *flavipicta*. yellow; a large median spot on the abdomen, as well as the 2 last rings black with metallic scales. Legs yellow, tibiae and tarsi partly brown. The wings are hyaline; the base is yellow, behind it at the proximal margin there is a black spot and at the costal margin a black stripe as far as the transverse vein which is broadly black; at the inner-angle there is a black spot, and the apex is broadly black. The costal margin behind the middle, the distal margin between the lower median vein and the lower radial, the inner-margin in the middle, the radial veins and the upper median vein are yellow, the median and the lower median vein are black. On the hindwing the apical part of the distal margin, a stripe at the anal angle, and the base of the lower median vein are black, all the rest yellow. Expanse of the wings: 20 mm. Costa Rica (Sixola).

- broteas*. **L. broteas** *Schaus* (12 e). The head is black, forehead white, proboscis and palpal base orange; the black antennae have white tips. Collar and shoulder-covers are carmine, thorax black. The black abdomen exhibits on the 1st ring subdorsal white spots and lateral carmine macular stripes not reaching the abdominal end. Ventral valve orange. Hips, tibiae orange except the base and tarsi. The wings are hyaline, the broad distal margins black. A subcostal stripe orange; the veins are behind the cell orange coloured. Brazil (Sa. Catharina).
- splendens*. **L. splendens** *Möschl.* (12 f). Black; palpal base and proboscis orange, forehead white; collar narrowly bordered by orange, shoulder-covers orange; abdomen with orange stripes not extending as far as the end; the first segment exhibits dorsally two white dots. Ventral valve orange. Hips and tarsi yellow and white. The wings are hyaline with an orange-yellow basal spot; margins, median and apical spots black; the veins behind the cell partly orange-yellow, the same on the hindwings. Cayenne.
- cinctata*. **L. cinctata** *Hmps.* Head black with a white forehead; front side of the palpi, the basal joints of the antennae and neck yellow; thorax yellow, the larger half of the shoulder-covers and a broad dorsal stripe black; abdomen likewise yellow with a black median stripe, on the 2nd and 3rd rings black bands, the 3 last segments blue-black. On the hyaline forewings the base, a costal stripe and the radial veins are yellow, the other veins, margins, the apical spot and transverse vein black; also on the hindwings the base and the veins between the cell and margin are yellow. Expanse of wings: 28 mm. Venezuela.
- aurantiaca*. **L. aurantiaca** *Jones.* Head, palpi and antennae are black; hips white; collar, thorax and abdomen orange; a black median line on the thorax and the 2 first abdominal rings; the 3 last segments black. The wings hyaline, narrowly bordered by black-brown, broadly at the apex; base orange, on the cell-fold in the marginal area a black stripe. Expanse of wings: 23 mm. South East Brazil.
- egregia*. **L. egregia** *Schaus.* Head black, forehead white, as well as a spot on the vertex. Body red, middle of the thorax and the dorsum of the 3 first segments and the whole last segment black. Hips and inner side of the legs yellowish-pink; the base of the forewing and the proximal margin of the hindwing red. Expanse of the wings: 21 mm. Costa Rica.
- fininigra*. **L. fininigra** *Kaye* (12 f). Head black with fine white dots above and below the base of the antennae; antennae black, before the tips white; palpi black, at the ends of the joints whitish-curved. Thorax and abdomen above orange; the 3 last segments black with a posteriorly, metallic-green reflection; underside quite black, the large ventral valve silvery white. The base of the hyaline wings is extensively orange, the veins and margins narrow black, of the same colour is the extensive apical spot and a spot below the lower median vein. Described from South Brazil (Santos). — Before me there is from the Coll. SEITZ a whole series of specimens taken by him in Santos in November. In some specimens there is a black dorsal line to be seen, reaching differently far anteriorly from the hindmost black segments, though always leaving the first ring orange; it may be denominated **dorsilineata form. nov.** (12 f).
- metamela*. **L. metamela** *Dogn.* Whether and to what extent this species having remained unknown to me is to be united with the preceding, I cannot tell. The short description coincides, except the palpi which are stated here to be „black, while the two first joints are yellow“. South America (where?).
- pyrgion*. **L. pyrgion** *Druce* (12 f). Head black; forehead, tips of antennae and 2 dots on the vertex white; thorax orange; abdomen black with broad orange lateral stripes, the 3 last rings quite blue-black; venter whitish. Wings hyaline with black veins and margins; the base of the forewings, as well as a part of the subcosta and of the inner margin orange. Panama; French Guiana.
- assecla*. **L. assecla** *spec. nov.* (12 f) greatly approximates the preceding species; it differs by the broader shape of the wings; the stouter structure and more extensive black colour. Head and antennae are quite black; collar and shoulder-covers orange, the latter at the apex black; thorax anteriorly black, only the metathorax orange. Abdomen black-brown, orange-yellow lateral stripes reach from the base only as far as the 3rd segment. The wings are hyaline with narrow black margins; on the base of the inner-margin lies an elliptic, orange-yellow spot. Apical spot very broad black. Santos (South Brazil). Type in Coll. SEITZ.
- imitata*. **L. imitata** *Druce* (12 f) is smaller than the preceding and differs by its quite orange-red abdomen exhibiting only on the dorsum a black median stripe which seems more or less broken up into spots; abdominal apex black. Base of the wings without any orange colouring. Expanse of wings: 24 mm. Guatemala; Honduras.
- diaphana*. **L. diaphana** *Sepp* (= *discifera* *Wkr.*, *bura* *Btlr.*, *albifrons* *Möschl.*) (12 g). Body black-brown; collar orange, shoulder-covers inside bordered by orange; forehead and hips white. The abdomen exhibits broad orange-yellow lateral stripes; the ventral valve is yellow. The wings are hyaline, strongly iridescent with black veins, margins, median and apical spots. Guiana to the Amazon. — The larva is yellowish with a brown head and brown subdorsal stripes, thinly haired with hair-tufts on the 1st, 4th and 10th segments, between the two latter with thick and short hair-brushes; it lives on *Serjania* or *Paullinia*.
- inconspicuata*. **L. inconspicuata** *Kaye* (12 g) has a brick-red thorax and shoulder-covers, the rest of the body is black-brown, at the abdomen white sublateral lines. From British Guiana to Matto-Grosso.

L. crocata H.-Schäff. (12 g). Body black, forehead white, collar, shoulder-covers and thorax red-spotted. Forehips white. The 1st abdominal ring exhibits subdorsal grey-white stripes, the 3rd and 4th orange-red spots. In the ♂ the spots of the collar are whitish, the spots of the thorax are absent; ventral valve white. Wings hyaline, veins and margins black, at the base there are subcostally and above the inner-margin small red stripes; the former are absent in the ♂. Cayenne, Rio de Janeiro. *crocata*.

L. flavinigra Jones. Body yellow; terminal joint of the palpus and distal side, vertex, posterior half of the collar, a stripe on the shoulder-covers and a median stripe above the thorax and abdomen black. Anal tuft black, subdorsally yellow; the last 3 rings beneath black, which colour extends sublaterally in front as far as the 4th segment. The base of the hyaline, black-bordered wings is yellow, outside black. Expanse of wings: ♂ 22, ♀ 21 mm. Castro (Paraná). *flavinigra*.

L. chrysobasis Dogn. (12 g). Head black, upper half of the forehead white, palpi black, at the base and below yellow, antennae black. Collar and shoulder-covers orange, the latter outside bordered by black; thorax black, at the sides yellow. Abdomen orange-yellow with a black median line, the four last rings unicolorously black with a blue lustre. Legs orange, middle and hind-hips blackish. Wings hyaline, base of both pair of wings and a subcostal stripe orange-yellow; proximal and distal margins black; broad apical spots. From Colombia and French Guiana. *chrysobasis*.

L. masa Druce (12 g). Body black; anterior side of the palpi, forehead and neck white; shoulders and metathorax with orange-red spots. Tarsi white; base of the abdomen with white lateral spots. Expanse of wings: 20 mm. Mexico (Tabasco); Honduras. *masa*.

L. austera spec. nov. (12 g) is completely sooty blackish-brown on the whole body and thereby very easily recognizable. Only on the head behind the base of the antennae a small whitish dot. The wings are hyaline with narrow, blackish-brown margins, a black apical spot and a slight expansion below the lower median vein. Described according to a female taken by Dr. SEITZ in Santos. Type in the Coll. SEITZ. *austera*.

L. geminata Schaus. Body black; forehips white; ventral valve ochreous-yellow; in the neck two dark red spots. The wings hyaline with black veins, margins, apical spots and a transverse-vein spot. Expanse of wings: 18 mm. French Guiana. *geminata*.

L. peralta Schaus. Thorax and abdomen are more blue-black than in the preceding, head and base of abdomen more brown. Forehead with white scales; on the shoulder-covers a large carmine spot, the 2 spots of the neck being absent. All the rest as in *geminata*. Expanse of wings: 26 mm. Costa Rica (Tuis). *peralta*.

L. klagesi Rothsch. (12 g) is a very variable species. The body is black; the forehead white as well as the base of the collar, the shoulder-covers at the base carmine; the first abdominal ring is white, the second exhibits subdorsal isabel-coloured longitudinal streaks; the whitish ventral valve is uncommonly large and extends as far as the penultimate segment. Forehips and tarsi white, middle and hind legs on the inside white. Wings without any peculiarities. — In a ♂ before me from Guiana the white basal spot is reduced to two subdorsal longitudinal spots; the white spots may also be altogether absent, and on the other hand, there may occur yet red subdorsal spots on the 3rd and 4th segments. Widely distributed in Venezuela and Guiana, found also in Trinidad. It is possible that the *Pheia bisigna* having been described 2 months before by Kaye, which I only know from the description, is identical with it; then the name would have to be altered into: *Loxophlebia bisigna*. *klagesi*.

L. crusmatica Dogn. has a black body posteriorly with a green reflection; forehead and tips of antennae white; shoulder red-spotted. On the first abdominal rings there are 3 subdorsal white spots. Hips and the ventral valve covering two thirds of the venter white. Wings hyaline, somewhat iridescent, bordered by black with a large apical spot and a 4-cornered spot at the inner angle. French Guiana in August. The species may also belong to the preceding. *crusmatica*.

L. rufescens Rothsch. (12 g) has a white forehead and black vertex; the antennae are black, at the tips white; thorax and abdomen are bright orange-red; the first segment black with subdorsal, isabel-coloured longitudinal spots; underside of the venter black, ventral valve white, uncommonly large. Forehips white, legs for the rest black. The wings are hyaline with an orange-coloured base of the forewings; margins, apex and median spot black. Only 1 ♂ from Venezuela known. *rufescens*.

L. semiflava Rothsch. (12 h). Head and thorax are black; the forehead white; antennae black, at the tips white; base of the shoulder-covers orange-spotted; the abdomen is unicolorously orange-yellow. The large ventral valve is brown. The legs are black-brown, forehips and inside of the hind tarsi white. The wings hyaline with narrow black margins and a somewhat broader apical spot. Described according to 2 ♂♂ from Venezuela. *semiflava*.

L. cosmosomoides Rothsch. (12 h) looks like a *Cosmosoma* from the *stibostictum*-group. Head and antennae black, palpi yellow; thorax black, a spot on the shoulders and metathorax orange-yellow; abdomen orange-yellow, 6th and 7th segments black. Forehips reddish-yellow, legs yellow, on the outside of the *cosmosomoides*.

tibiae black. The wings are hyaline with extensive apical and inner-angular spots; costal margin of the forewing at the base hyaline, then black. The radial veins and the first median vein of the forewing, those of the hindwing all orange-yellow. Surinam.

postflavia. **L. postflavia** Druce (12 h) is one of the largest species, easily recognizable by the black abdomen being orange-yellow at the 4 last segments. The other part of the body is one-coloured black, only the forehead, anterior and posterior hips are white. The wings are hyaline with a black base and black margins being somewhat expanded at the apex of the forewing. Cayenne.

vesparis. **L. vesparis** Btlr. (12 h). The head is orange, on the forehead and vertex black and with metallic-blue spots; thorax black and orange. The abdomen is orange, with black and metallic-blue bands, the last segments quite black and blue. The wings are hyaline, very finely bordered by black, slightly broader at the apex. The base is slightly tinged orange; the inner-margin of the hindwing likewise orange, towards the anal angle with black hair. The ♀ has a black central spot and a greater expansion of the black colour at the apex and below the lower median vein. Known from Peru, Bolivia and Colombia.

albicincta. **L. albicincta** Dogn. Body black, anterior body intermixed with single whitish hairs; the 2nd abdominal ring exhibits dorsally a tuft of long white hair, the other rings are yellowish-white, beneath purely white-curved. The hyaline wings exhibit a fine black border being somewhat thickened on the two upper radial veins and in the apex; also the lower half of the transverse vein is black and thickened; proximal margin of the hindwing covered with long black and white hair. Expanse of wings: 26 mm. Peru (Cuzco).

socorrensis. **L. socorrensis** Dogn. The abdomen, being above quite unicolorously blue-black and exhibiting only on the second ring 2 subdorsal white spots, distinguishes the species from the preceding; the underside is blue-black; finely white-curved. Anal hairing ochreous yellow; legs black, at the joints white. Colombia (Monte Socorro).

asmodeus. **L. asmodeus** Druce (12 h) looks exteriorly like a small *Gymnelia*. The body is black-brown; hips, stripes on the legs and the ventral side of the abdomen are orange. The hyaline wings exhibit very fine black margins; the basal half of the proximal margin of the hindwing is orange; the upper radial veins of the forewing approximate each other very much towards the margin, between them the black distal margin projects somewhat inside. Described from Ecuador, a ♂ before me originates from the Colombian West Cordilleras (Monte Socorro, 3500 m) and was taken in July.

parca. **L. parca** spec. nov. (12 h) approximates the preceding species and differs by only half the size and a much greater prominence of the black colour. The head is black, except a crescentiform, yellowish-white spot below the base of the antennae. The basal half of the very short palpi is orange, the terminal joint black. Thorax predominantly black. Abdomen above and laterally black with orange-yellow segmental indentations which, however, are interrupted on the dorsum by black with the exception of the first (being besides more whitish) and third segments. The first ring exhibits a yellow lateral spot; the ventral side is in front quite yellowish-white, posteriorly blackish-curved. Legs black; tibiae and tarsi beneath yellowish. The wings are hyaline, narrowly margined by black, the forewings with a yellowish-brown subcostal stripe. Described according to a ♂ from Colombia (Quindiu Pass, 2300 m). Type in the Coll. SEITZ.

senta. **L. senta** spec. nov. (12 h) greatly approximates the preceding species; it is somewhat larger, has longer and narrower wings; the discocellular is placed more obliquely and the middle radial vein rises nearer to the lower one than in the preceding. Very characteristic is the peculiarly bristly scaling of the large, brown median spots. The black-brown body is more intensely spotted orange-yellow, otherwise in the same way as in *parca*. On the under surface the costal margin and median spot of the forewing are bright orange; the legs are quite orange, only the forelegs with a blackish hue at the femora and tibiae. Described according to 3 ♂♂ from Colombia; type in the Coll. SEITZ.

multicincta. **L. multicincta** Dogn., based upon a ♀ and a damaged ♂, is likewise nearly allied to the preceding species, particularly *parca*. From the latter it deviates by its quite white ventral side, yellowish white hips and the yellow abdominal rings being, however, dorsally not interrupted by black, also the abdominal apex is yellow; the thorax exhibits 3 pair of yellow spots. Expanse of wings: 22 mm. Quindiu Pass (2400 m) in September.

eumonides. **L. eumonides** Druce (12 h) approximates the preceding species and differs above all by its white forehips and ventral side. The abdomen is more blue-black with 2 white dots on the 2nd segment. Base and margins of the wings are much broader black. The forewing shows a large black central spot and a black transverse spot between the middle of the inner-marginal vein and the base of the lower median vein. The inner-marginal part of the hindwing is black. Ecuador.

triangulifera. **L. triangulifera** Fldr. (12 i) is quite differently coloured and resembles in some way *Leucotmemis nexa* by the black wings being provided with single, small hyaline spots. Black, forehead and shoulders with metallic-blue scales. shoulder-covers white-spotted; hips red; metathorax blue and white spotted; the abdomen exhibits dorsal and lateral rows of metallic-green spots. The forewings exhibit triangular hyaline spots below the base of the cell and in the cell, as well as in the ♀ above the upper radial, the latter being absent in the ♂; hindwings with a small hyaline spot below the base of the cell. Expanse of wings: 38 mm. Venezuela; Amazon.

24. Genus: **Mesothen** *Hmps.*

Differs from the preceding genera particularly by the angular discocellulars of the hindwings. On the forewing the upper median vein rises from the cell-angle, or near it; the middle radial above it, as in *Loxophlebia*.

M. bisexualis *Dogn.* Head black with a white forehead; thorax and abdomen are yellow, the 3 last rings and the prothorax black. The hyaline wings in the ♂ exhibit black veins and margins, apical spot and inner-angular spot; only the extremest base of the proximal margin is yellow. In the ♀ the whole inner-margin, two thirds of the costa, the subcostal and median, as well as the greatest part of the submedian and of the lower median vein are yellow. Expanse of wings: 21 to 22 mm. East Colombia. *bisexualis.*

M. temperata *Schaus.* Head and palpi black, forehead white. Thorax black with dark yellow shoulder-covers. Abdomen deep yellow, on the 1st ring a black dorsal spot; on the next 3 rings a large spot suffused by steel-blue, extending as far as the sides; the 2 last segments are black, too, with a steel-blue reflection. Thorax yellow, ventral valve at the end black. Femora yellow, anterior and middle tibiae and tarsi black, posterior tibiae and tarsi yellow, at the joints black. Wings hyaline with black veins, margins, apical and inner-marginal spots; subcostal centre yellow. Expanse of wings: 29 mm. Costa Rica. *temperata.*

M. albifrons *Schaus.* Head and thorax black, forehead white; shoulder-covers yellow-striped; underside and legs yellow, only the joints and tarsi black. Abdomen yellow, the 3 last rings black. Wings hyaline with black veins and margins; apex of the forewing broadly black; the base of both wings is somewhat yellow-haired. Expanse of wings: 25 mm. Colombia. *albifrons.*

M. albilimbata *Dogn.* Palpi black, forehead laterally white, in the middle black; vertex and antennae black; collar and shoulder-covers yellow, in front black-margined; the thorax is otherwise black with a yellow longitudinal and white transverse band; the 4 first abdominal rings are yellow with a black margin, the others above black, white-banded, beneath all yellow, only the 3 last ones black-curved. Wings hyaline with black nervures, a fine black margin and a somewhat broader black apex and yellow subcostal band; the median is partly yellow; at the base and inner-margin some yellow hairs. Expanse of wings: 31 mm. From Colombia at an altitude of 3200 m. *albilimbata.*

M. doris *Druce* is a species of an expanse of about 40 mm, with a quite pale yellow body; antennae, terminal joint of the palpus and a dorsal macular series on the abdomen black. Wings hyaline with black nervures and margins, the costal margin and veins at the base yellow. Colombia. *doris.*

M. flavicostata *Druce.* Body yellow; palpi and antennae black, the shaft on the latter half-way white. Collar, thorax, and the abdomen dorsally on all the segments, with black spots, the last segment quite black. Legs yellow. Base and costal margin of the forewing is yellow, veins, margins and apical spot black. South East Peru. *flavicostata.*

M. nomia *Druce* has a chrome-yellow body; antennae black, collar bordered with black. The abdomen is banded with metallic-blue, the 2 last segments are quite blue. Wings yellowish hyaline with black veins, borders and apical spot; base of the forewing and costal margin as far as the cell-end yellow. Expanse of wings: 35 mm. Colombia. *nomia.*

M. mysia *Druce.* Head, antennae, palpi and legs are black, the rest of the body yellow, the abdomen with black bands. Wings hyaline with black veins, margins and apical spot. Expanse of wings: 32 mm. South East Peru. *mysia.*

M. rogenhoferi *Schaus.* Head black with a white forehead and yellow hind head, thorax and abdomen yellow. The thorax exhibits above a black middle stripe; the abdomen is dorsally and laterally black-striped, the stripes vanishing posteriorly. Joints and tarsi black. Wings hyaline with black veins, margins and apical spot, base of the inner margin yellow. Expanse of wings: 30 mm. Brazil (Rio de Janeiro). — **perflava** *Kaye,* which may belong hereto, differs by its black-striped shoulder-covers, absent black lateral stripes and black last abdominal ring. Described from Santos. *rogenhoferi.* *perflava.*

M. ockendeni *Druce.* The head with antennae and palpi is black, the forehead white, thorax and abdomen orange-yellow. The abdominal rings are black-spotted, the last ring quite black, so are the thorax and legs. Wings hyaline with black veins, margins and apical spot. Expanse of wings: 45 mm. South East Peru. *ockendeni.*

M. dorsimacula *Rothsch.* Head black with fine white dots; antennae black, white before the tips. Thorax and abdomen golden orange; the abdomen exhibits on the first 2 rings a black middle spot; the 2 penultimate segments are black, the last being metallic-blue. Legs brown, forehips white. Wings hyaline with black veins, margins, inner-marginal and apical spots, the base being orange, distally black. Length of forewings: 17 mm. Costa Rica. *dorsimacula.*

M. aurantiaca *Dogn.* Head black, forehead white, thorax and abdomen orange; the tips of the shoulder-covers, 2 dots on the thorax blue-black, as well as 5 dorsal spots from the 2nd to 6th abdominal rings; on the 3rd to 6th ring there are besides somewhat smaller lateral spots; the 3 last rings are black with a green reflection. *aurantiaca.*

The hyaline wings with black veins, margins and apical spot are at the base and in the subcostal space orange. Expanse of wings: 32 mm. South East Peru.

- petosiris.* **M. petosiris** Druce (12 i) from Colombia, Ecuador and Bolivia has an orange-yellow body; collar and shoulder-covers are margined with black; the abdomen shows black and blue spots being united to transverse bands from the 3rd ring, the last segments are quite black and metallic blue. The hyaline wings exhibit orange-yellow stripes at the costal and inner margins which are black like the distal margins and the apical spot. —
- erubescens.* In **erubescens** form. nov. (= ab. 1 *Hmps.*) the colour of the body is orange-red.
- ignea.* **M. ignea** Druce (12 i) has a black head, otherwise the body is orange-red; on the mesothorax two, on the metathorax one black spot. The dorsum shows a series of black spots growing smaller posteriorly; the last segment is black; laterally and underneath on the last segments black spots; legs black-brown. The hyaline wings have an orange-red base, black margins and apical spots. Mexico.
- samina.* **M. samina** Druce (12 i). Head and thorax black; the 2 first palpal joints are orange, also the forehead, vertex and border of the collar, stripes on the shoulder-covers and legs. Abdomen orange with black transverse bands growing broader on the dorsum until they flow together and exhibiting metallic-blue spots. Wings hyaline with fine black veins, margins and apical spots; at the base of the forewing there stands an orange dot. Expanse of wings: 38 mm. Panama (Chiriqui).
- ethela.* **M. ethela** Schaus (12 i) entirely resembles a small *Cosmosoma stibostictum*: thorax and apex of the orange-yellow abdomen are black; forehead and shoulders white-spotted; dots behind the antennae and forehips white. The hyaline wings show black margins and apical spot. Costa Rica.
- montana.* **M. montana** Schaus. Anterior body dark brown, abdomen yellow; the rings 2 to 6 show 2 rows of black spots on the dorsum. Legs yellow, tarsi and a part of the hind tibiae brown, wings hyaline with fine brown veins, margins and apical spots. Expanse of wings: 39 mm. Costa Rica (Volcano Poas).
- epimetheus.* **M. epimetheus** Schaus. Head and abdomen black, the latter with orange-red subdorsal spots on the 3 first rings; thorax orange-red with a black spot in the middle. Wings hyaline with black veins, margins, inner-marginal spot and apical spot; the base and a short inner-marginal stripe orange. Expanse of wings: 26 mm. Brazil (Novo Friburgo).
- pyrrha.* **M. pyrrha** Schaus (12 i). Head and abdomen are black, the thorax orange; the tips of the antennae, the front of the palpi, two spots on the forehead and the hips are white; the ventral valve and an indistinct longitudinal stripe on the dorsum of the first ring are white; in the ♀ there are besides white lateral stripes on the first segments. The wings are hyaline with black margins. Widely distributed in Mexico, Colombia, Guiana; 1 ♀ before me also from Peru (Cuzco).
- caerulei-*
corpus. **M. caeruleicorpus** Schaus. Body deep blue. Tibiae rosy red, tarsi black. Wings hyaline with black margins, veins and apical spot. Expanse of wings: 30 mm. Bolivia.
- roseifemur.* **M. roseifemur** spec. nov. (12 k) is very nearly allied to the preceding species, differing particularly by the hips and femora being rosy red and not the tibiae, whereas the tibiae and tarsi are black-brown. The whole body is brown-black, above on the abdomen with an indigo-blue gloss. The hyaline wings have narrow black margins and large apical spots. Described according to 1 ♂ from Colombia (Quindiu Pass 2100 m); type in Coll. SEITZ. It may also be a form of the following species with a black collar and black shoulder-covers, the red lateral spots at the 1st abdominal segment being absent, too.
- erythaema.* **M. erythaema** Hmps. (12 k) is a large, beautiful, easily recognizable species; head, thorax and abdomen are black, the latter with a blue gloss. Collar and shoulder-covers, hips and femora, as well as lateral spots at the first abdominal segment are carmine, the shoulder-covers bordered with black. The wings are diaphanous with black margins, veins, apical spots and middle spot of the forewing. Colombia, Bogotá.
- flaviventris.* **M. flaviventris** Druce (12 i). Body black; forehead and tips of antennae white, shoulder-covers orange-spotted, of the same colour are the last rings of the abdomen; the first exhibits lateral white spots. Wings hyaline with an orange dot at the base; veins, margins, discal, apical and inner-marginal spots being black. Expanse of wings: 26 mm. Panama (Chiriqui).
- catherina.* **M. catherina** Schaus. Body black; spots on the shoulder-covers and at the sides of the 4th abdominal segment carmine. Wings hyaline with black veins, margins and apical spot. Expanse of wings: 30 mm. Brazil (Sa. Catharina).
- nana.* **M. nana** Schaus. One of the smallest species with quite black body, only the shoulders exhibit a red spot. Wings hyaline, veins, margins, apical spot black, also a large spot at the cell-end and one at the inner angle, the forewings are black. Expanse of wings: 17 mm. French Guiana.
- endoleuca.* **M. endoleuca** Druce. Body black with blue-grey subdorsal lines on the abdomen. Wings hyaline with black veins, margins and apical spots. Expanse of wings: 25 mm. Venezuela.
- desperata.* **M. desperata** Wkr. (12 k) is a very small, insignificant species; the body is unicolorously greyish black; the abdomen exhibits above indistinct, lighter subdorsal stripes. The hyaline wings have narrow, black distal

margins. Distributed from Panama through Guiana and Brazil as far as Paraguay and Argentina; it flies in day-time on compositae.

25. Genus: **Mimagyrta** *Hmps.*

Is nearly allied to the following, from which it differs by the lower radial nervules rising separately; the upper radial rises somewhat below the upper cell-angle, the most central subcostal vein being absent; the cell of the hindwing is much shorter; the upper median vein rises from the lower one shortly before the margin.

M. pampa *Druce* (12 k) strikingly resembles an *Agyrta*: the abdomen and part of the wings with a blue gloss, the wings exhibit hyaline spots exactly like there. The base of the palpi, sides of the forehead and stripes on the hips, femora and venter are white; Amazon; also from Peru (*Pachitea*).

M. pulchella *Klages* strikingly resembles *Chrostosoma tricolor* *Fldr.* (12 m). The body is above black-brown, beneath white inclusive of the legs; front of the palpi, forehead, shoulders and mesothorax white-spotted; subdorsal stripes and interrupted lateral stripes on the abdomen whitish; on the collar metallic-blue scales. The black-brown forewings exhibit at the costal base a white dot, below the cell-base a broad, yellow stripe, an oblique, yellow spot in and below the cell-end and an oblique, hyaline band beyond it; base of the inner margin metallic blue. The hindwings exhibit a yellow longitudinal band below the cell and a blue inner margin. Venezuela.

26. Genus: **Chrostosoma** *Hmps.*

In many ways allied in its exterior to the genus *Saurita* from which it differs by its shorter palpi which do not reach the vertex, as well as by the lower radial being longer pedicellated with the lower median vein of the hindwing; furthermore, the uppermost subcostal vein of the forewing rises on a common pedicle with the other subcostal veins and not freely from the cell.

Ch. decisa *Wkr.* (12 k) has like the following a black-brown body, carmine-red spots on the shoulder-covers and on the middle of the first abdominal ring; metallic blue lateral spots; the underside is white; in contrast with the following species, the vertex and metathorax are spotted with metallic-blue, and the brown marginal band of the whitish hindwings sends forth a long continuation towards the base below the cell. Amazon, Bolivia.

Ch. haematica *Perty* (= *zantes* *H.-Schäff.*, *fenestrina* *Bthr.*, *chalconitis* *Druce*) greatly resembles the preceding, but on the vertex the blue colour is absent, the wings are in the basal part more smoky hyaline and on the hindwings the continuation of the marginal band towards the base is shorter. From Ecuador and Brazil.

Ch. viridipunctatum *Rothsch.* (12 k) is allied to the preceding species and is easily discernible by entirely hyaline forewings with a broad, black-brown middle band and apical spot. Head, metathorax and abdominal sides are spotted in a bright metallic green. Described from Brazil.

Ch. schausi *Rothsch.* (12 l). Head and thorax metallic green, shoulders carmine; first abdominal segment carmine; the rest of the abdomen metallic green, black-curved and with a black middle line. The antennae are black; legs black-brown, at the tibiae with metallic-green spots; hind tarsi white. The hyaline forewing exhibits a broad, black middle band and black apical spots. This magnificent, small species has become known from Panama (Chiriqui) and Ecuador (Paramba).

Ch. chrysidia *spec. nov.* (12 l) has a body similar to that of *viridipunctata*; body black. Forehead, vertex, meso- and meta-thorax with large, green metallic spots; first abdominal ring above carmine, the other segments exhibit uncommonly large, metallic-green, brass-lustrous subdorsal spots. Forehips white; palpi, legs and antennae quite black. The wings are brownish hyaline with narrow, black-brown margins and veins. This magnificent species originates from Colombia (Rio Aguaca Valley, 2000 m), type in Coll. FASSL.

Ch. fumosum *Schaus.* Body black, on the shoulders, shoulder-covers and first abdominal ring above spotted in carmine. Forewings smoky-brown diaphanous, at the distal margin blackened, veins and fringes fine black. Hindwings semi-diaphanous black. Expanse of wings: 25 mm. Costa Rica.

Ch. dstricta *spec. nov.* (12 l). Sooty black; vertex and shoulders red-spotted. The metathorax exhibits a square, scarlet spot, followed by a whitish spot on the first abdominal segment. The wings are sooty hyaline, iridescent with very broad, black veins; margins, apical spots of both pair of wings and the inner-marginal half of the hindwing are black. Described according to a male example from Panama (Lino, 800 m) (FASSL).

Ch. fassli *spec. nov.* (12 l) resembles the preceding, though it is larger, with broader wings. Head and 1st abdominal ring quite brownish-black, shoulder-covers red-spotted. Apex of the forewing broader brownish-black. Collar and Abdominal sides with a blue gloss. East Colombia (2200 m). (FASSL.)

- anthracina*. **Ch. anthracina** *spec. nov.* (12 l) resembles *Amyces anthracina* (20 i), particularly in the female: the body is sooty black. Collar, shoulders and first abdominal ring subdorsally with minute scarlet spots; below them lateral whitish spots on the first segment. Forewing in the first two thirds sooty black, warming into red-brown towards the following whitish marginal third; at the apex a narrow, grey marginal spot; at the base, below the median, a red streak-like spot. Hindwings hyaline, on the veins, at the apex and inner angle broadly blackened. The ♂ is in the basal part, in and below the cell, very thinly sealed, so that oblong hyaline spots are produced here. This very interesting species is before me in both sexes from East Colombia (Paeho, 2200 m). (FASSEL.)
- mosca*. **Ch. mosca** *Dogn.* Body unicolorously black, above with a slight blue-green reflection; the first abdominal ring is red. Wings hyaline with black veins and margins. Expanse of wings: 22 mm. Ecuador (Loja).
- echemus*. **Ch. echemus** *Cr.* (= *dolens* *Wkr.*, *stulta* *H.-Schäff.*) (12 k) differs from *decisa* and *haematica* which are somewhat larger by the hyaline, not white basal half of the hindwing. The body is brown-black; on the shoulders and on the middle of the first abdominal segment red-spotted; on the sides of the abdomen indistinct, metallic-blue, small spots. The ventral side and the femora are whitish. The dull-hyaline wings are blackish brown at the margins and on the veins, the disc is clouded in brownish round the middle spot. The hyaline hindwings are blackish-grey in the marginal half and on the broad inner-marginal part. Guiana; Amazon.
- unxa*. **Ch. unxa** *Druce* (12 l). Two subdorsal, red spots on the first abdominal segment, instead of one dorsal spot, separate the species from the preceding; vertex and collar with metallic-blue scales, on the ventral side only the first 4 rings are white. The hyaline wings have a yellow tinge. Expanse of wings: 32 mm. Panama (Chiriqui).
- trimaculatum*. **Ch. trimaculatum** *Strand* in the marking greatly resembles *decisa* *Wkr.* from which it differs above all by the presence of the upper median vein of the forewing, being absent in *decisa*; furthermore, the black apical spot of the forewing is cut off straight, inside not concave; also the discal band is sharply defined; the red spot on the 1st abdominal ring is sharply marked, triangular, showing with its apex in front. Expanse of wings: 27 mm. Peru (Urubamba).
- cardinalis*. **Ch. cardinalis** *Schaus* (12 m) has an entirely scarlet body; only the head is black with a white forehead; on the red legs the tibiae and tarsi are blackish-brown; the hyaline wings with black margins and apical spots are at the base of the forewings scarlet; the inner-marginal part of the hindwing is black, at the border red-haired. At once distinguishable from the exteriorly most similar *Cosmosoma melanopera* (13 k) by the quite red abdomen without the black anal apex. Colombia: 1 ♂ before me from the Rio Aguaca Valley, West Cordilleras, 2000 m. (FASSEL.)
- semi-rubrum*. **Ch. semirubrum** *Hmps.* (12 m). Head, thorax and the 3 last abdominal rings are black; forehead white-spotted; on the shoulders scarlet spots; the first abdominal segments scarlet. The hips and posterior tarsi are white. The hyaline forewings exhibit a black median band and very extensive, black apical spots. From Brazil (São Paulo).
- pellucidum*. **Ch. pellucidum** *Schaus* is easily recognizable by the ochreous yellow body, only the 2 last abdominal rings, antennae and legs are black, the latter somewhat yellow striped. Wings hyaline with black veins, margins and apical spots, the forewings at the base orange. Expanse of wings: 25 mm. Peru (Carabaya).
- sitiona*. **Ch. sitiona** *Schaus* differs from the preceding by its larger size, black head, antennae and palpi, and quite black legs with yellow hips. Expanse of wings: 29 mm. Costa Rica.
- patricium*. **Ch. patricium** *Schaus*. Body brown-black, forehead metallic-blue, similar spots are on the collar and thorax, the shoulders being red-spotted. First abdominal ring with subdorsal, earmine spots and laterally blue-spotted, venter white. Forehips opalescent white. The hyaline forewings exhibit a broad, black middle band terminating into the inner angle, and a large apical spot; hindwings with a broad, black border. Expanse of wings: 29 mm. Costa Rica.
- tricolor*. **Ch. tricolor** *Fldr.* (12 m) greatly resembles *Mimagyrta pulchella*. Body black, anterior body marked with white, abdomen subdorsally striped in a bluish white, venter white. The black forewings are at the inner-marginal base metallic blue; in and below the cell-end there is a large, orange oblique spot, behind it a hyaline oblique band. Hindwing in the inner-marginal part metallic-blue; in below and behind the cell a long, narrow hyaline spot. Expanse of wings: 30 mm. Amazon.
- marathum*. **Ch. marathum** *Druce*. Body quite black. Collar bordered with red. Forewings smoky-brownish hyaline; behind the middle a broad oblique band of a semi-diaphanous, white colour, extending from the costal margin to the inner angle. Hindwings hyaline, at the apex and inner margin dusted with black. Expanse of wings: 26 mm. Ecuador.

27. Genus: **Nyridela** Lucas.

This genus contains only 2 very similar, large, robust species with hyaline, broadly black-margined wings with a black median band. The erect palpi project but little beyond the vertex; in the ♂ a large valve covers the ventral side of the basal abdominal rings. On the forewing the lower median vein rises near the lower cell-angle and is strongly curved downwards, the upper median vein and the 2 lower radial veins all rise separately from the lower cell-end. On the hindwing the discocellular runs so very obliquely that the cell does not become visible.

N. xanthocera Wkr. (9 k). From the similar *chalciope* Hbn. this species differs by the quite yellow antennae, the blackish-blue forehips, and the metallic-blue colour being less prominent on the abdomen. Widely distributed in Central America, so in Mexico, Guatemala, Costa Rica, and Panama. *xanthocera*.

N. chalciope Hbn. (= *acroxantha* Perty) (9 k). Very similar to the preceding species from which it differs by the black antennae being yellow only at the tips, the white forehips and the metallic bluish green spots being more prominent on the abdomen. It flies not only in Colombia (Bogotá) and Brazil, but also in Cuba. *chalciope*.

28. Genus: **Leucotmemis** Btlr.

Exactly like *Cosmosoma*, but the upper median vein rises in common with both the lower radial veins from the lower cell-end, or at least shortly before it, but never separated so far as in the following genus. The species are mostly distinguished by a broad, black middle band of the forewings.

L. dorsalis Wkr. (15 a). Black-brown; palpi and stripes on the shoulder-covers orange; the abdomen exhibits broad orange lateral stripes; of the same colouring is the underside. The black-brown forewings exhibit hyaline stripes in and below the cell and a yellowish hyaline spot behind the cell between the upper median vein and the lowest subcostal; the veins crossing it are yellow. Hindwings black-brown, at the base orange, behind the cell with a yellow hyaline, orange-veined spot. Expanse of wings: 20 mm. Amazon. *dorsalis*.

L. varipes Wkr. (= *albiventris* Wkr., *syrphiformis* H.-Schöff.) (15 a). Head and thorax black, forehead and collar bordered with white. Legs white and brown with yellow tarsi. Abdomen carmine with a black apex, and white and brown subdorsal spots on the first segment; venter white. Wings hyaline, towards the margins dusted with brown, the veins, costal and inner margin being brown in the ♂, yellow in the ♀, with a very large, brown discal spot being confluent with the inner-angular spot. Expanse of wings: 24 mm. Amazon. *varipes*.

L. margariphera Btlr. (12 m) is a large, beautiful species with a black head and thorax; on the vertex and collar blue spots; on the shoulder-covers a small, orange-yellow spot; the abdomen is carmine; the first segment black with subdorsal blue dots and orange-yellow lateral spots; on the other segments subdorsal, opalescent, whitish spots; the 3 last rings are black, with metallic-blue spots; the underside is yellowish-white. The wings are faintly yellowish hyaline; veins, costal and inner margins yellow; a metallic-blue spotted discoidal spot, apical and inner-angular spots are black. Amazon (Pará). *margariphera*.

L. pleuraemata Hmps. (12 m). Black-brown, base of the palpi white; spots on the collar and broad lateral stripes on the abdomen are carmine; on the first abdominal ring the latter are yellowish; hips and ventral side yellowish-white. The wings are hyaline with black-brown margins, median band and apical spots. Brazil (Sa. Catharina). — **v. paranensis** Schrottky (26 k), from Paraguay and Argentina which may be a species of its own, is considerably smaller, the palpal base being red instead of white, the hips and venter of a pure white, not yellowish. Flying on compositae. *pleuraemata*.

L. tenthredoides Wlkr. (12 m). Head black, on the vertex with metallic-blue spots, forehead downward white; collar black and blue; thorax orange, shoulder-covers bordered with black; abdomen orange, the last 3 segments black and blue spotted, in the ♂ with a black spot on the preceding ring. The wings are hyaline, the margins, median band and apical spot black; at the base of the costal margin a blue spot; subcosta, inner margin and the veins behind the median band orange; base of the hindwing orange. Distributed from Guiana to the Amazon. *tenthredoides*.

L. hemileuca Btlr. (12 m) is allied to the preceding species from which it differs by the absence of the metallic-blue spots on the base of the forewing and at the end of the abdomen; it is also considerably smaller. The thorax is black, only the basal half of the shoulder-covers is orange; abdomen orange, the two last segments black, on the preceding segment a black spot; underneath whitish. In the ♀ the black median spot of the forewing remains separated and hardly touches also the inner margin, whereas the ♂ has a developed median band. Amazon. *hemileuca*.

- intersecta*. **L. intersecta** Wkr. (12 m) is smaller than the preceding species from which it differs by quite black shoulder-covers; the otherwise unicolorously orange-yellow abdomen being beneath white exhibits the 3 last segments coloured black. Brazil (Ega).
- latilinea*. **L. latilinea** Wkr. (14 m). Head and thorax black, shoulders orange spotted; forehips white; abdomen yellow, the 3 last segments and part of the fourth black, subdorsally blue-spotted. Wings hyaline, veins and margins broad black, at the costal base of the forewing a blue spot; a broad, black postmedian band. Expanse of wings: 36 mm. Brazil.
- omole*. **L. omole** Druce (12 m). Likewise allied to the preceding species, smaller than *latilinea* from which it differs by the orange-yellow colouring of the metathorax and the base of the hindwing. Ecuador.
- bella*. **L. bella** Kaye. Body orange; forehead white, on the vertex 2 metallic-blue, small spots. The abdomen exhibits above a metallic-blue macular stripe, the last 4 rings are black with blue scales. Wings yellowish hyaline, two thirds of the costal margin and the basal half of the inner margin orange; apex and distal margin black. Hips and femora orange, tibiae black, tarsi white. Expanse of wings: 27 mm. Brazil (Santos).
- endochrysa*. **L. endochrysa** Dogn. Head and thorax black-brown, palpi and legs yellow, as well as the base of the shoulder-covers and the abdomen, the 2 last rings of which are black above. Wings hyaline with a broad black apical spot, base black, intermixed with yellow scales. The veins partly yellow. Expanse of wings: 27 mm. French Guiana.
- torrida*. **L. torrida** Wkr. (13 a) has an orange-yellow body; vertex, collar, shoulder-covers and mesothorax black-spotted. The abdomen exhibits black-blue segmental indentations and dorsal spots, the two last segments are black and blue spotted. The wings are yellowish hyaline with a narrow middle band and a black apical spot. Inner margin of both pair of wings orange. Amazon.
- climacina*. **L. climacina** Btlr. (13 a) is very closely allied to the preceding species from which it is discernible by the considerably smaller extent of the hyaline spot behind the middle band. Head and thorax are orange, the palpi laterally black; the shoulder-covers bordered with black; the abdomen is black with large, orange-yellow, subdorsal and lateral spots, the last segments are metallic-blue. Femora black-banded, tarsi black. Middle band and apical spot of the forewing very broad; subcostal and inner-marginal stripes orange; the hyaline spot behind the middle band is hued with orange, the veins crossing it are orange. Brazil (Espírito Santo).
- emergens*. **L. emergens** Wkr. (13 a). Head and thorax are black, the shoulder-covers orange; the abdomen is black with very broad, subdorsal, orange-yellow longitudinal stripes, beneath whitish except the two last segments. Antennae black with white tips. The wings are hyaline, at the base orange; veins black, behind the cell orange-yellow. Margins, a broad apical spot and small cellular spot black. Amazon.
- felderi*. **L. felderi** Roths. (13 a) strikingly resembles the preceding species from which it is distinguished by an orange-yellow collar and much smaller size; the abdomen is underneath orange. The base of the hindwing is more extensively orange. Amazon.
- albigutta*. **L. albigutta** Schaus has a black body; vertex blue, collar and shoulders white and blue spotted; the thorax exhibits 2 large, opalescent white spots; at the abdomen subdorsal and lateral green stripes, underneath violet. Wings hyaline with black veins, margins and middle spot. Expanse of wings: 23 mm. Surinam.
- thoracica*. **L. thoracica** Schaus. Head and abdomen black, vertex blue, antennae black with white tips; the abdomen exhibits subdorsal green spots and broad green lateral stripes. Neck and thorax ochreous yellow. Wings hyaline with black veins and broad margins; the cell of the forewing is dusted with black and exhibits at the end a large, black middle spot. Expanse of wings: 30 mm. French Guiana.
- ornatula*. **L. ornatula** Wkr. (13 a) shows the way on which the following species *nexa* may have deviated from the generic type. Black; collar blue-spotted; on the shoulders small orange-yellow spots. The second abdominal ring exhibits orange-yellow lateral streaks; the last segments show metallic-blue spots. The wings are hyaline, with black margins, middle-band and apical spots; the forewing at the base with an orange-yellow and a blue, small spot. On the under surface the bases of the wings are orange. Amazon.
- nexa*. **L. nexa** Herr.-Schäff. (13 a) does not show any alliances and nearly resembles a *Calonotus*. Black; forehead and neck white; vertex, collar, thorax and legs with silvery blue spots; shoulder-covers, sides of the thorax and hips with white spots; the first abdominal ring exhibits blue dorsal and white lateral spots, the other segments exhibit broad dorsal, subdorsal and sublateral, golden-green longitudinal stripes. The black forewing exhibits at the base of the costal margin a white and blue dot, then a narrow, small hyaline stripe; below the median a blue spot. Below the discocellular there is a white hyaline spot, between the veins 3 and 7 another one. Hindwings with small hyaline spots behind and mostly also below the cell. Widely distributed and common from Mexico to Brazil.

L. insperata Wkr. (13 a) has a black body; on the forehead, vertex, collar, shoulders, metathorax and *insperata*. thorax there are metallic-blue spots; the first abdominal ring exhibits lateral, metallic-blue spots; the other segments with dorsal and lateral series of green-silvery spots. Forehips posteriorly carmine. Forewings black with brown-smoky hyaline spots in and below the cell, as well as behind the large, black middle spot. Hindwings hyaline with black margins. Amazon (Pará).

29. Genus: **Cosmosoma** Hbn.

This Syntomid genus contains most of the species; they are rather homogeneously looking insects, some small, others more than medium-sized. The wings are hyaline with black margins; the latter growing broader, mostly also the black apical spot increases in size and the black colour on the lower median vein dentately turns inwards. The discocellular is black in a variable extent, it may also be prolonged in the shape of a band as far as the inner angle. The abdomen is mostly yellow, red or black, frequently ornamented with magnificent blue or green metallic spots. On the forewing, being rather broad, the upper median vein rises before the lower cell-angle, while the two lower median veins rise directly from it, the upper one from the upper cell-angle; the uppermost subcostal vein comes separately out of the cell, the others stand on a common footstalk. On the hindwing the lower radial and the lower median vein are petioled, the first median vein is absent or rises close before the margin from the lower one; the subcostal and first radial vein come from the upper cell-angle.

C. demantria Druce (13 a). A large, strong species with a scarlet body; the head is black, on the forehead *demantria*. and vertex with metallic-blue spots; collar and shoulder-covers at their base blue and black spotted; thorax with a black middle stripe and a blue spot on the metathorax; the abdomen, from the second segment, exhibits a series of blue and black dorsal spots; underneath black; the ventral valve at the sides white; antennae at the tips white. Dominica.

C. oroyanum Rothsch. (13 b). Head, collar and outer half of the shoulder-covers black, with metallic- *oroyanum*. blue spots; thorax and inner half of the shoulder-covers brick-red; the abdomen is black with metallic-blue dorsal spots, laterally on the 4 first segments brick-red; behind them with metallic-blue spots. Ventral valve blackish-brown with white lateral spots. The forewing is without the middle spot. Legs blackish-brown, forehips red. Peru.

C. exomelan Zerny (= mathani Rothsch. pr. p.) (13 b). Head black, on the vertex metallic blue, thorax *exomelan*. deep carmine, abdomen black, on the first segment subdorsal, carmine spots; the last segment and subdorsal spots on the preceding ones metallic green. Legs blackish-brown, forehips carmine. Antennae black, before the tips white. Colombia (Cundinamarca).

C. ignidorsium Hmps. (13 b). Head and collar are black with metallic-blue spots. Thorax and first *igni-* abdominal ring scarlet, generally also lateral spots on the second segment; shoulders with black and blue spots. *dorsium*. The abdomen, beginning from the 2. ring, is black with dorsal and lateral series of blue spots; the ventral valve is laterally white-spotted. The hyaline forewings exhibit a short red inner-marginal streak. Brazil; also in Paraguay, taken in April on compositae. The species is the true copy of *Poecilosoma chrysis* (14 i), but always easily recognizable by the first radial of the forewing rising from the upper cell-angle.

C. rubriscapulae Kaye (13 b) is easily discernible from the preceding by the black middle of the thorax, *rubrisca-* besides the dorsal blue spots are absent on the abdomen, the lateral spots being more green; the wings are more *pulae*. pointed and exhibit a large, black middle spot. Flying in day-time in July in Trinidad.

C. rubritarse Schaus. Head and thorax black, spotted somewhat blue; antennae with white tips. *rubritarse*. Abdomen above carmine with a black dorsal line being somewhat broader on the first ring; the last 2 rings black, blue-spotted; laterally there are 3 triangular, black, blue-scaled spots. Legs red, outside black-striped. Wings hyaline, veins, margins, apical spots and discal spot black. Expanse of wings: 38 mm. Costa Rica.

C. subflammum Wkr. (= panopes H.-Schäff.) (13 b) has its body above quite black with metallic- *subflam-* blue spots, whereas the under side of the thorax is vermilion; the legs are likewise red, in some places black- *num*. spotted. The hyaline wings exhibit black veins and broad black margins. — From Surinam, Venezuela and the Amazon. In v. **lucia** Schaus from Santa Lucia the hindlegs are quite black except the red hips. *lucia*.

C. myrodora Dyar (= augc Neum. & Dyar, omphale Harr.) has formerly been confounded with the *myrodora*. following which it also resembles exactly, except the 1st abdominal ring being red also above and the dorsal black beginning only from the 2nd ring. Expanse of wings: 34 mm. Eastern coast of Florida; Indian River: Palm Beach; Miami.

C. auge L. (= omphale Hbn., melitta Möschl.) (13 e). Head black with metallic-blue spots on the *auge*. forehead and vertex. Palpi black, at the base vermilion, antennae black with white tips. Collar black with

blue spots, thorax and the 4 first abdominal rings laterally vermillion. Abdomen otherwise black with metallic-blue dorsal spots, on the 4 last rings also blue lateral spots. Legs red, in some places black. The large ventral valve in the ♂ laterally silvery white. Immediately discernible from the very similar following species by the absence of the triangular blue lateral spots on the first abdominal segments, the discocellular of the forewing being also only quite narrow black. Widely distributed and common from Mexico through the whole of Central America and Brazil as far as Uruguay, also in St. Thomas, Cuba and Jamaica. — The larva, being yellowish on the first and last segments, is covered with black and white hair; on the fifth and eleventh segments there are lateral, dense, black hair-tufts. According to DYAR, it lives on *Mikania scandens* and produces for the pupation a large yellowish cocoon interwoven with the black hair. — The extent of the red colour on the thorax varies *nigrithorax*. very much, it may be almost quite red, but also nearly quite black, the latter form may be denominated: **nigrithorax** *form. nov.* (12 b).

sectinota. **C. sectinota** *Hmps.* (= *auge* *Druce*) (13 c) at first sight looks very much like *auge* *L.*, but it is easily distinguishable by the mostly larger black discoidal spot of the forewing and particularly by a series of lateral, triangular, black spots with metallic-blue scales on the first abdominal rings, the apex of the abdomen being also much less extensively black. Known from Mexico and Guatemala.

rubrobasale. **C. rubrobasale** *Lathy* is discernible from the preceding by its red basal part of the forewing, extending yet for some distance along the costa and inner margin. Ecuador.

entella. **C. entella** *Druce*. Head and collar are metallic blue, antennae black. Collar, thorax and abdomen above bright-red, the 3 last abdominal rings black; dorsal and lateral spots metallic blue. Ventral side black, on the 2nd and 3rd rings white. The forewings have a red basal part, veins, margins and apex are black; also the hyaline hindwings are bordered with black. Expanse of wings: 45 mm. Ecuador.

brinkleyi. **C. brinkleyi** *Rothsch.* (13 c) is a magnificent large species from Colombia (Cauca Valley). The head is black, on the forehead and vertex with metallic-blue spots; collar and thorax are metallic blue, the shoulder-covers scarlet, outside black. The scarlet abdomen exhibits dorsal and lateral rows of triangular, metallic-blue spots bordered with black; the last two rings are black. Forehips, middle hips and the whole hindlegs are scarlet, the rest of the legs blackish-brown. Antennae black with white tips. Base of the wings scarlet.

garleppi. **C. garleppi** *Rothsch.* (13 c). Exactly like *brinkleyi*, but all the red parts are here dark yellow. The thorax is yellow; the legs are blackish-brown, the forehips yellow. The bases of the wings are black. Described from Bolivia.

hector. **C. hector** *Stgr.* (13 c) differs from the following species merely by its quite unicolorously scarlet abdomen. Expanse of wings: 42 mm. Panama (Chiriqui).

zurcheri. **C. zurcheri** *Druce* (13 d) is a sexually dimorphous species: the yellow colour of the ♂ abdomen is in the ♀ a magnificent scarlet. Head, thorax and apex of the abdomen are black with metallic ultramarine-blue spots. From Costa Rica (San Carlos).

brasilicola. **C. brasilicola** *Strand* differs from the preceding by its smaller size, white spots on the head, collar and base of the shoulder-covers; but instead there are here no blue spots. Thorax also underneath black, white-spotted; also the forehips are white. The ventral valve is golden-yellow; margins of the wings and discocellular streaks are narrower black. Expanse of wings: 25 mm. Brazil (Maranhão).

galathea. **C. galathea** *Schaus.* Head, thorax and legs black; forehead, spots on the vertex, collar, shoulder-covers and forehips white. Abdomen of a deep yellow, above the last 4 rings black with a steel-blue gloss, underneath only the two last segments black. Ventral valve black. Wings hyaline with black veins, margins, apical and inner-angular spots. Expanse of wings: 29 mm. Costa Rica (Tuis).

venatum. **C. venatum** *Rothsch.* (13 d) recognizable by the yellow veins and the distal margin being likewise orange-yellow between the median veins; moreover, the costal and inner margins as well as the transverse vein are orange; only the lower median vein and the median itself, as well as apical spots and the inner angle are black. The body is orange-yellow. Forehead white, vertex and antennae black; palpi black; thorax black-spotted; on the abdomen the articular indentations, as well as lateral spots, are black. Peru.

semifulva. **C. semifulva** *Druce* (13 d). One of the smallest and neatest species, easily recognizable by the yellow veins and margins of the middle part of the wings, whilst the base, discoidal spot and distal margins are black as in the other species. Head black with a white forehead; thorax and abdomen, except the black apex, yellow. Collar and apices of the shoulder-covers black. Apparently nowhere common in Mexico (*Orizaba*, *Jalapa*, *Misantla*) and Panama.

impar. **C. impar** *Wkr.* (= *vernana* *Druce*) (13 d). One of the largest species being on the whole coloured and marked like the common *auge*. Beside double the size, the red of the abdomen is reduced to quite narrow,

small stripes at the sides of the 3 first segments reduced. The legs are quite black except the red hips, the large ventral valve of the ♂ is almost quite silvery white. Veins and margins of the wings are much broader black, particularly the middle spot is very large. Occurring in Mexico, Guatemala and Panama.

C. rubriguttum *Skinner* greatly approximates the preceding, but it also comes near the following *rubriguttum*, by the hindwings being orange-red in the basal part and distally black. Collar and shoulder-covers are orange, the rest of the thorax black, blue-spotted like the head. Abdomen black, blue-spotted; legs blackish-brown. Wings like in *auge*, but the red colour replaced by orange and the discal spot pupilled in orange. Expanse of wings: 40 mm. One specimen taken in August in Arizona.

C. cardinale *Hmps.* (13 d) is a magnificent and scarcely mistakable species owing to the broadly *cardinale*. carmine inner-marginal area of the hindwing. Body black, collar with 2 white dots, shoulder-covers striped red. The abdomen is laterally red-spotted at the first 3 rings; the dorsum exhibits one row, each of the sides two rows of white dots; the middle spot on the first abdominal ring is the largest. Apparently not rare in Brazil (São Paulo).

C. erythrarchos *Wkr.* (= *vulneratum* *H.-Schäff.*) (14 m) resembles the preceding and differs by *erythrarchos*. subdorsal abdominal spots on the 3rd ring; the red lateral spots are confined to the first ring on which we notice, instead of one dorsal, 2 subdorsal, white streak-spots; only the last rings exhibit above insignificant, small white spots. In the hindwing the inner-margin is much less extensively red. Venezuela; Brazil (Rio de Janeiro).

C. xanthistis *Hmps.* (13 e). Head black, forehead in the shape of a horse-shoe being open above, *xanthistis*. white. Antennae black with white tips. Collar black, on the shoulders a white dot. Thorax and shoulder-covers orange-yellow. Abdomen black, the first 3 rings above with orange-yellow hair, the other rings exhibit white, dorsal, lateral and sublateral spots. The wings are yellowish diaphanous with black margins, the bases of the costal and inner margins orange. Brazil (São Paulo, Santos).

C. rosenbergi *Rothsch.* (13 e) resembles the preceding from which it differs by its quite black thorax *rosenbergi*. with a white middle-spot, by the absence of the white dorsal spots on the black part of the abdomen, as well as by the yellow colour being absent at the bases of the wings, at the costal and inner margins. The ♂ has only the 2 last abdominal rings black. Ecuador, Colombia.

C. hanga *H.-Schäff.* (= *arauna* *Wallgr.*) (13 e) has a black-brown body, spots on the shoulder-covers *hanga*. and subdorsal spots on the first, 3rd and 4th abdominal rings are orange. White-coloured are the tips of the antennae, spots on the head, collar, legs and abdomen. The species is easily recognizable by the very large orange spots at the bases and inner margins of both the wings. The extreme apex of the wings is white. Occurring from Brazil as far as Argentina.

C. leuconoton *Hmps.* (13 e). Body blackish-brown; the base of the shoulder-covers and metathorax *leuconoton*. white-spotted; the first abdominal ring exhibits one large dorsal, the second 2 subdorsal, white spots; the penultimate segment exhibits orange and red subdorsal spots, the last being blue-spotted. At the base of the forewing there is a carmine spot; the distal margins and apical spot blackish-brown. Colombia.

C. melathoracia *Kaye* (13 e). Body black. Forehead and neck with bronze-green spots; similar dorsal *melathoracia*. spots of a square shape are exhibited by the abdomen the first segment of which shows subdorsal brick-red spots. From Trinidad.

C. rica *Dogn.* Body pale metallic bluish green, interrupted by black; the 1st abdominal ring is *rica*. yellow, the under surface inclusive of the legs black, the forehips white. Wings hyaline, finely bordered with black, with a black cell-spot and apical spot. Expanse of wings: 29 mm. Ecuador (Loja).

C. stryma *Druce* (26 k). Blackish-brown with carmine spots on the base of the shoulder-covers and *stryma*. 1st abdominal ring. The ends of the tarsi white. Wings hyaline, with narrow brown veins, margins, apical and discal spots. Expanse of wings: 22 mm. Known from Mexico (Orizaba) and Nicaragua.

C. gracula *Dogn.* Body black, with metallic green spots. The first abdominal ring exhibits a large, *gracula*. square, red spot, the following ones at the sides double metallic-green transverse bands. Hips and end of abdomen beneath white. The hyaline wings are bordered with black, the forewings at the base with a red basal spot; at the cell-end there is a broad black transverse band. Expanse of wings: 31 mm. Colombia.

C. lycopolis *Druce* (13 e). Body black, antennae only at the base black, otherwise orange. Head, *lycopolis*. collar, shoulders and metathorax blue-spotted, as well as the legs; the ends of the tibiae and the tarsi orange, posterior hips yellow. The abdomen being subdorsally blue-spotted exhibits on the first and last rings dorsal yellow spots, from the 2nd to 5th rings yellow lines. Ventral valve bordered with yellow, behind it sublateral, yellow spots. Wings hyaline with narrowly black veins and margins; subcostal and inner-marginal stripes orange; apical spot scarcely noticeable. Expanse of wings: 36 mm. Ecuador.

- nobilis*. **C. nobilis** Schaus. Body black, forehead, collar and thorax with metallic blue spots, on the meta-thorax a large spot of a white and blue opalescence. On the abdomen the hind-margins of the segments are narrowly yellow; at the sides there are blue transverse lines and sublateral blue spots, the 2 last rings are quite blue; the 1st ring exhibits above 2 opalescent spots, wings hyaline with black veins and margins, discal and apical spots; the base of the forewing is blue-scaled below the costa and cell. Expanse of wings: 44 mm. Costa Rica.
- cinctum*. **C. cinctum** Schaus (13 f) differs from the allied similar species by orange-yellow costal- and inner-marginal stripes, as well as by the black and white forehead, also the tips and base of the antennae are in front white. The thorax is in the middle quite black. The first abdominal ring exhibits above a white band. Venezuela (Aroa).
- gaza*. **C. gaze** Schaus approximates the following, being distinguished by the deeper orange-red colouring of the yellow parts, the first abdominal ring exhibiting a whitish band; the black and blue bands on the following rings are expanded into dorsal spots. Palpi orange and black; the thorax is black, blue-spotted. Expanse of wings: 42 mm. Peru.
- tarapotense*. **C. tarapotense** Druce (13 f). Head and thorax black; palpi, forehead and vertex yellow; collar black, margined by yellow; shoulder-covers yellow striped; abdomen black with blue subdorsal spots, segmental indentations yellow; underneath black, ventral valve margined by yellow; a band behind it yellow. Legs black and yellow. The hyaline wings exhibit narrow black margins and orange-yellow inner-marginal stripes. Peru (Tarapoto).
- simillimum*. **C. simillimum** Rothsch. (13 f) is extremely similar to the preceding; different by a yellow, not black margined collar, with a black median spot, the black thorax with a yellow band and quite orange-yellow legs. Amazon.
- steinbachi*. **C. steinbachi** Rothsch. (13 f) likewise resembles the preceding; forehead yellow, vertex black and blue; collar yellow with a black spot; the first abdominal ring quite yellow, the black bands much broader. Bolivia.
- metallicum*. **C. metallicum** Rothsch. (13 f). Head and thorax metallic bluish-green, with black margins. The abdomen is black with subdorsal and sublateral rows of metallic bluish-green spots; the first 4 segments exhibit orange segmental indentations. Legs black, with metallic greenish-blue spots. Wings yellowish hyaline, costal margin orange, margins and a large apical spot black. Bogotá; Amazon (?).
- flavicostale*. **C. flavicostale** Rothsch. (13 f) has a black body; at the base of the brown antennae a small white spot; collar with metallic blue spots; shoulder-covers yellow with black distal margins; on the black thorax a yellow middle line; the abdomen with a steel-blue reflection, on the first two segments pale-yellow, on the 3 next ones orange curled. Legs black with yellow tarsi, forehips white-spotted. Wings yellowish-hyaline, at the costal and inner margin orange. Peru.
- meridense*. **C. meridense** Rothsch. (13 f). Head and collar orange; thorax black with orange stripes; abdomen deep steel-blue with narrow, orange-yellow rings at the segments 2 to 4. On the yellowish, hyaline wings the basal half of the costal margin is orange-yellow; distal margins narrowly black. Venezuela (Merida).
- ichneumonoides*. **C. ichneumonoides** Rothsch. (13 f). Head and thorax are reddish orange, like the legs and antennae. Abdomen black; the 1st segment and transverse bands on the 2nd to 4th are orange. The wings are quite faintly yellowish hyaline with orange veins; the base, costal and inner margin and the transverse vein vermilion. Described from East Bolivia.
- flavitarise*. **C. flavitarise** Wkr. (= scintillans H.-Schäff.) (13 g). Similar to the following. Body black; forehead, margins of the collar, spots on the thorax and the shoulder-covers, sides of the thorax, small spots on the legs and posterior tarsi and narrow rings on the abdomen are yellow; metallic blue spots are noticed on the vertex, collar, thorax, forelegs, and subdorsally on the abdomen. Forehips, inner side of the femora and margins of the ventral valve white; apex of abdomen below yellow. The yellowish hyaline wings have narrow black veins and margins; the latter at the apex somewhat broader. The forewings exhibit at the base a blue spot. The marginal band of the hindwing is somewhat broader at the inner angle. Colombia; Venezuela; Brazil.
- beatrice*. **C. beatrice** Druce (= scintillans Druce) (13 g) differs from the preceding by the black, metallic blue spotted forehead; besides it is mostly larger, the wings have a more yellowish tinge and a scarcely noticeable apical spot. On the abdomen only the 3 first rings are curled orange-yellow; in the ♀ the anal apex is orange-yellow. Costa Rica, Panama. — In **jactans** form. nov. (= ab. 1. *Hmps.*) the shoulder-covers are bordered with orange; the blue of the abdomen is confined.
- guapila*. **C. guapila** Schaus. Much smaller than the preceding. The abdomen exhibits only at the 3rd and 4th segments pale reddish-yellow rings. Instead of the subdorsal blue spots there are here dorsal and lateral rows; the last segment is orange-red. Hips, anterior tibiae and posterior tarsi white. Expanse of wings: 29 mm. Costa Rica.
- baroni*. **C. baroni** Rothsch. (13 g) strikingly resembles certain species of the genus *Sarosa*. The body is jet-black with metallic blue, small spots situate subdorsally on the abdomen. The last abdominal segment and

narrow rings on the segments 3 and 4 are orange-yellow. The legs are brown, the forelegs outside metallic blue, posterior and middle tarsi curled in a cream colour. The wings are yellowish hyaline with a metallic blue basal spot; the black apical spot is very small. Ecuador.

C. salvini *Btlr.* (14 m). Black; head and thorax, collar and shoulder-covers, legs and sides of the *salvini*. abdomen with large, uncommonly brilliant metallic blue spots. Forehips white. Ventral valve bordered with white. Abdominal end orange. Wings yellowish hyaline with fine black veins and margins; the forewings exhibit a large apical spot and blue basal spot. Expanse of wings: 40 mm. Panama (Obispo).

C. lucens *Dogn.* (10 a) differs from the preceding by the absence of the orange colouring of the abdo- *lucens*. minal end; the 3 first rings exhibit above finely white-bordered posterior margins. Colombia (Popayan).

C. bricenoi *Rothsch.* (13 g) looks like a *Gymnelia*. Head orange with a black spot on the forehead; *bricenoi*. collar and thorax orange and black; the abdomen is black, on the first 4 segments subdorso-laterally with deep orange bands; above with metallic blue spots, on the 3 last segments also laterally. Palpi, antennae and legs black, forehips orange. On the wings only the apex of the forewing, the proximal margin and fringes are black, the costal margin and a basal inner-marginal spot yellow. Venezuela (Merida).

C. carabayanum *Rothsch.* (13 g) greatly resembles the preceding species, from which it differs by *carabaya-* the more golden yellow, black-margined collar and shoulder-covers, and by the quite golden yellow palpi and *num*. legs; the black abdomen exhibits above on the 4 first segments, laterally also on the fifth, golden yellow bands; the 4th and 5th segments show metallic greenish-blue dorsal spots, the last 3 rings broad metallic bluish-green bands. The wings are not so yellowish as in the preceding species; the base of the proximal margin in the hind-wing yellow. Peru.

C. viridicingulatum *Rothsch.* (13 g). Easily recognizable by the dark orange-red abdomen with metallic *viridicingu-* green bands. Head, collar and shoulder-covers black, with orange bands and metallic green spots; thorax *latum*. black with green spots. Legs brown, tarsi white, forehips metallic green. The yellowish hyaline wings exhibit fine blackish-brown margins; at the base of the forewing is a metallic green spot. Ecuador.

C. quinquepuncta *Heyl.* Jet-black; spot on the forehead, front part of the palpi, shaft of the antennae *quinque-* in the middle, and spots on the prothorax white. Collar in the middle grey; metathorax blue-spotted. The *puncta*. 1st abdominal ring exhibits dorsal and subdorsal white spots bordered with blue, the second ring subdorsal ones; the other rings with subdorsal blue spots, the last rings also with sublateral ones. Ventral valve white. Wings hyaline with black veins, base, margins and discal spot. Expanse of wings: 32—35 mm. Brazil (São Paulo).

C. beata *Btlr.* (13 h). The body is orange-red; vertex, collar, shoulder-covers, meso- and meta-thorax *beata*. with metallic bluish-green spots bordered with black. The abdomen exhibits black transverse bands with metallic bluish-green subdorsal spots; the under surface of the first rings is whitish. Palpi, antennae and legs are black, the latter with bluish-green spots. Wings slightly yellowish with a small green basal spot. Panama; Colombia; Brazil.

C. hampsoni *Klages.* Differing from the next species by the following marks: palpi quite orange; *hampsoni*. forehips in the ♂ white; anterior margin of the 4 first abdominal segments above narrow whitish, exhibiting for the rest subdorsal black, blue-pupilled spots which are usually flown together into transverse bands on the anterior rings. Expanse of wings: 34—48 mm. Venezuela.

C. nigricornis *F.* (= *stretchii* *Btlr.*) (13 h). The head is yellow, on the vertex black with blue spots; *nigricornis*. palpi with black terminal joints; collar and shoulder-covers yellow and black striped. Thorax above black and blue spotted, beneath with yellow, in the ♀ also above with yellow spots. Abdomen yellow with black transverse bands being subdorsally blue-spotted. In the ♀ these are narrower than in the ♂. Wings yellowish hyaline with very narrow blackish margins and small apical spots. Costal and inner margins in the ♂ faintly yellow, in the ♀ intensely yellow. Colombia, Venezuela.

C. sephela *Druce* (13 g) differs from the preceding by a white-spotted first abdominal ring, much *sephela*. narrower transverse bands on the other segments with scarcely noticeable, small blue spots, the last rings are quite yellow. Costal and inner margin are orange. Ecuador.

C. villia *Druce* (13 h). The body, inclusive of the antennae and legs, is brownish orange-yellow; in *villia*. the neck two black dots; collar black, bordered with yellow. The margins of the abdominal segments are finely bordered with yellow and black; the abdomen exhibits small, subdorsal, metallic silvery-blue spots. Wings yellowish hyaline, only the fringes are black. Expanse of wings: 40 mm. Differing from the similar *sephela* chiefly by its larger size and the absence of the white basal spot on the abdomen. Peru.

C. stuarti *Rothsch.* (13 h) differs from the preceding species by the black margins and apical spots *stuarti*. of the wings, the black abdominal rings being also much broader. From Iquitos.

- fenestrata.* **C. fenestrata** *Drury* (= *steropes* Göze, *rubripeda* Lucas) is presumably the largest *Cosmosoma*, with an expanse of 62 mm. The body is black, palpi, legs and venter scarlet. The black wings exhibit a hyaline spot in the cell-end and a larger one below it, as well as a curved row of spots behind the cell between the lowest subcostal vein and the lower median vein. Hindwings whitish hyaline, costal margin, cell, veins and marginal band black. Jamaica and Cuba.
- seraphina.* **C. seraphina** *H.-Schüff.* (13 i). Head black, thorax carmine with 2 black spots on the mesothorax. Abdomen black with red lateral stripes and 2 white dorsal stripes on the first segment. Wings hyaline with black veins, margins, apical and inner-angular spots, as well as red costal- and inner-marginal stripes. Expanse of wings: 26 mm. Amazon.
- tigris.* **C. tigris** *Schaus* (13 h). Body black, palpi in front orange. Forehead, vertex, collar and metathorax blue-spotted. Collar, shoulder-covers and thorax with orange spots. Breast and legs with orange stripes. The abdomen exhibits above orange spots which turn to broad bands on the 4th and 5th rings. On the first 3 rings orange lateral spots, on the others lateral and sublateral blue macular series. Wings hyaline with black veins, broad margin and apical spot; on the forewings the subcostal area and 2 stripes at the base of the inner margin are orange, on the hindwing the inner-marginal part is the same. Expanse of wings: 36 mm. Venezuela.
- cermena.* **C. cermena** *Dogn.* (13 i). Front body black with metallic blue spots; shoulder-covers yellow, bordered with black. The 4 first abdominal rings are above yellow with a dorsal black, blue-pupilled spot; the rest of the abdomen is black, with dorsal and lateral, metallic bluish-green spots. Forelegs black with bluish-green hips, middle- and hind-legs black with yellow tarsi. Antennae black with white tips. Wings like in *tigris*. Ecuador (Loja).
- dubium.* **C. dubium** *Rothsch.* (13 i). Head and thorax are black, with metallic blue spots, the shoulder-covers of a brilliant yellow; the abdomen is yellow, the 3 last rings black with subdorsal blue spots; the other segments exhibit triangular black, blue-pupilled dorsal spots; the spot on the first ring is larger than the others. The forehips are metallic blue, the legs blackish-brown, except the posterior tibiae and tarsi which are yellow. Costal and inner margins are yellow, also the distal margin is partly yellow. Jamaica.
- mathani.* **C. mathani** *Rothsch.* Head metallic blue, antennae black with a white apex, palpi black; thorax black, with metallic blue spots, beneath golden orange and black. Abdomen golden orange, the first and the 4 last rings above black; dorsal and lateral metallic blue longitudinal stripes in the ♂ run over the whole abdomen, in the ♀ only on the black rings. Wings hyaline with black veins, margins and apical spots. Length of forewings: ♂ 21, ♀ 24 mm. Cundinamarca.
- contractum.* **C. contractum** *Wkr.* (13 i). This and the following species resemble each other very much. The body is black; forehead and vertex, collar and shoulder-covers, as well as metathorax and base of the forewing with metallic blue spots; the abdomen shows on the 3 first rings bluish-green silvery subdorsal and sublateral spots and on the 2 last segments blue subdorsal spots. A characteristic of the species is that the orange subcostal stripe extends into the black apex of the forewing and the orange colour extends at the inner side of the apical spot down as far as about the lower radial; proximal margin broad orange; the wings themselves are somewhat yellowish. The teeth of the antennae orange. Brazil.
- gemmatum.* **C. gemmatum** *Btlr.* (13 i) is easily separable from the preceding very similar species by the shorter orange costal-marginal stripe which does not extend into the apex of the wing, which is here quite black, inwardly not with an orange tint. Besides the metallic blue abdominal spots are large and more intense, and are on all the segments, only on the 4th they may be absent. The ♂ exhibits on the ventral side of the 3rd segment 2 yellow spots. Panama, Colombia, Venezuela, Peru (Cuzco). The species seems to vary considerably. — f.
- xanthocera.* **xanthocera** *Hmps.* (13 k) which was originally described as a species and in fact looks very differently, according to Klages who often found it in Venezuela, also in copula with *gemmatum*, is only a form of it; both have the same habits. The palpi and antennae are orange, the collar orange with blue and black spots, the shoulder-covers with orange-stripes; also the thorax is posteriorly spotted orange; the abdomen exhibits on the 3 first segments dorsal and lateral orange spots, the 4th and 5th segments with orange bands. Occurs in Venezuela as well as in the Amazon District.
- deyrollei.* **C. deyrollei** *Wkr.* (13 i). The blackish-brown body exhibits white lateral spots on the abdomen and dorsal spots on the 3 penultimate rings. The yellowish diaphanous wings show narrow black margins as well as orange-yellow costal- and inner-marginal streaks. Hitherto known only from Brazil (Rio Grande do Sul and Sa. Catharina).
- saron.* **C. saron** *Druce* (= *meres* Druce) (13 k). Body black, forehead white, vertex metallic blue; thorax with blue spots. Abdomen with subdorsal and sublateral blue macular series and small subdorsal orange spots on the 1st and 4th rings. Wings yellowish hyaline, veins and margins, as well as apical spot black; the forewing with a golden yellow subcostal stripe and basal inner-marginal spot. Expanse of wings: 30 mm. Panama (Chiriqui).

C. cinctutum *Schaus* differs from the preceding species by orange, black-bordered collar and shoulder-covers; the first abdominal ring is quite orange, above parted only by a narrow black dorsal line; dorsally there are also blue spots, dying away on the 3rd and 4th rings. Legs orange, with some black stripes. Wings not so yellowish hyaline, otherwise like in *saron*. Costa Rica (Juan-Vinas). *cinctutum*.

C. bolivari *Schaus* (13 k) is a small species with a black head and thorax; collar and shoulder-covers orange. The abdomen is orange; the first segment exhibits a black dorsal spot, the 3 next ones are above quite black, narrowly margined by orange, the 5th is orange, narrowly bordered with black, the next 2 are again black, the anal apex orange. The costal margin of the hyaline forewings is orange, the margins and apical spots otherwise black. From Ecuador (Bolivar). *bolivari*.

C. plebecula *Dogn.* differs from the preceding by its entirely yellow thorax and the absence of the orange subcostal stripe. Expanse of wings: 24 mm. Colombia. *plebecula*.

C. chiriquensis *Rothsch.* (13 k). The head is black, thorax and abdomen golden-yellow, the latter above on the 2nd and 3rd segment black, also the two last rings are black. Legs and antennae are black. Base of forewing yellow, bordered with black. Panama (Chiriqui). *chiriquensis*.

C. corvicum *Dogn.* Body black, tips of antennae white. Head, collar and thorax with metallic green spots. The 2 first abdominal rings exhibit lateral large metallic green spots, the last rings exhibit a dorsal green lustre. Venter black, the first ring green, the 2 following ones white-striped. Wings hyaline with black veins broad margins and apical spots, and a large discal spot on the forewing. Expanse of wings: 26 to 33 mm. Bolivia (Corvico). *corvicum*.

C. pheres *Cr.* Like the following, but somewhat smaller and the abdominal spots of a pure metallic blue; the white lateral spots on the 2nd ring are absent. Expanse of wings: 28 mm. Brazil (Rio de Janeiro). *pheres*.

C. metallescens *Mén.* (= *pheres* var. *Wkr.*, *chalcosticta* *Btlr.*) (13 k). Black, head, thorax and abdomen on the dorsum and on the sides with metallic bluish-green spots. Forehead, forehips and ends of tarsi white. Distinguished from the similar species by the intense golden green reflection of the metallic spots, as well as by a white spot at the sides of the 2nd abdominal segment, from *xanthostictum* (13 l) particularly by the white forehead. From Mexico, Panama, Amazon, Pará. *metallescens*.

C. batesi *Btlr.* (13 k) has a unicolorously orange-yellow body; the palpi are either yellow or black, or yellow with a black terminal joint; the forehead is white, vertex and antennae black. Bases of the wings orange, which colour usually extends for a short distance along the costal and inner margin, but may also be confined to a minute spot at the base. Brazil (São Paulo). *batesi*.

(?) **C. bromus** *Cr.* Head, thorax and abdomen are dull yellow, wings hyaline with black veins and margins, as well as large apical spots. Expanse of wings: 36 mm. — This species originally described from Surinam perhaps does not belong at all to the genus *Cosmosoma*. *bromus*.

C. melanopera *Hmps.* (13 k) has an entirely scarlet body, only the head and anal segment are black, the forehead white. The forewings exhibit at the base a small red spot. Described from Bolivia (San Jacinto, Bueyes), but it is before me also from Manaos, Amazon. *melanopera*.

C. coccinifera *Dogn.* (13 l). This tiny species has a jet-black body with a blue lustre; the forehead is white; collar and shoulder-covers are of a deep scarlet, finely bordered with black. The abdomen on the first 5 rings exhibits large triangular scarlet subdorsal spots; the ventral side of the first 4 rings and the hips are white. Before me is only a male specimen; the description referring to a ♀ mentions besides a series of sublateral red spots on the 4 first abdominal rings; the forehead is said to exhibit a green reflection. East Colombia (Medina). *coccinifera*.

C. phoenicophorum *Dogn.* (13 l) presumably is the smallest species with a blackish-brown body; collar, lateral stripes on the 4 first abdominal rings, as well as the inner-marginal area of the hindwing are rosy-red, also a narrow basal inner-marginal stripe on the forewings. The wings are hyaline, with very broad brown distal margins and a very large round discal spot, also the bases of the wings are brown. Colombia (Medina). *phoenicophorum*.

C. colona *Schaus.* Body black, tips of antennae white. Forehead, collar and shoulder-covers are of a deep metallic blue lustre. The abdomen exhibits subdorsal, blue, transverse streaks, on the first ring white lateral spots; the 2 last rings are red. The wings are hyaline with black veins, margins and apical spots. Expanse of wings: 33 mm. Costa Rica. *colona*.

C. plutona *Schaus* (13 l). Head and thorax black, vertex and collar blue-spotted; abdomen above deep carmine. The hyaline wings have rather uniformly broad black margins; the subcostal space as far as the middle-spot hyaline. Brazil. *plutona*.

- determinatum.* **C. determinatum** Btlr. (13 l) has a black head and thorax; forehead, vertex, collar, metathorax and legs show metallic blue spots; the abdomen is orange-yellow, the 3 last segments black, with lateral blue spots; the base of the costal margin exhibits a small blue spot. Distinguishable from the many similar species by the absence of small white spots on the thorax and bases of the wings. Colombia (Cundinamarca).
- xanthostictum.* **C. xanthostictum** Hmps. (= *metallescens* Druce) (13 l) differs from the very similar *metallescens* by its mostly larger size, much more extensive black with metallic blue scaling at the base of the forewing, the nearly quite white tarsi and, above all, by the bright metallic blue, not white forehead. The metallic spots, particularly of the two first abdominal segments exhibit an intense orange golden lustre. In the ♀ the 3 last abdominal rings are beneath covered with a thick, orange-yellow fur. Mexico (Tabasco, Misantla [October]), Guatemala, Panama.
- durea.* **C. durca** Schaus (= ? *nigripes* Heyl.) (13 l). Body black, head, collar, shoulder-covers and thorax with metallic blue spots, also the sides of the abdomen. The ends of the tarsi are white. At the base of the forewing a metallic blue spot. From the following, very similar, larger species it differs by the laterally blue-spotted abdomen and the black apex of the forewing being only moderately broad. Brazil (Sao Paulo).
- elegans.* **C. elegans** Btlr. (14 a) differs from the preceding, very similar species by the quite unicolorously black abdomen without any lateral blue spots and the very much broader black apex of the forewing, the proximal borderline of which stands almost vertically on the costal margin. Brazil (Espiritu Santo).
- pellucidum.* **C. pellucidum** Lathy resembles *Pheia sperans* (12 e). Body black, forehead and forehips white, collar, shoulder-covers and thorax blue-spotted. The first 5 abdominal rings exhibit red sublateral stripes, the venter is white except the 2 last rings. Wings hyaline with broad black margins and apical spots. Brazil.
- oratha.* **C. oratha** Druce (14 a). Black, forehead white; collar and metathorax blue-spotted, shoulders with carmine spots. Legs blue-striped, forehips white-spotted. The abdomen exhibits obsolete blue subdorsal stripes, on the last ring a dorsal blue spot, the first ring exhibits lateral carmine spots. The forewings are black, at the base with blue dots, and with hyaline spots in and below the cell and 3 or 4 smaller spots behind the cell; the hindwings show hyaline spots behind and below the cell. On the under surface all the wings are roughly scaled towards the margins, like in the 2 following species. British Guiana.
- orathidium.* **C. orathidium** Druce (14 a) differs from the preceding by white, instead of red shoulder-spots, otherwise very similar. Nicaragua.
- crathidium.* **C. crathidium** Rothsch. (14 a) differs from the preceding species by the wings being as usually extensively hyaline. Habitat unknown.
- protus.* **C. protus** Druce (14 a). Head, thorax, abdomen and legs black with metallic blue spots, shoulder-covers orange-yellow, antennae black with white tips. Forewings at the costal and inner margin, the base and in the angle of the rise of the median veins and of the lower radial golden orange; this latter spot is coherent with a similar one at the inner angle. The apex of the hindwing exhibits on the under surface peculiar grey rough scaly hairs. This easily recognizable species has hitherto only been found in Mexico: Jalapa, Orizaba (October).
- festivum.* **C. festivum** Wkr. (= *aleus* Schaus) (14 a). This smaller, sexually dimorphous species shows on the black head and abdomen metallic blue spots, on the collar and shoulder-covers orange-brownish spots. On the forewing the base, costal and inner margin are dark orange-brown. The black of the apical spot and of the inner angle, which in the ♂ is expanded to a large spot being connected with the middle spot, shows a brownish admixture. The border of the hindwing in the ♂ is more than twice as broadly black as it is in the ♀. Widely distributed and common in Mexico, Guatemala, Honduras, Costa Rica.
- centralis.* **C. centralis** Wkr. (= *bura* H.-Schäff.) (14 a) is easily recognizable by the triangular, orange spot between the lower median vein and the lower radial of the ♂ forewing, the orange colour of the inner margin extends also for some distance, before the black border, up the distal margin. The body is black with metallic blue spots on the forehead, vertex, collar, thorax, legs and abdomen. The black-margined shoulder-covers and a lateral spot at the base of the abdomen are orange. The ♀ is without the orange spot of the forewing, but the venter is orange, instead. Distributed from Panama through Brazil as far as Paraguay.
- zelosa.* **C. zelosa** Dogn. (14 b) is presumably only a profusely yellow tinged form of *centralis*. Head black, on the forehead and hindhead with metallic bluish-green scales and yellow hair; shoulder-covers orange-yellow, bordered with black. The 4 first abdominal rings are orange-yellow, black-curved and with dorsal and lateral bluish-green spots; the other rings black with bluish-green spots, anal end with yellowish hair. Legs black with yellowish ends of the tarsi. Wings hyaline with black veins and, particularly on the hindwings, broad distal margin. Bases of both wings, costal and inner margin of the forewing, as well as the proximal bordering of the distal margin of the forewing from the inner angle as far as the middle radial upwards orange; in

the ♀ there is in the angle between the lower median vein and the lower radial a triangular, orange-yellow spot bordered with black. Colombia (Micay; Rio Aguaca).

C. thoracicum *Schaus.* The neck and thorax are ochreous orange, the other part of the body is black, *thoracicum.* on the forehead, the first abdominal ring and at the sides of the other rings blue-spotted. The forewings are orange at the base; the margins and apical spots are broadly black, as well as the space between the lower median veins and near the cell also between the upper median vein and the lower radial. Expanse of wings: 24 mm. French Guiana.

C. sicula *Dyar* approximates *centralis* (14 a). The body is quite black, blue-spotted, on the collar *sicula.* and shoulder-covers single orange-red scales. The hyaline, black-veined wings are at the costal and inner margin striped in an orange-red, the distal margin is black, at the apex very broad; the discal spot very narrow; the space between the median veins is in the ♂ black with orange-red scales, as well as the extreme base between the upper median and lower radial vein. Expanse of wings: 27 mm. Described according to 1 ♂ from Venezuela.

C. teuthras *Wkr.* is one of the most common species being distributed almost through the whole *teuthras.* of Tropical America from Mexico to Argentina, immediately recognizable by the red, black-margined discoidal spot. The black, blue-spotted abdomen exhibits at the base lateral red spots. According to the extent of the red costal- and inner-marginal streaks different forms are denominated. In the name-type the inner-marginal red only extends somewhat beyond the middle. — **cingulatum** *Btlr.* (14 b) is the name of the form flying the *cingulatum.* most frequently in Mexico, Yucatan, Guatemala, Costa Rica, and Panama, in which the very bright scarlet at the inner margin extends as far as the inner angle. — The Brazilian form **erubescens** *Btlr.* (14 b as *teuthras*) *erubescens.* is somewhat smaller and the red discoidal spot much smaller, the red more intense, extending at the inner margin as far as the inner angle. — In **lignicolor** *Rothsch.* (14 b) from Ecuador all the red parts are yellow, the *lignicolor.* black ones being of a wooden-brown colour, the latter parts being at the same time much more extensive than in the name-type; the wings are also a little shorter and broader. — **nigrescens** *Rothsch.* (14 b) is a rare form *nigrescens.* from Colombia, in which the costal margin and middle spot are entirely black, without any trace of red. — **restrictum** *Btlr.* (14 b) may be considered as the transition to it; here the red of the costa is already greatly *restrictum.* reduced; the red inner-marginal streak does not reach the middle of the inner margin. Described from Brazil (Santarem).

C. cruenta *Perty.* Body black, tips of antennae white; vertex and collar with white dots, shoulder- *cruenta.* covers with carmine stripes; the abdomen exhibits on the 3 first rings subdorsal, broad, carmine bands; the other rings dorsal, lateral and sublateral white dots. The hyaline wings are greatly distinguished by not only the costal- and inner-marginal stripes being suffused by red, but also the distal margin and apical spot, also on the hindwings. Expanse of wings: 34 mm. Amazon.

C. caecum *Hmps.* (= *impar* *Druce* pr. p.) (14 c). Exactly like the *teuthras cingulatum* *Btlr.*, only *caecum.* the discoidal spot is entirely black, rarely with a reddish brightening in the middle. The red colour is generally duller, more brownish. Mexico, Guatemala, Costa Rica, Panama.

C. parambae *Rothsch.* (14 c) greatly approximates the preceding and differs by its brown, not orange- *parambae.* red costal and inner margin, by orange-yellow, not red colour at the base of the hindwing and abdomen, by the more brown thorax, by the black distal margin of the forewing being very narrow between the upper median and lowest radial vein but growing very broad between the upper median vein and the inner angle. Besides the species is much smaller. Ecuador.

C. telephus *Wkr.* (= *coccineum* *Btlr.*, *pyrrhostethus* *Btlr.*) (14 c) differs from the very similar *caecum* *telephus.* by its entirely red collar and shoulder-covers, as well as the entire absence of the discoidal spot. Widely distributed from Colombia to Argentina.

C. achemon *F.* (= *tyrrhene* *Hbn.*, *voltumna* *Druce*) (14 c). Head black, on the forehead and vertex *achemon.* metallic blue, antennae white at the tips; thorax orange-red, beneath black; abdomen black with an orange-red dorsal stripe being in the ♂ narrow, in the ♀ much broader, and subdorsal metallic blue spots. Base of forewing orange-red, which colour extends at the costal and inner margin almost to the apex; in the ♂ between the lower median and lower radial vein a red spot bordered with black, being absent in the ♀. — In f. **bolivarensis** *Klages* *bolivarensis.* all the red colour of the body is removed by black; the black colour and thorax are covered with metallic blue spots; only the shoulder-covers occasionally show red stripes; the black abdomen, beside the subdorsal spots, exhibits very large metallic blue sublateral spots which are only very little developed in the name-type. Also the inner-angular spot in the ♂ is quite black. — The nomenclatural form flies in Jamaica and Hayti, Venezuela and Brazil; the black form to which perhaps also *remotum* is allied has hitherto only been found in Venezuela (Bolívar and Suapure).

C. achemonides *Dogn.* Very near to the preceding, but larger. Antennae quite black. The abdomen *achemoni-* *des.* is more uniformly suffused by blue; the red middle stripe is somewhat expanded on the middle rings; marginal band and apical spot of the wings are more orange-yellow, and brownish only close before the apex. Expanse of the wings: 29 to 31 mm. Peru.

- hypocheilus*. **C. hypocheilus** *Hmps.* (14 c) differs from the preceding species by the red inner-marginal stripe not extending as far as the middle; the abdomen is orange-red, with subdorsal black longitudinal stripes exhibiting metallic blue spots and approaching each other very closely towards the base and towards the last segments; the last rings quite black; also in this species the black embedding between the lower median and radial vein of the ♂ is very much reduced or altogether absent in the ♀. St. Vincent.
- perfenestratum*. **C. perfenestratum** *Dyar.* Head black, on the forehead and vertex with metallic blue spots. Thorax orange-red, beneath black; legs black with blue spots. Abdomen black with a red dorsal stripe reaching neither to the thorax nor to the anal end, and with subdorsal blue spots. Wings hyaline with black veins and margins; at the base of the forewing an orange-red spot and similar stripes at the costal and inner margin. Discal spot orange-red, traversed by black veins; a spot of the same colour fills up the space between the median veins and the lower radial; the marginal band which grows much broader towards the apex is almost quite orange-red traversed by black veins. Hindwing at the base likewise red and the black margin proximally also red. According to a ♂ without the habitat and size being stated.
- admotum*. **C. admotum** *H.-Schäff.* (14 d) differs from *achemon* by black-bordered shoulder-covers and the absence of the red dorsal stripe on the abdomen. — The red-striped inner-angular spot between the median veins in *confinis*. the nomenclatural form is quite black in f. **confinis** *H.-Schäff.*; the ♀ is without this spot. Expanse of wings: 32 to 36 mm. Widely distributed from Mexico to Brazil.
- anoxanthium*. **C. anoxanthium** *Druce* approximates *confinis*; but the thorax is quite black, only the collar and foremost prothorax are orange. Head metallic blue, antennae black with white tips; the abdomen is only at the base and laterally blue-spotted. Venezuela.
- consolatum*. **C. consolatum** *Wkr.* (14 d) from the same difficult group as the preceding is recognizable by the subcostal space being only for a short distance orange, the inner margin is black as far as the base. The head is black with metallic blue spots, the thorax orange-red; the black abdomen exhibits subdorsal and sublateral rows of metallic blue spots. Brazil.
- remotum*. **C. remotum** *Wkr.* (14 c) resembles *C. centralis* (14 a), at the abdomen the orange basal spot is absent, whereas it exhibits a second, sublateral, metallic blue macular series. The spot being in the ♂ situate between the lower median and radial vein is blackish-brown and is broadly coherent with the inner angle. The inner margin of the hindwing is without any orange colouring, black. Venezuela.
- eumelis*. **C. eumelis** *Druce* (14 d) has a black, blue-spotted body, on the shoulder-covers orange stripes. The wings are slightly yellowish hyaline, with narrow black distal margins, the costal and inner margin orange; this colour extends in front of the black distal margin yet for some distance downwards and upwards. Ecuador, Brazil, Bolivia.
- annexum*. **C. annexum** *H.-Schäff.* (14 d) likewise greatly approximates *centralis* (14 a), being distinguished by the absence of red on the base of the hindwing as well as by its entirely black thorax. The orange-yellow colouring of the costal margin expands towards the apex and terminates with the upper radial vein broadly into the black apical spot. The orange spot between M² and R³ is somewhat coherent with the inner angle. — The species is hitherto known only from Brazil (Rio de Janeiro, São Paulo).
- ethodaea*. **C. ethodaea** *Druce* (= *patagiata* *Dyar*) (14 d). This magnificent species deviates somewhat from the other *Cosmosoma* and, according to its exterior, it would indeed quite well fit to *Autochloris* where DYAR placed it as *patagiata*. Head black with a white forehead, on the vertex blue. Antennae black, beneath at the base, and at the apex white. Behind the eyes an orange-yellow ring. Collar metallic blue, shoulder-covers and thorax orange with black margins, beneath black with white spots. Abdomen black and metallic blue, the first 5 segments above with orange transverse bands; the first segment exhibits a subdorsal white spot. The 2nd segment is beneath white, which colour, however, is covered in the ♂ by the large black ventral valve. Legs black with a metallic blue scaling at the tibiae. Wings yellow diaphanous, margins and veins black. Costal and inner margin orange. On the hindwing the black of the anal angle is very extensive and united with the discoidal spot. Hitherto only known from Mexico (Atoyac; Vera Cruz; Misantla), where it is apparently not rare.
- advena*. **C. advena** *Druce* (14 d). Head black with small whitish spots. Thorax orange-red, above black. Abdomen black with brick-red subdorsal stripes being broad at the base, but growing quickly narrower, the 3 last segments quite black. Fore- and hindwing with a little orange-red at the base of the inner margin. Apparently flying all the year round in Mexico (Jalapa, Orizaba, Misantla); found also in Guatemala.
- scita*. **C. scita** *Wkr.* (= *hilaris* *Wkr.*) (14 d). Head, thorax and abdomen orange-yellow; vertex, collar and metathorax black, blue-spotted; shoulder-covers bordered with black. The abdomen exhibits on each

segment a black, subdorsally blue-spotted transverse band. The yellowish hyaline wings exhibit a large black apical spot in contradistinction to the following species. Amazon.

C. vesparia *Perty* (= *odyneroides Wkr.*). Head and thorax yellow, vertex, collar and thorax blue *vesparia*. and black spotted and striped. Abdomen orange-yellow with black articular lines and subdorsal rows of blue spots, the 4 first rings anteriorly bordered with white. Wings yellowish hyaline with fine black veins and margins. Expanse of wings: 34 mm. Amazon.

C. analicinctum *Rothsch.* (14 e) is one of the smallest species. The whole body is deep orange, the *analicinctum*. head and thorax somewhat lighter yellow; antennae and last abdominal segment black. The legs are brown, hips and tibiae yellow. $\frac{3}{5}$ of the costal margin hyaline, veins and margins black like the apical spots of both wings. Peru, taken in March and November at an altitude of 2 to 3000 ft.

C. brasiliense *Rothsch.* (14 e). The body of this small species is orange except the black head and *brasiliense*. the two last black abdominal rings. Legs and antennae are brown, forehips and ventral valve white. Brazil (Sa. Catharina).

C. impudicum *Schaus* (14 e) is perhaps only to be considered as a form of *pudica*, for it only differs *impudicum*. by the quite yellow abdomen without a black anal end. It flies in Costa Rica (Juan-Vinas, El-Sitio), and is also common in Mexico (Mexico, Orizaba, Misantla, Coatepec).

C. pudica *Druce* (14 e). Head black, forehead white, thorax and abdomen light yellow, legs and *pudica*. abdominal apex black. Forewing at the base yellow. Costa Rica.

C. nelea *Möschl.* (14 g) differs from the preceding by its black collar, white hips, brown legs and 3 *nelea*. black terminal segments on the abdomen; besides, the neck and the costal base of the forewing exhibit white dots. Expanse of wings: 36 mm. Surinam.

C. lemoulti *Rothsch.* Head and thorax brown, shoulders and abdomen orange, the two last segments *lemoulti*. black; breast and legs orange, the outside of the hips, femora and tibiae light brown. The forewings are yellowish hyaline, the veins and a large spot above the inner-marginal vein orange; the base, costa, inner margin, apical and discal spot broadly black. On the hyaline hindwings the basal third is orange, the border broad black. Expanse of forewings: 12,5 mm. Cayenne.

C. galbanum *Schaus*. Palpi, forehead and antennae brown; vertex black. Neck, thorax and abdomen *galbanum*. yellow; the last segment black being dorsally somewhat continued on the penultimate one. Legs light brown, hips yellow, posterior tarsi reddish-yellow. Wings hyaline, at the base yellow, bordered with black; veins, margins, apical and inner-angular spot black. Expanse of wings: 33 mm. Costa Rica.

C. evadnes *Cr.* (14 e). The body is unicolorously orange-yellow; only the antennae and legs are black. *evadnes*. The hyaline wings have rather broad margins and veins, apical and discal spots. Expanse of wings: 30 mm. Surinam.

C. apenninum *Druce* is an easily recognizable species. Head, antennae and palpi black, collar and *apenninum*. neck yellow, thorax black. Abdomen yellow, black-curved, anus black. Legs black. Forewing hyaline with a black apex; a broad, yellow, hyaline band extends from the cell-end to the apex. South East Peru.

C. dorsicinctum *Dogn.* Palpi, head and antennae black; collar yellow, shoulder-covers yellow, at *dorsicinctum*. the apex black. Thorax yellow, in the middle black. Abdomen yellow, with dorsal black bands and subdorsal black spots. In the ♂ the yellow colour is of a deeper orange, the prothorax blackened, the subdorsal black abdominal spots reduced, the 2 last rings quite black. Wings hyaline with black veins, margins and large apical spots, at the costal base yellow. Expanse of wings: 25 to 29 mm. East Colombia.

C. biseriatum *Schaus* (14 e) is one of the largest species with particularly broad black margins of *biseriatum*. the wings and a thick, rounded discal spot, at the base with orange spots. Head and collar are black with metallic blue spots, metathorax black with a blue spot, shoulder-covers orange, black-margined. The abdomen is on the first rings orange with lateral, large, black spots with metallic blue scales, which are more or less connected over the dorsum; the last rings are quite black and blue. Hitherto only known from Ecuador.

C. dorsimacula *Schaus* (14 f) exhibits an orange yellow thorax and abdomen; head, borders of shoulder- *dorsimacula*. covers, metathorax, 4 or 5 dorsal spots on the abdomen, and the abdominal apex are black, as well as the legs; forehips white-spotted. The hyaline wings exhibit broad black margins and a thick black discal spot. Only from Ecuador.

- regestum*. **C. regestum** *spec. nov.* (14 f) differs from the preceding species by its considerably smaller size, quite orange-yellow head and collar; palpi and antennae black; shoulder-covers orange with a narrow black middle streak; hips orange, forelegs and middle legs otherwise blackish-brown, hindlegs orange, the distal end of the femur and the proximal end of the tibiae above black. Abdomen orange, the two last segments black; the others exhibit a dorsal row of spots, and a double lateral one on each side of the middle rings. Wings hyaline; base of the forewings and subcostal space as far as the black apical spot, as well as the extreme inner-margin orange; the space between the latter and the inner-marginal vein black. Colombia (San Antonio, 1800 m), 1 ♂ taken by the light at night-time (FASSL leg.). Type in Coll. SEITZ.
- exsors*. **C. exsors** *spec. nov.* (14 f) is smaller and neater than the preceding, with broader and shorter wings; differs by its black head, the shoulder-covers being bordered with black distally and at the apex, by a more intensely orange-red ground-colouring, larger black dorsal spots, only one lateral row of black spots. On the wings only the base is orange-red, the subcostal space faintly yellowish hyaline, the proximal margin quite black. Another distinguishing mark is the cell-fold on the forewing running here separately and above the middle radial, whereas in *regestum* it is shortly behind the cell united with this. Described according to 1 ♂ of the Coll. SEITZ from Colombia (Sosomoco).
- notosticta*. **C. notosticta** *Dogn.* Head orange; vertex, palpi and antennae black; collar and shoulder-covers orange, the latter at the base black. Abdomen orange with dorsal and subdorsal rows of spots. Anal-end above, the 2 last rings beneath black; legs black and orange, hips orange. Wings hyaline with black fine margins and veins, apical spot and angled discocellular; base and subcosta orange. Expanse of wings: 27 mm. Colombia (Aguaca Valley) in August.
- citrinum*. **C. citrinum** *Rothsch.* (14 f) without the patria being stated, from the Coll. FELDER at Tring, is very easily recognizable by the peculiarly brownish apex of the forewing, being densely dusted with yellow. Head, palpi and antennae are black, the rest of the body yellow, on the dorsum spotted black; at the base of the forewing there is a yellow spot. The species resembles *Is. monticola*.
- juanita*. **C. juanita** *Neum.* Head and thorax black, palpi yellowish; shoulder-covers bordered with white. Legs red, hips white, abdomen brilliant red, the first ring and the last ones black. Wings hyaline, veins and very broad margins and apical spots black. Expanse of wings: 23 mm. Cuba.
- tengyra*. **C. tengyra** *Wkr.* (= *fulviventris Mén.*) (14 f). Head and thorax blackish-brown; forehead, shoulders, thorax, forehips and legs white-spotted. Abdomen yellow. Wings hyaline with blackish-brown veins and margins. Forewing with 2 white basal dots. Expanse of wings: 32 mm. Amazon (Pará).
- hercyna*. **C. hercyna** *Druce* (14 f) differs from the many similar species by the unicolorously orange-yellow abdomen; the front body is quite black. Distributed from Mexico across Nicaragua as far as Panama (Chiriqui).
- klagesi*. **C. klagesi** *Rothsch.* (14 g) is somewhat larger than the preceding from which it otherwise differs by the white forehead and breast and a white middle spot on the thorax; at the base of the wings two white, small spots; the distal margin is black in a more uniform width, the black discoidal spot is absent. Trinidad.
- braconoides*. **C. braconoides** *Wkr.* (14 g). Except the last 3 segments the abdomen is peculiarly diaphanous brownish-yellow, which makes the insect appear repulsive; all the rest is blackish-brown, just like a series of dorsal spots varying greatly in extent on the abdomen. On the head and base of the forewing 2 white dots each. Discoidal spot very large. Widely distributed in Mexico, also in Honduras.
- stibosticta*. **C. stibosticta** *Btlr.* (14 g) differs from *braconoides* by the absence of the discoidal spot and an entirely unmarked abdomen. Panama, Colombia, Ecuador, Bolivia. — The white spots on the head, thorax, hips and bases of the wings may be absent altogether: **dealbata** *form. nov.* (= ab. 1 *Hmps.*); but instead there may occur metallic blue spots both at the places of the white spots and on the black abdominal apex: **caerulescens** *form. nov.* (= ab. 2 *Hmps.*).
- watsoni*. **C. watsoni** *Rothsch.* (14 g) differs from the similar species by its quite sooty black head and thorax and above all by the uncommonly large round discoidal spot and the very broad black apical spot and distal margin, the latter of which is proximally very deeply indented between the upper median vein and the middle radial vein, so that the hyaline part on the upper median vein comes very close to the margin. Panama (Chiriqui; Lino).
- thia*. **C. thia** *Druce*. Head and thorax black, collar yellow, metathorax with metallic blue spots. The 1st abdominal ring is black, on each side with yellow spots, the 3 next rings are yellow, the last ones metallic blue. Forewings hyaline, costal and inner margins towards the base yellowish, veins brownish-black, distal margin and apex broadly black; hindwings hyaline, bordered with black. Expanse of wings: 32 mm. Ecuador.

C. pseudothia Zerny (= thia Schaus). Head, thorax and legs dark brown; on the forehead and collar some metallic blue scales; hips bluish-black. Abdomen of a bright yellow, the 2 last rings black. Wings hyaline with black veins, margins, apical and inner-angular spots as well as an angled discal spot. Expanse of wings: 29 mm. Costa Rica. *pseudothia*.

C. angustimargo Schaus. Different from *stibosticta* (14 g) by the forehead being only laterally white; on the abdomen only the 2 last segments are black; the white spots on the thorax are absent. Legs dark brown, forehips white-striped. Forewing with a narrow black distal margin. Expanse of wings: ♂ 29, ♀ 37 mm. Costa Rica. *angustimargo*.

C. flavothorax Roths. (14 g). Head metallic blue; collar and shoulder-covers sooty brown, the latter at the base with metallic blue spots; thorax and abdomen golden yellow, the 4 last abdominal rings black with dorsal and lateral metallic blue spots. Legs brown. Margins of the wings brown. — Patria unknown. *flavothorax*.

C. flavothoracides Zerny (= intensa Roths.) (14 h), according to ROTHSCILD's opinion, is probably to be considered as a subspecies of the preceding from which it differs by its orange colouring of the body and a deeper, sooty black of the margins of the wings. Colombia and Ecuador. *flavothoracides*.

C. flavita Schaus. Head black, collar and thorax yellow, the latter anteriorly black-spotted; shoulder-covers distally bordered with a brownish black. Legs black, forehips yellow; abdomen yellow, the 2 last rings black. Wings hyaline with black bases, veins, margins and apical spots; costa of the forewing towards the base hyaline. Expanse of wings: 38 mm. Colombia. *flavita*.

C. ockendeni Roths. (14 h). Head, thorax and abdomen, except the three first orange segments, black. The orange segments exhibit black lateral stripes. Breast yellow, legs and antennae black. Subcostal space like the wings hyaline. A small black apical spot. Described from Peru. *ockendeni*.

C. plagiata Roths. (14 h). Head and thorax black; abdomen yellow, the last segment and a large dorsal spot on the rings 3 to 5 black; breast yellow, legs and antennae black. Subcostal space of the forewings hyaline; discoidal and apical spots black. Peru. *plagiata*.

C. pytna Druce. Head and thorax black, the former with lateral blue spots; neck and collar yellow, bordered with black; abdomen yellow, 2nd and 3rd rings black, with lateral spots of a brilliant metallic blue; the last rings black, with blue spots. Wings hyaline with yellow bases; veins, margins and apical spot broadly black; inner margin of the forewing orange. Expanse of wings: 40 mm. Trinidad. *pytna*.

C. xanthomelan Zerny (= rosenbergi Roths. pr. p., pulchrum Roths.) (14 h). Head and thorax black, with metallic blue spots; immediately distinguishable from the similar species by the orange-yellow metathorax with a blue middle spot. The abdomen is orange, the two last rings black with metallic blue spots. Legs orange with blackish-brown tarsi. The basal costal-marginal half and the proximal margin of both wings orange. Ecuador. *xanthomelan*.

C. buchwaldi Roths. (14 h). Body sooty blackish-brown, vertex white; the sides of the first 3 abdominal rings are orange-yellow. Antennae and legs blackish-brown, forehips and tibiae yellow. The margins of the wings, a discoidal and a large apical spot black, at the base of the proximal margin on each side of vein 1 an orange-yellow stripe. Ecuador. *buchwaldi*.

C. harpalyce Schaus. Blackish-brown; neck with white dots; spots on the shoulder-covers and lateral stripes on the 3 first abdominal rings orange, as well as lateral hair-tufts at the base of the abdomen. The middle rings are beneath orange. Wings hyaline with brown veins and margins; at the base of the forewing there are 2 white dots. Inner-marginal angle of the forewing brown. Expanse of wings: 44 mm. Brazil (Rio de Janeiro). *harpalyce*.

C. regia Schaus (= nicippe Druce) (14 h) is well recognizable by the broad black base of the forewing with 2 large hyaline spots in it; the discoidal spot is connected with the inner angle by black embedment between the median veins. The first abdominal rings are above and laterally carmine-pink, the rest of the abdomen black with white spots which are of a magnificent sky-blue opalescence on the first segments. Colombia, Venezuela, Peru. *regia*.

C. bogotense Fldr. (14 h) resembles the preceding, though it is smaller and easily discernible by a great reduction of the hyaline spots; the dorsal and subdorsal abdominal spots are of a bright metallic blue. Described from Colombia (Bogotá), in the Coll. SEITZ also from San Carlos (Costa Rica), thus apparently widespread. *bogotense*.

C. intensum Wkr. (14 m) is smaller than *regia*, all the spots being white there are here brilliantly metallic blue, only the forehips and the under surface of the 4 last rings are white. On the first abdominal ring paired carmine spots; the 3 last rings exhibit lateral orange spots. The wings are yellowish hyaline with black veins, margins, apical spots and base. Hindwing at the inner margin whitish. Expanse of wings: 30 mm. Honduras. *intensum*.

ladan. **C. ladan** Druce (= *intensa* Druce) (14 i). Near to the preceding. Body blackish-brown; collar and base of shoulder-covers with carmine spots; vertex and thorax sparsely scaled in blue. Forehips and venter white; the abdomen exhibits above 2 violettish-red, small spots, lateral blue spots; the posterior margins of the segments are above more or less bordered with blue. Wings hyaline with black veins, margins, apical and proximal angle, as well as discal spots; on the hindwings the discal spots and distal margin are somewhat scaled in a metallic blue. Expanse of wings: 30 mm. Panama (Chiriqui).

30. Genus: **Poecilosoma** Hbn.

Like *Cosmosoma*, but on the forewings the uppermost radial vein rises from below the upper cell-angle. Lower half of the cell of the hindwing very small, lower radial and lower median vein on a long footstalk.

chrysis. **P. chrysis** Hbn. (= *megaspila* Wkr.) (14 i) looks almost exactly like *Cosmosoma ignidorsia* (13 b), but it is sufficiently marked by the low rising of the uppermost radial vein. Besides the distal half of the shoulder-covers is black, spotted blue, and the red lateral spots on the 2nd abdominal ring are absent. Described from the Amazon, before me also from French Guiana.

nigerrimum. **P. nigerrimum** Wkr. (14 i) exhibits a quite black body with metallic blue spots. The comb-like teeth on the antennae are reddish-yellow. Wings yellowish hyaline with orange-yellow veins. Amazon (Ega).

eusebia. **P. eusebia** Druce (14 i) has the head and thorax spotted orange-yellow and black; the orange-yellow abdomen shows on the first segment some small black spots; on the 2nd and 3rd rings there are black, subdorsally blue-spotted transverse bands, the 4th and 5th rings show black, blue-pupilled subdorsal spots, the last rings are black. The faintly yellowish hyaline wings are orange at the costal and proximal margin. Forehips spotted blue. Ecuador.

eone. **P. eone** Hbn. (14 i). Head and thorax are black with silvery bluish-green spots; the forehead and stripes on the shoulder-covers are white. The first abdominal ring is carmine with yellowish spots, the two next rings exhibit lateral red spots, the rest of the abdomen is black with white dorsal and lateral spots being margined by metallic greenish-blue. The base of the proximal margin on the forewing is extensively greenish-blue silvery. From the Amazon, Pará, São Paulo, Santa Catharina.

mapirens. **P. mapirens** Strand. It reminds us of *Cosmosoma xanthistis* Hmps., but it has more pointed wings with a narrower marginal band; the base of the proximal margin of the hindwing is only little orange; base of abdomen black, rest of abdomen black with 4 longitudinal rows of bluish-green spots. Collar and shoulder-covers orange, the latter bordered with black. Head, breast and hips blue-spotted. Expanse of wings: 28 mm. Based upon a rubbed-off ♂ from Bolivia.

misionum. **P. misionum** Strand greatly resembles the preceding, but the 4 anterior abdominal segments are beneath and laterally orange, partly also the hindlegs; subcostal space hyaline. The transverse-vein spot of the forewing is broader; the base of the hindwing is more extensively orange-yellow. Antennae at the ends white. Whether the abdomen exhibits also green spots, cannot be stated by reason of the defective preservation. Expanse of wings: 29 mm. Argentina (Misiones).

marginatum. **P. marginatum** Wkr. (14 i). Body black, forehead, vertex, and thorax with metallic blue spots. Base of palpi, collar, shoulder-covers, breast and stripes on the legs orange-red. The abdomen exhibits a dorsal row of metallic blue spots and broad, orange-red lateral stripes. Subcostal space of the forewing orange-red. From the Amazon District.

vespoides. **P. vespoides** Schaus (14 i) has an entirely orange-yellow body. Black are: the distal side of the terminal joint on the palpi, dorsal and lateral spots beginning from the third abdominal ring, stripes on the outside of the legs, and the antennae. Base of forewing and subcostal space from the transverse vein as far as the apex orange. Margins of wings very narrowly black; a very minute apical spot. Described from Peru; before me also in some specimens from Colombia (Ibaque, 2700 m).

31. Genus: **Mystrocneme** H.-Schäff.

Like the preceding, but the lower half of the cell on the hindwing is of a normal size, and the lower radial vein and the lower median vein, therefore, are much shorter pedicellate; the first median vein rising in the preceding genus close before the margin, is absent here; the spurs are very short.

varipes. **M. varipes** Wkr. (= *geminata* H.-Schäff.) (14 k) is distinguished by peculiar, rough scent-scales on the under surface of the wings in the ♂, being situate on the lower cell-angle and at the apex of the forewing and the distal half of the hindwing; besides, the posterior tibiae of the ♂ in the distal half exhibit an enlargement

with a depression in it. The body is black; forehead, shoulders and hips white-spotted; collar and legs blue-spotted, the first abdominal ring exhibits a large white dorsal spot, as well as lateral white spots, the rest broad, golden green subdorsal stripes. Venter white. Wings extensively black with hyaline spots. Amazon (Pará); known also from Venezuela and French Guiana.

M. atavia *Hmps.* (14 k) differs from *varipes* by more extensive hyaline spots on the wings, the absence of the dorsal white basal spot on the abdomen, instead of which there are 2 smaller subdorsal spots, and besides by the absence of the ventral valve and of the rough scaling on the under surface of the wings, as well as by the absence of the enlargement of the posterior tibiae in the ♂. Amazon (Fonteboa).

M. flavicinctata *Dogn.* Black; forehead white, collar and shoulder-covers with metallic green spots; a spot on the shoulder and the 3 first abdominal rings above and at the sides yellow, the other black rings exhibit metallic green lateral stripes. Venter white with black segmental margins. Hips white. Wings black, with the same hyaline spots as in *varipes*, but behind the cell there are 4 instead of 3. Expanse of wings: 28 mm. British Guiana. *flavicinctata.*

M. sectum *Kaye.* Black; the forehead and spots on the shoulders and at the sides of the venter of the 1st abdominal ring are white. Collar, shoulder-covers and mesothorax with metallic green spots. The abdomen exhibits green lateral stripes. The wings are quite black, only the forewings show a small hyaline stripe below the cell. Expanse of wings: 28 mm. British Guiana. *sectum.*

M. albicarpus *Kaye.* Black with a white-spotted forehead, shoulders and hips. Legs outside with metallic green spots. First abdominal ring white, the 2nd bordered with white, both laterally pale metallic green; the other black rings are likewise laterally green. The venter shows a broad, white middle stripe and short, whitish lateral stripes on the 2 first rings. Wings hyaline with large, black discal and middle spots. Expanse of wings: 28 mm. British Guiana in June. *albicarpus.*

M. rubricarpus *Kaye.* Black; forehead white, collar green, base of shoulders with carmine spots, shoulder-covers with metallic green stripes. The 2 first abdominal rings are scarlet, the 3rd to 5th are laterally red, the others quite black, laterally scaled metallic green. Wings hyaline with a broad black apex and a large, square, black inner-angular spot; costa narrowly, proximal margin broadly black. Hindwings broadly bordered with black, the cell being filled up with black. Expanse of wings: 28 mm. British Guiana in April. *rubricarpus.*

32. Genus: **Dixophlebia** *Btlr.*

Only 2 small, sombre-coloured species distinguished by dense, fur-like hair on the radial and median veins and the lower subcostal vein of the forewing above. Both median veins rise in common near the lower cell-end from which the two lower radial veins rise.

D. quadristrigata *Wkr.* (14 k) is a blackish-grey insect with an orange thorax, thinly scaled wings with oblong hyaline spots in and below the discocellulars. From the Amazon, Minas Geraes, Santos, Sa. Catharina. *quadristrigata.*

D. holophaea *Hmps.* (14 k). Unicolorously blackish-grey, otherwise like the preceding species. Guiana. *holophaea.*

33. Genus: **Phoenicostacta** *Hmps.*

Very closely allied to the following, chiefly differing by the posterior tarsi being above fringed with long scales, the upper radial rising from below the upper cell-angle.

Ph. haematabasis *Hmps.* (14 k) has a blackish-brown body with red spots on the shoulders; the first abdominal ring exhibits 2 almost contiguous, subdorsal red spots, being otherwise laterally blue-spotted. The hyaline spots on the wings are confined by broad blackish-brown margins, and on the forewing by the middle spot being connected with the proximal margin. South Brazil (Sa. Catharina, Rio Grande do Sul). *haematabasis.*

34. Genus: **Ichoria** *Btlr.*

This genus comprises a small group of species distinguished by mostly entirely scaled forewings in which the uppermost subcostal vein rises from the cell; the hindwings are mostly in the middle hyaline diaphanous and exhibit a strongly angular discocellular, the lower median vein and the lower radial stand on a long footstalk. The straightly porrect palpi extend beyond the forehead. The smooth abdomen shows in the ♂ on the ventral side a large valve covering the basal segments.

- multigutta*. **I. multigutta** Schaus (14 k). Body black. Collar, shoulders, the dorsum of the first abdominal ring and the base of the forewing with deep carmine spots; the other segments exhibit red subdorsal lines, the three first ones besides sublateral spots. Forehips and a broad band across the ventral valve white. Wings hyaline with a black discoidal and apical spot. Venezuela (Aroa).
- bricenoi*. **I. bricenoi** Rothschild. (14 k) differs from the very similar preceding species by its larger size, greatly reduced red colour, the ventral valve being in its anterior half brown, and the antennae being strongly thickened and not serrate. Venezuela (Merida).
- tricincta*. **I. tricincta** H.-Schäff. (14 k) resembles the following, but it is larger and differs by its carmine neck and collar, the latter with a black middle spot, as well as carmine lateral spots on the 1st abdominal ring. Anus with some red hairs. Expanse of wings: 42 mm. Colombia; Brazil (Rio de Janeiro, São Paulo).
- demonia*. **I. demonia** Druce. Forewing unicolorously black, the hindwing likewise black except a hyaline spot being situated below the cell and in the spaces behind the cell. Head black with metallic blue scales on the forehead. Palpal base orange-yellow; antennae black, before the tips white for about 3 mm in extent. Collar and thorax orange-yellow. Collar on each side with a metallic bluish-green spot. Forehips and base of femora red, legs otherwise black. Abdomen black, the first ring exhibits a small, orange dorsal spot, the 2 or 3 following rings subdorsal ones, on the dorsum and at the sides with metallic blue spots. Known only from Mexico (Jalapa). —
- orizabena*. f. **orizabena** form. nov. (14 l). From Orizaba (August) there is a form before me, which would perhaps be better regarded as a distinct species. It differs by the following marks: the distal, larger half of the collar black, with metallic blue spots; the metathorax exhibits a large, black spot with a metallic blue pupil, on the prothorax a silvery green, not carmine opalescent spot. The abdomen exhibits instead of one dorsal, two smaller subdorsal orange spots, the following 3 subdorsal ones are absent. The whole under surface, the 4 last abdominal rings also above, entirely metallic bluish-green. Type in the Coll. DRAUDT. — f. **atra** form. nov. I denominate another form from Mexico, in which the orange colouring of the thorax has disappeared altogether, only the two orange subdorsal abdominal spots being yet visible.
- improcera*. **I. improcera** spec. nov. (14 l) greatly resembles the forma *atra* described above. The body is entirely black without any orange colouring. The palpi are quite black; the black antennae are white at the extreme tips (in the *demonia*-forms quoted above the tips themselves are black, while the white colour is only in front of them). Only the forehips are red, the legs otherwise quite black. Forehead, collar, meso- and metathorax, as well as the abdomen dorsally with metallic blue spots, broad metallic bluish-green lateral stripes. The wings like in the preceding, but the forewings at the base with metallic bluish-green spots. The inner-marginal area of the hindwing more broadly hyaline. Panama (Chiriqui). (BANG-HAAS).
- maura*. **I. maura** spec. nov. (14 l) is another species likewise greatly resembling the preceding, but immediately distinguishable by quite blackish-brown hindwings without any hyaline spots. The blackish-brown body is spotted metallic blue on the forehead and vertex, collar and metathorax; palpi, antennae and legs are black, forehips carmine. Shoulder-covers with orange stripes. Abdomen with dorsal and lateral rows of bluish-green spots. The blackish-brown forewings at the base with metallic blue spots. Described according to a male example in the Coll. SEITZ, from Venezuela.
- quadrigutta*. **I. quadrigutta** Wkr. (14 l) is easily discernible from the similar species by white, not red forehips. On the shoulders and the first abdominal ring there are carmine spots. Body with metallic green spots. Wings like in the preceding, but the hindwings in the basal half hyaline. Expanse of wings: 34 mm. Mexico; Guatemala; Costa Rica.
- semiopaca*. **I. semiopaca** Dogn. is coloured on the body like the preceding, but much smaller, and on the forewings there are hyaline spots between the veins, in and below the cell; those between the first median vein and the middle radial vein extend farther towards the margin than the others. Hindwings hyaline with a broad black border and costal margin. Expanse of wings: 28 mm. Brazil (São Paulo).
- chrostosomides*. **I. chrostosomides** Schaus has a black body; a spot on the shoulder and a stripe on the shoulder-covers are red. Forehips and tibiae white-striped. Wings smoky brown hyaline with black veins, a broad black proximal margin and narrow apical spot. Hindwings covered with black scales except the proximal margin. Expanse of wings: 20 mm. French Guiana.
- chalcomedusa*. **I. chalcomedusa** Druce (14 l). Blackish-brown with a metallic green abdomen being subdorsally black-striped. Forehead, collar, shoulders, meso- and metathorax with metallic blue spots; tips of antennae white. The veins of the brown forewings are slightly greenish-striped. Hindwings hyaline with a black margin. From Brazil (Amazon, Sa. Catharina, Paraná).

35. Genus: **Pseudomya** Hübn.

Distinguished from the closely allied genus *Saurita* by the very long hindlegs, the tibiae and tarsi of which are covered with scales. On the forewings the two lower radial veins do not quite rise from one place, but a little separately.

P. splendens Druce (141) has a black body with orange-yellow spots on the collar, breast, hindhips, *splendens*. laterally on the first abdominal ring, sublaterally on the second and subdorsally on the third and the next segments. The antennae are orange; the wings greenish-black, with orange spots. Bahama Islands.

P. minima Grote (14 m). The more bluish-black ground-colour and the white, not yellow spots distinguish *minima*. this species sufficiently from the preceding. From Florida and Cuba. — The orange-red larva being dorsally and sublaterally dark striped with hair-brushes on the dorsum lives in December on *Myginda ilicifolia* and changes to a light brown lustrous pupa in an elliptic web.

P. sithon Druce (14 m). Blackish-brown; ends of antennae and forehips white; spots at the base of *sithon*. the shoulder-covers and lateral abdominal stripes are carmine; wings hyaline with very broad blackish-brown margins. — In f. **flavescens** n. n. (= ab. 1. *Hmps.*) the red parts are orange-yellow. Mexico; Guatemala. *flavescens*.

P. ochreiventris Dogn. The body is greyish-brown; spots at the sides of the forehead, at the base *ochreiven-* of the shoulder-covers, as well as 2 transverse bands above the 2 first abdominal rings, anal hairing, first palpal *tris*. joint, hips and the first abdominal rings beneath are ochreous. At the sides of the abdomen there are metallic blue spots. Wings thinly scaled greyish-brown; more densely scaled at the cell-end of the forewing. Expanse of forewings: 26 mm. Ecuador.

P. picta Schaus (141) has a greyish-brown body; forehead bordered with whitish. Vertex, shoulders, *picta*. and metathorax exhibit carmine spots. The two first abdominal segments and broad lateral stripes on the others are yellowish-white. Wings hyaline greyish-brown. From Venezuela and Guiana.

P. sanguiceps *Hmps.* (14 m). Body black, on the head and shoulders red spots, on the metathorax *sanguiceps*. two red spots. Wings blackish diaphanous, the forewing exhibits a large, faded blackish discoidal spot, the hindwing being black in the whole distal half. From Panama.

P. melanthus Cr. (= *trigutta* Wkr.) (14 m) is larger than the preceding. Colour of the body more *melanthus*. reddish-brown, the vertex is black, forehips and the last abdominal rings beneath white. Wings brownish diaphanous with brown veins and margins. Colombia; Surinam; Brazil.

P. nigrozona Schaus. A very small species with a blackish-blue body. Forehips and venter except *nigrozona*. the last segments whitish. Wings smoky brownish hyaline, the forewing with a broad black median band being continued on the apical half of the hindwing; proximal margin of the forewing black. Expanse of wings: 19 mm. French Guiana.

P. naenia Druce (15 a) is unicolorously blackish-brown, only at the base of the shoulder-covers there *naenia*. are small red spots; ends of antennae white. Wings blackish-brown, the hindwing exhibits small hyaline spots in and below the cell. Expanse of wings: 24 mm. Guatemala.

P. translucida Dogn. (15 a) has a quite unicolorously black body. The wings are hyaline with sparse, *translucida*. blackish-brown hairs, veins and margins being black. The forewings exhibit a faded, blackish median shade being intensified to a black spot at the lower cell-end. Expanse of wings: 24 mm. Ecuador (Loja).

P. trabea Druce. Body black, hindhead, sides of thorax, and base of abdomen red; the 1st abdominal *trabea*. ring yellowish-white. Both wings smoky hyaline, at the apex and distal margins more darkened. Expanse of wings: 26 mm. From British Guiana to Ecuador.

P. absona spec. nov. (15 a) resembles exteriorly much rather a small *Cosmosoma*. The body is uni- *absona*. colorously brownish-black, only 2 longitudinal streaks on the mesothorax and the ventral side of the 3 first abdominal rings are light ochreous. The wings are hyaline, with black bases, narrow margins, middle spot of the forewing and apical spots. One male example from Peru (Marcapata, BANG-HAAS).

36. Genus: **Holophaea** *Hmps.*

A small group of mostly dull coloured, delicate insects with rather broad forewings with a long, oblique distal margin, usually entirely scaled, but still half diaphanous. On the hindwings the lower median vein and lower radial vein rise from the lower cell-angle, the upper median veins rises from the lower mostly very near the margin, but this varies and the 3 veins may also rise in common from the cell-angle; the cell itself is large, the discocellular angularly bent. The palpi are straightly porrect and extend beyond the head. Antennae serrate or doubly dentate like combs.

H. vesta Möschl. (15 a). In this small species the head and the last abdominal segments are black, *vesta*. thorax and the 4 first abdominal rings orange coloured; shoulder-covers at the tips black. The hyaline wings exhibit very broad, blackish-brown margins. Guiana, Brazil.

- gentilicia*. **H. gentilicia** *Schaus.* Forehead dark brown with metallic blue scales; vertex, collar and thorax red. Antennae and abdomen black, the last segments with a blue lustre. Under surface and legs brown. Wings dark brown, at the base of the costa and in the submedian area with red spots; hindwing below the cell blackish. Expanse of wings: 30 mm. Costa Rica.
- lycone*. **H. lycone** *Druce* (15 b). Body blackish-brown with a slight purple-blue lustre. On the shoulder-covers and the dorsum of the first abdominal segment carmine spots. Forewings semi-diaphanous blackish-brown, veins darker. Hindwings light grey diaphanous. Mexico (Orizaba, Misantla, May and August), Costa Rica, Panama.
- endoleuca*. **H. endoleuca** *Dogn.* (15 b) greatly resembles the preceding, though it is considerably larger, the wings being of a deeper and purer dull black colour, and with a much more extensive red transverse band on the first abdominal segment. The body is much more abundantly spotted metallic green, of the same colour are the hips. At the base of the costa on the forewing there is yet a red spot. From *Saurita diffusa* being coloured exactly the same it merely differs by its narrower wings and the pendent palpi. Colombia.
- melita*. **H. melita** *Druce* likewise resembles the two preceding species, being as large as *endoleuca*. Body and wings unicolorously blackish-brown, the sides and last rings of the abdomen of a brilliant metallic bluish-green, underneath brownish white; only a small spot on the metathorax is carmine. Ecuador.
- lugens*. **H. lugens** *Jones* is quite unicolorously blackish-brown. Posterior tarsi for the greatest part and in the ♂ the forehips white. Expanse of wings: ♂ 28 mm, ♀ 32 mm. Brazil (São Paulo).
- prometina*. **H. prometina** *Druce* (15 b). Brownish-black; a line behind the eyes, stripes on the shoulder-covers and abdominal sides orange-yellow. Wings semi-diaphanous blackish-brown with an orange stripe at the base of the costa. Mexico (Vera Cruz).
- caerulea*. **H. caerulea** *Druce* (15 b) is unicolorously deep ultramarine blue. Collar and borders of the shoulder-covers carmine. Ecuador.
- ruatana*. **H. ruatana** *Druce* (15 b). Blackish-brown; base of palpi, vertex and hindhead, collar and shoulder-covers orange. Hips whitish. The wings are unicolorously blackish-brown. Expanse of wings: 20 mm. Honduras.

37. Genus: **Hypatia** *Kirby*.

Rather near to the preceding genus, from which it differs by erect palpi, the middle radial vein rising from above the lower cell-angle, whereas the upper one rises from below the upper cell-angle. On the hindwing the first median vein is present and rises close in front of the margin.

- delecta*. **H. delecta** *Btlr.* (= *astyche Wkr.*) (15 b). Head, collar and abdomen bluish-black, thorax orange. Forehead, dots on the shoulders, forehips, dorsal and lateral stripes on the abdomen and a broad middle stripe on the venter are white. Wings hyaline with fine black veins and a narrow costal margin. Proximal margin and apical spot broadly black, the latter reaching the cell above the middle radial. Hindwings black, in the cell-end a white spot. Expanse of wings: 26 mm. Pará.
- melaleuca*. **H. melaleuca** *Wkr.* (16 b) resembles the preceding, but all the orange colouring is absent, but instead there are white dots on the collar and thorax. Pará.

38. Genus: **Psilopleura** *Hmps.*

Some medium-sized species with quite dark or hyaline-spotted, long, narrow wings. The first median vein of the forewing rises near the cell-angle, both the lower radial veins from the cell-angle, the upper one from below the upper cell-corner. On the hindwing the lower median and lower radial veins rise from the lower cell-angle or on quite a short footstalk; the first median vein and the middle radial are absent. The antennae of the ♂ are provided with rather long comb-like teeth.

- sanguinea*. **P. sanguinea** *Jones*. Head blackish-brown; collar brown, bordered with silvery white; thorax brown, anteriorly intermixed with carmine and single white scales. Shoulder-covers inside and anteriorly broadly bordered with carmine. Hips and abdomen carmine. The first ring brown, laterally with a red and white spot, the other rings show a brown median stripe being lighter in the middle; the rings 4 to 6 exhibit silvery white subdorsal spots. Wings yellowish, diaphanous, suffused by blackish; base black, behind it a yellow subcostal stripe; at the cell-end there is a large yellow spot extending from the costa as far as the rise of the median veins, outside and inside shaded with black. Hindwings from the costa to the median fold black, from there as far as the inner angle hyaline with a black border. Expanse of wings: ♂ 20 mm, ♀ 22 mm. Brazil (Castro, Paraná).

P. vittata *Wkr.* (15 b). A species greatly varying in size, colouring and extent of the hyaline spots. *vittata*. Mostly dark coffee-brown. The neck, a stripe on the mesothorax and two broad lateral stripes on the abdomen are orange-yellow. Antennae black, before the apex white. The brown forewings exhibit a darkening in the apical part of the costal margin as well as along the inner margin; at the border there are in the spaces between blackish-brown sagittate streaks. In the cell 2 cuneiform hyaline spots, a long one below them extending with 2 teeth between the 2nd median vein and middle radial towards the margin; 2 small hyaline spots below and above the upper radial. Hindwings diaphanous with a broad black border, the inner margin at the base orange. Nearly all the year round common in Mexico (Orizaba, Misantla, Vera Cruz, Yucatan) and Guatemala.

P. polia *Druce* (15 c) approximates the preceding species, but it is much larger and differs by its *polia*. lighter colour, much more extensive hyaline spots, almost entirely hyaline hindwings and on the under surface a whitish inner-marginal part and costal base. Brazil (Espiritu Santo). — f. **minax** *form. nov.* (15 c) of which *minax*. about 20 specimens of both sexes from Mexico are in my collection, I am inclined to include with *polia* as a subspecies, as I know *polia* only from the figure and description; it is, however, not impossible that it is a distinct species. It stands between *vittata* and *polia*, but it is twice as large as the former from which it is also easily discernible by its more light grey ground-colour; the darkening at the apex and inner margin is absent, instead of which there are here long black streaks in the cell-spaces between the yellowish prominent veins. Hindwings with narrower and duller grey margins; the whole proximal margin extensively orange yellow, also the base of the inner margin of the forewing. The abdomen is much more extensively orange and exhibits only a narrow dorsal stripe, being in the middle light grey, at the edges dark brown. From *polia* it differs by the bright orange-yellow, not whitish colour at the costal and proximal margins of the hindwings beneath, as well as by the much more confined hyaline spots of the forewings and a considerably broader border of the hindwing. Widely distributed in Mexico: from Tehuacan (Puebla), Misantla, Orizaba, Mexico, Zacualpan, San Luis Potosi, flying from May to October together with *vittata*, the genital organs of which are different.

P. klagesi *Rothsch.* (15 b). Palpi and forehead are black, the vertex reddish-yellow; thorax dark *klagesi*. brown with a reddish-yellow longitudinal band. Abdomen deep orange, a broad middle stripe and the last segment dark brown. Legs blackish-brown, with white rings, hips yellowish-white. Antennae brown with a white apical third. Forewings dark-brown with minute white spots in and below the cell as well as behind the cell. Hindwings white with a broad blackish-brown marginal band. Venezuela (Bolívar; Caracas).

P. pentheri *Zerny* greatly approximates the preceding species and chiefly deviates by the quite uni- *pentheri*. colorously coffee-coloured forewings growing a little lighter towards the margin and exhibiting a series of inconspicuous light marginal dots, as well as by brownish-black hindwings the base of which is narrowly yellowish, with a narrow white longitudinal spot below the cell and a larger roundish spot behind the cell. The ventral side of the abdomen is coffee-coloured with a yellowish-white longitudinal stripe as far as the 4th segment. Brazil (Bahia).

P. dolens *Schaus* (15 c). Body dirty brownish black, on the shoulders and shoulder-covers one red *dolens*. spot each. The wings are brownish diaphanous with brownish-grey margins. Described from Costa Rica, one example from Bahia in the Coll. SEITZ.

P. sanguipuncta *Hmps.* (15 c) differs from the preceding by its larger size and the more dark-brown *sanguipuncta*. wings from which brownish hyaline spots are contrasting in the cell as well as below and behind it, so that a broad, faded, brown median band and a broad apical spot become prominent. The veins are still darker brown. Brazil (Rio Grande do Sul).

P. albipes *spec. nov.* (15 c) is a beautiful species belonging near the two last ones. Body jet-black; *albipes*. shoulders and a square spot on the first abdominal segment are deep carmine. The thorax and the ventral sides of the first 4 abdominal rings is white like the upper surface of the posterior tarsi. Wings blackish diaphanous with black margins and apical spot. The type is a ♂ from Santos in the Coll. SEITZ.

P. hymenopteridia *Rothsch.* (15 c) is a most peculiar, little species which looks exactly like a Hymenop- *hymenopteridia*. teron flying with it and is entirely unlike the genus. Palpi, head, antennae and thorax are black, the tapering abdomen is chestnut-red, the two last segments black, forelegs yellow, hips white; middle legs brown, tibiae and tarsi yellow; hindlegs brown, tibiae yellow, banded. Wings diaphanous dirty yellowish, distal third with brownish clouds. Bolivia. This species, known to me only from description, presumably belongs to the following genus and seems to be allied to *pimpla*.

39. Genus: **Rhynchopyga** *Fldr.*

Peculiar, very slender, small species with narrow, usually brown and orange wings, the neuration of which hardly differs essentially from that of the allied genera: on the hindwings the lower median and lower radial veins are long petioled.

- pimpla*. **R. pimpla** *spec. nov.* (15 c) connects the following species with *Psil. hymenopteridia*. From the following species it differs by the entirely red collar and thorax. The 2 last abdominal rings are only above black. Wings more intensely yellow hyaline; behind the median spot of the forewing the costa is yellow for some distance. From South Peru (Madre de Dios). Type in the Coll. FASSL.
- ichneumonea*. **R. ichneumonea** *Fldr.* (15 c). Body blackish-brown, neck and edges of the collar white; the 2nd to 5th abdominal rings are carmine. Wings semi-diaphanous, blackish-brownish with lighter hyaline stripes in and below the cell, and a darker median spot. Expanse of wings: 36 mm. Colombia.
- semirufa*. **R. semirufa** *Druce*. Head and thorax black, with a bright red neck, collar and abdomen, the latter with a black dorsal line. Chest and legs black; at the base of the abdomen a large white spot. Wings brownish hyaline, the forewing at the base red. Veins, distal margin and apical spot black. Expanse of wings: 25 mm. Peru.
- xanthospila*. **R. xanthospila** *Hmps.* (15 d) differs from the similar species by the carmine lateral stripes extending as far as the end of the abdomen, as well as by the orange-yellow costal-marginal spot being situated yet within the hyaline parts; the subcostal space is hyaline. The anterior body is black, the shoulder-covers and sides of thorax are carmine. Ventral valve white. Bolivia (Rio Songo).
- rubricincta*. **R. rubricincta** *Hmps.* (15 d) has a black body; the shoulder-covers, and partly the second and third abdominal rings are orange-red, the venter whitish. Wings blackish, basal third orange-red, a transverse band behind the cell from the costal margin to the inner angle are orange-yellow. Oblong hyaline spots are in and below the cell and between the 2nd median and 3rd radial. The hindwings are orange at the base and costal margin orange, the apex and proximal margin blackish. Hitherto only from Bolivia.
- xanthozona*. **R. xanthozona** *spec. nov.* (19 h) resembles the preceding in its exterior. The wings are broader, rounder, otherwise coloured and marked the same, but the postdiscal orange band grows much broader towards the inner angle. The species is immediately recognizable by the scarlet collar and sides of the thorax. Thorax and shoulder-covers above dark brown. Abdomen above black, the 2nd and 3rd rings orange-yellow. Venter white; ventral valve black, at the base white-haired. Legs orange-yellow. Posterior tibiae and tarsi black. South Peru (Madre de Dios; FASSL).
- braconida*. **R. braconida** *Kaye*. Head and thorax lustrous green. The 2 first abdominal rings carmine, the others greenish-black; below the eyes and at the shoulder-covers white dots. Legs greenish-black, hindlegs very long, underneath at the joints white. Forewings in the basal half greenish-black, distally black; at the costal margin behind the cell a large orange spot. Hindwings blackish diaphanous. Expanse of wings: 28 mm. Brazil (Santos).
- meisteri*. **R. meisteri** *Berg* (15 d) is blackish-brown; collar and shouldercovers are bordered with deep carmine, with interspersed, bluish-whitish scales; the lateral tubercles at the 1st abdominal ring are deep carmine; the lateral spots and the underside of the 4 first segments likewise deep carmine, with interspersed bluish-silvery scales, particularly at the margins. The dark brown forewings exhibit in the proximal half narrow hyaline stripes not extending as far as the base, and at the base an ochreous-yellow spot becoming indistinct in the ♀, and a similar spot behind the middle of the costal margin; hindwings hyaline with a broad, blackish-brown margin. Brazil, Paraguay, Uruguay and Argentina in October to December and March to April on compositae.
- castra*. **R. castra** *Jones* (15 d) is closely allied to the preceding, and immediately discernible from it by the absence of the yellow basal spot, the smaller size and the hyaline stripes extending as far as the base of the forewing. Brazil (Paraná; Rio Grande do Sul).
- subflamma*. **R. subflamma** *Druce* (15 d). Black, collar bordered with white, abdomen orange, with dorsal and lateral black spots, at the end black. Forewings blackish-brown with a narrow hyaline stripe in the basal half in and below the cell. Hindwings hyaline with a black border. Expanse of wings: 28 mm. Panama.
- semiflava*. **R. semiflava** *spec. nov.* (15 d). Head and thorax are blackish-brown; forehead; collar and shoulder-covers proximally bordered with bluish-silvery scales; the distal half of the shoulder-covers is ochreous-yellow. The abdomen is above blackish-brown, except the two last light ochreous-yellow segments; the ventral side and large lateral spots at the base of the abdomen are ochreous-yellow. Legs blackish-brown, hips with whitish scales. The forewings are thinly yellowish scaled, towards the base of a deeper orange, with a broad blackish-brown distal and proximal margin, hindwings semi-diaphanous yellowish with a blackish-brown distal margin. Described according to a female example from Colombia (Rio Aguaca Valley, 2000 m); type in the Coll. FASSL.
- flavicollis*. **R. flavicollis** *Druce* (15 c) is easily recognizable by the orange neck and collar, whereas the body and wings are blackish-brown, the latter with hyaline stripes in the proximal half; the hindwings are quite hyaline with narrow brown margins and veins. Guatemala; also from Panama (Lino).

R. metaphaea *Hmps.* (= *flavicollis* *Druce*) (15 e) deviates from the preceding by its quite unicolorously *metaphaea*. blackish-brown fore- and hindwings. Mexico (Guerrero); Honduras.

R. steniptera *Hmps.* is quite monotonously blackish-brown with very narrow and long wings, the *steniptera*. hindwings being somewhat lighter. Expanse of wings: 24 mm. British Guiana.

R. albigutta *spec. nov.* (15 e) is unicolorously blackish-brown on its body and wings. The palpi, *albigutta*. except the black terminal joint, throat and neck are orange-yellow. The forewings, being comparatively broad, exhibit behind the cell a white spot between the upper median vein and the 4th subcostal vein. The hindwings are in the disc diaphanous with broad brown veins. One ♀ from Peru (Cuzco, BANG-HAAS).

40. Genus: **Cercocladia** *gen. nov.*

In the exterior it greatly resembles the *Rhynchopyga*-species from which the sole species is immediately discernible by the strong middle radial vein of the hindwing rising above the lower middle of the cell. The lower radial vein stands on a long footstalk with the upper median vein, the lower median vein rises behind the cell-middle. All the rest like in *Rhynchopyga*. The genera are hardly allied to each other, and there are many resemblances to *Hypocladia* and *Cercopimorpha*.

C. novicia *spec. nov.* (15 d) is a magnificent, most complicatedly coloured species. The body, except *novicia*. the 3 last blackish-brown abdominal rings, is of a deep vermilion; forehead blackish-brown with a metallic blue middle spot; palpi orange-yellow with a black terminal joint; antennae blackish-brown; collar and the shoulder-covers being outside blackish-brown are bordered with bluish-silvery; across the thorax and abdomen extends a bluish-silvery median line; with the same colour the segmental indentations are bordered, and on the third and fourth segments there are large lateral spots. The brown abdominal apex exhibits an orange-yellow lateral line and underside. Hips, middle and hind legs red; foreleg orange, anterior tibiae blackish-brown, outside with a red median band, the rest blackish-brown. The forewings are dark brown; at the end of the basal third there is a very oblique hyaline band extending from the subcosta to the submedian fold; the costa above it is orange-yellow; at the extremity between the middle and distal third of the costal margin there is an orange-yellow spot. The median vein and the base of its branches are steel-green. The blackish-brown hindwings exhibit a hyaline median band, the distal bordering of which on the cell-fold strongly bends in towards the base and which reaches the base in the direction of the inner margin; the basal half of the costal margin of both wings is beneath orange-yellow. — Described according to 2 fresh ♂♂ from Cuyaba (Matto Grosso), obtained by BANG-HAAS.

41. Genus: **Hypocharis** *Hmps.*

The only species with rather broad wings greatly approximates the following genus, but on the forewings the upper radial vein rises below the upper cell-angle; the two lower ones stand on a very short, joint footstalk. On the hindwings the median veins rise on a joint footstalk, the lowest radial with the same from the lower cell-angle.

H. clusia *Druce* (15 e). Blackish-brown; shoulders, shoulder-covers and dorsum of the first abdominal *clusia*. ring with carmine spots. On the collar, metathorax and at the sides of the abdomen there are metallic blue dots. Forewings yellowish-white with blackish-brown veins, in the larger basal half smoky olive-brownish, with a large blackish-brown apical spot. The very broad hindwings are semi-diaphanous blackish. The species has been described from the Amazon, but I also possess it from French Guiana.

42. Genus: **Saurita** *H. Schöff.*

The genus contains a number of species looking exteriorly very unlike each other; the one group comprises little, delicate, gnat-like insects with semi-diaphanous wings of a slender structure; the other larger group has species being mostly provided with densely scaled wings, with a thick, disproportionate abdomen; others again remind us of the genus *Macrocneme*. Common to all are the erect palpi, doubly (in the ♂ very long-)combed antennae. The cell of the hindwing is long; the lower median and lower radial vein rise from its lower angle, or they are shortly petioled; the upper median vein, in case it be present, from the upper angle of the cell, close in front of the border.

S. cardinalis *Rothsch.* (15 e). This little species does not resemble any other: head, antennae and *cardinalis*. abdomen are bluish-black, like the distal two thirds of the wings; the basal third of the wings and the vertex and thorax are carmine. The legs are blackish-brown. Costa Rica.

- mecrida*. **S. mecrida** Druce (= *dulcicordis* Dyar) (15 e). The delicate, long-extended wings are blackish diaphanous, abdomen and mesothorax of a magnificent scarlet, the collar is bordered with bluish-white. The ♂ exhibits more, less developed, black spots on the dorsum and the sides of the abdomen. It flies in October and November in Mexico (Mexico City and Durango).
- ochracea*. **S. ochracea** Fldr. (= *musca* Schaus, *pontia* Druce) (15 e). The tiny, gnat-like insect is blackish except the ochreous-yellow abdomen, with semi-diaphanous, long, narrow wings. Flying in March to September in Mexico (Orizaba, Misantla, Coatepec) and in Colombia.
- improvisa*. **S. improvisa** Schaus. Easily distinguishable from the preceding by its orange-yellow thorax being anteriorly spotted black and white. Shoulder-covers black; the abdomen on the first segment subdorsally spotted black. The wings are more brownish hyaline, in the distal third thinly scaled. Veins and fringes blackish-brown. Expanse of wings: 24 mm. Costa Rica.
- bicolor*. **S. bicolor** Dogn. differs from *ochracea* (15 d) by its blackish-brown forewings exhibiting narrow hyaline stripes only in and below the cell, and by the hyaline hindwings with brown veins and margins. Besides, the abdomen being yellow in the ♂ shows a black dorsal line and, beginning from the 4th ring, also lateral stripes. In the ♀ the abdomen is carmine instead of yellow. Argentina (Tucuman).
- tricolor*. **S. tricolor** Schaus has an orange body, only the head with the antennae and the 4 last abdominal rings are black. Femora and tarsi yellow, tibiae black, forewings black, in the median area ochreous yellow, hindwings ochreous-yellow with a broad black margin. Expanse of wings: 23 mm. French Guiana.
- hamon*. **S. hamon** Druce. Body bluish-black, collar red-brown. Legs dark brown. Forewings lustrous reddish-brown. Hindwings hyaline, margins black, with an intense blue lustre. Expanse of wings: 35 mm. Peru.
- cryptoleuca*. **S. cryptoleuca** Wkr. (15 f) is, with the following, the sole species with light metallic bluish-green hindwings and thereby very easily recognizable. The body and the forewings are black; vertex, collar, legs, base and sides of abdomen are spotted metallic bluish-green. On the shoulders and at the sides of the 1st abdominal ring carmine spots. The forewings exhibit stripes of metallic bluish-green scales in, behind and below the cell. The hindwings are diaphanous below the cell and at the proximal margin, the veins and margin being black. Forehips and ventral side white. Described from the Amazon; in my collection also from Guiana, and from Venezuela.
- watsoni*. **S. watsoni** Rothsch. (15 f) is easily distinguishable from the preceding by the hyaline spots on the forewings being peculiarly distributed. Panama (Chiriqui).
- biradiata*. **S. biradiata** Fldr. (15 f). Body black; hips, stripes at the front femora and ventral side white. Forewings black, below the base of the cell thinly scaled, in the cell-end 2 bluish-green stripes; behind the cell, between the 2nd median and 4th subcostal vein there are hyaline spots. Hindwings hyaline with black veins, margins, apical and inner-angular spots. Expanse of wings: 28 mm. Amazon.
- tristissima*. **S. tristissima** Perty (15 f) shows on its velvety black body small metallic green spots, and at the side of the 1st abdominal ring as well as at the base of the forewing small red spots. The wings are hyaline with black margins and veins. Amazon (Pará, Massauary).
- attenuata*. **S. attenuata** Hmps. (= *tenuis* Btlr.) (15 b). Body black. Shoulder-covers and base of the wings spotted red; hips and femora with white stripes. Wings hyaline with black veins, proximal margin and apical spot. Expanse of wings: 22 mm. Amazon.
- diffusa*. **S. diffusa** Schaus (15 f). The ♂ is distinguished by quite uncommonly broad forewings and particularly hindwings, in the ♀ they are narrower. Body and wings are sooty black. Bright metallic green spots are on the forehead, sides of the vertex, collar, metathorax and at the sides of the abdomen. Spots on the shoulders and a large square spot on the base of the abdomen are carmine. Forehips metallic green. Costa Rica.
- latens*. **S. latens** Schaus has a black body with red spots on the shoulders and dorsally on the 1st abdominal ring. Anterior tibiae inside yellow-reddish. Wings blackish-brown with darker veins. Expanse of wings: ♂ 25 mm, ♀ 30 mm. Costa Rica.
- submacula*. **S. submacula** Schaus is dark brown on the body and wings; the shoulders exhibit a large carmine spot; on the forehead, collar and mesothorax, as well as at the costal base single blue scales. On the hindwings below the base of the cell there is a reddish stripe and a small pink spot. Expanse of wings: 36 mm. Costa Rica.
- hemiphaea*. **S. hemiphaea** Dogn. Body black with some small, metallic green scales; outside at the collar a white dot, shoulders with red spots. Legs black, hips white. Wings hyaline, iridescent violet, veins and margins black, the proximal halves of the wings strewn with blackish. Expanse of wings: 23 mm. French Guiana.

S. rubripuncta *Schaus.* Body black; forehead, vertex, collar, shoulder-covers, thorax and abdomen *rubripuncta* laterally with metallic blue spots. At the base of the abdomen above a red transverse streak; beneath with a metallic green lustre, behind it a large white spot, hips white. Wings hyaline, at the base of the forewing a carmine spot; veins, margins and apical spot black, as well as a broad median band terminating into the inner angle. Expanse of wings: 29 mm. Costa Rica.

S. mediorubra *Kaye.* Head, thorax and abdomen black, base of shoulder-covers and dorsum of the *mediorubra*. 1st abdominal ring with large carmine spots. Wings semi-diaphanous blackish, with black veins, margins, apical and inner-marginal spots; legs and ventral side black. Expanse of wings: 34 mm. South Brazil (Santos).

S. anthracina *Klages* is one of the largest species with a black body, the forehead, vertex, collar, *anthracina*. shoulders, chest and thorax spotted metallic blue with single white scales between them. Legs blackish-brown. Abdomen with dorsal and lateral stripes of metallic green, and with sublateral spots. Wings blackish-brown with a blue lustre. Expanse of wings: 42 mm. Venezuela.

S. cassandra *L.* (15 f) is very much like *nigripalpia*, of a more brown ground-colour with darker *cassandra*. veins and a faded discoidal spot, also between the median veins there is darker colouring. The base of the palpi and borders of the collar are red. Widely distributed from Venezuela to Argentina, also in Trinidad.

S. erythroguia *Hmps.* (15 f) looks like a very large *nigripalpia*; the abdomen exhibits at the base *erythroguia*. only one red spot, the forehips are red. Before me only from Brazil (São Paulo).

S. nigripalpia *Hmps.* (= *cassandra* *Druce*) (15 g). Clumsy, unicolorously black species with densely *nigripalpia*. scaled wings. Vertex, shoulders and collar with metallic blue spots. Sides of thorax, middle and posterior hips, the first abdominal ring above and at the sides, and the base of the shoulder-covers exhibit scarlet spots. The abdomen shows lateral metallic bluish-green spots, and the apex of the abdomen is scarlet. The quite black palpi separate the species from the similar, though more brownish *cassandra*. Common in the whole of Mexico (from May to August). In Costa Rica there flies a form more similar to *cassandra*: — **costaricae** *costaricae*. *Strand* (= subsp. 1 *Hmps.*) in which the wings turn brownish between the veins, the metallic blue spots being absent on the head and thorax.

S. vitristriga *Druce* (15 g). Black; collar with metallic blue spots; abdomen with metallic green dorsal *vitristriga*. and lateral stripes, with sublateral white spots as well as on the chest and hips. In the ♂ the ventral valve is blackish-brown with broad white borders, the four last rings on the ventral side ochreous yellow. The black wings show hyaline spots of extremely varying extent. Venezuela; British and French Guiana.

S. sanguisecta *Hmps.* (15 g) has a black body; the collar, shoulders, mesothorax and forehips with *sanguisecta*. carmine spots; the abdomen shows carmine articular indentations and silvery blue spots between. The hyaline forewings, at the base with a carmine spot, exhibit a large discoidal spot, being connected with the costal margin and inner angle, as well as a large apical spot; also on the hindwing there is a discoidal spot connected with the anal angle, in the shape of a large, blackish-brown, triangular spot. Colombia.

S. mora *Druce* (15 g). Black, suffused with blue, with white spots on the forehead, vertex, collar, thorax, *mora*. hips and joints. Chest anteriorly with carmine spots. Abdomen above and laterally with white spots, venter white. The black forewings, at the base with a white and blue spot, exhibit hyaline spots below the base of the cell in the middle and end of the cell, above the lower median vein, and a dot above the upper median vein. Hindwings in the cell with a white stripe. Expanse of wings: 30 mm. Panama.

S. lacteata *Btlr.* (15 g). Body brown, on the shoulders and shoulder-covers with carmine spots. *lacteata*. The abdomen exhibits on the dorsum and the first rings laterally whitish-yellow colour. The brown forewings are yellowish-white below and behind the cell, with brown veins, the hindwings yellow-white with brown veins and margins. Expanse of wings: 24 mm. Amazon; found also in Trinidad.

S. nox *Druce* (15 g) resembles the preceding, but on the abdomen the yellow-white colour is absent *nox*. altogether, instead of which there is a red dorsal spot on the first ring. The red spots of the shoulders are absent, the shoulder-covers exhibit red stripes. Forewings thinly covered with brownish-black scales, with darker veins, and a postdiscal, faded, whitish spot. Hindwings diaphanous greyish-black. Expanse of wings: 22 mm. Honduras; Venezuela.

S. perspicua *Schauss.* Body black, with red spots on the shoulders and shoulder-covers. Forehips *perspicua*. grey. Forewings smoky brownish hyaline with black veins and fringes and a more dense black dusting at the base and proximal margin. Hindwings more whitish, dusted with black below the cell and at the distal margin. Expanse of wings: 27 mm. Trinidad.

S. phoenicosticta *Hmps.* (= *trigutta* *Druce*) (15 g). Black with red spots in the neck, at the base *phoenicosticta*. of the shoulder-covers and on the metathorax. Posterior tarsi at the ends white. Wings blackish, diaphanous. From Guatemala and Costa Rica.

- clandestina*. **S. clandestina** Zerny (= *cryptoleuca* Hmps.). Black; vertex and collar with small blue spots; shoulders and metathorax with red spots. Abdomen on the first and last segments above, on the two penultimate ones laterally with blue spots. Wings black with hyaline stripes in and below the cell and quite small ones behind the cell. On the under surface dusted with white. Expanse of wings: 32 mm. Organ Mountains.
- incerta*. **S. incerta** Wkr. (= *corallonota* Fldr., *intermedia* Druce) (15 h). Dull black; forehead laterally white. Vertex and thorax orange-red; forehips white. The black forewings being spotted orange at the base exhibit narrow hyaline stripes in and below the cell. Expanse of wings: 24 mm. Panama; Colombia.
- salta*. **S. salta** Schaus (15 h) is distinguished from the numerous similar species by an orange-red hindhead, white forehead and forehips; from *incerta* particularly by the absence of the red spot at the base of the forewing. Venezuela.
- venezuelensis*. **S. venezuelensis** Klages (15 h) is black, the collar, shoulder-covers and thorax above orange, beneath black. On the head, the body and base of forewings some silvery blue scales. In the ♂ only the basal halves of the wings are hyaline, the marginal halves black, thinly scaled, whereas the ♀ has entirely hyaline wings with darker veins and margins. The species is smaller than *temenus* and distinguished by the thorax being only above orange, being, however, also above black in f. **obscura** Klages. The species is not rare in Venezuela and French Guiana.
- tijuca*. **S. tijuca** Schaus. Head black; thorax orange; abdomen above black, beneath whitish. Forewings diaphanous blackish. Hindwings hyaline, towards the margin darker. Expanse of wings: 30 mm. Brazil.
- thoracica*. **S. thoracica** Klages is dark blackish-brown; forehead whitish; thorax and chest orange-red. Forehips and stripes at the anterior tibiae white in the ♂. The blackish-brown wings are orange-red at the base. Expanse of wings: ♂ 20 mm, ♀ 25 mm. Venezuela.
- sanguinea*. **S. sanguinea** Druce (15 h). Discernible from the following by the 1st abdominal ring being entirely orange-red, the forehead being only laterally white striped, and by the absence of the hyaline spots behind the cell of the hindwing; in place of it there is usually a small orange spot behind the lower cell-angle. Guatemala.
- myrrha*. **S. myrrha** Druce (15 h) is recognizable from among the great number of similar species by the subdorsal orange-red spots on the 1st abdominal ring, by the extensively orange-red base of the wings and hyaline spots on the hindwings in, below and behind the cell. Forehead white. Guatemala.
- vindonissa*. **S. vindonissa** Druce (15 h). The head, the white-dotted collar, and the shoulder-covers are black; the other part of the thorax, the 2 first abdominal rings, and lateral spots on the third ring are orange-red; the other segments are black, all the rings subdorsally, the first dorsally with white spots. The ventral side orange-red, legs black. The black forewings exhibit hyaline spots in the basal half; the hindwings are hyaline with a black border and discoidal spot. Ecuador.
- tenuis*. **S. tenuis** Btlr. (15 i) has a brick-red thorax; the other part of the body is black with metallic blue spots on the head, collar, base of the abdomen and laterally on the last-abdominal rings. The wings are black, in the middle hyaline. Brazil (Espírito Santo).
- astyoeche*. **S. astyoeche** Hbn. (15 h) differs from the preceding by its smaller size, quite black, not blue-spotted head and collar, more orange-red thorax, and by the hindwings being without any hyaline spots behind the cell. Expanse of wings: 30 mm. Surinam; Brazil (Rio Grande do Sul).
- temenus*. **S. temenus** Cr. (= *afflicta* Wkr.) (16 b) differs from the following by distinct hyaline spots in the cell-spaces. The upper median vein is present on the hindwings, whilst in the following species it is absent. Trinidad; Surinam; Pará; Maranhão.
- concisa*. **S. concisa** Wkr. (= *afflicta* Druce) (15 i) has the thorax orange-red above and beneath; the rest of the body and the wings are black; the latter between the veins somewhat more thinly scaled. On the hindwings 2 and 4 are short-petioled, 3 is absent. Panama to the Amazon.
- intricata*. **S. intricata** Wkr. (= *catastibina* Btlr.) (15 i) resembles on the whole *tenuis* Btlr., though it has a quite black thorax. Brazil (Rio de Janeiro, Espírito Santo). — ab. **augusta** Btlr. is a female form resembling the ♂, in which the hyaline spots are absent behind the cell.
- sericea*. **S. sericea** H.-Schäff. (= *demoanassa* Druce) (15 i) looks entirely like a *Macrocneme*: black with white dots on the forehead and the first abdominal ring; the abdomen shows metallic green longitudinal stripes. The black forewings being at the base metallic bluish-green exhibit a small, oblong, hyaline spot at the base of the costal margin. Occurring from Panama to Argentina.
- triangulifera*. **S. triangulifera** Druce (15 i) likewise resembles in its colours a *Macrocneme*: black, suffused with bluish-green, tarsi and spots at the base of the abdomen white. The black wings being metallic bluish-green in the basal halves exhibit whitish hyaline spots in the basal part of the costal margin, below the base of the cell, and quite a narrow one at the cell-end. Brazil (Amazon, São Paulo).

S. bipuncta *Hmps.* (15 k). Very much like the preceding, but the white spots are absent on the first *bipuncta*. abdominal ring, and the hyaline spot in the cell-end is absent, too; the species is besides larger. Distributed from the Amazon to Argentina.

S. melanifera *Kaye* from Santos, South Brazil, is a quite unicolorously sooty black, small animal. *melanifera*. Expanse of wings: 27 mm.

S. tipulina *Hbn.* (= *bibia Wkr.*) (15 k). Beside single interspersed, small scales of metallic green *tipulina*. on the head and prothorax, it is unicolorously sooty black. The abdomen exhibits a grey dorsal stripe being often indistinct; wings semi-diaphanous with black veins. On the hindwings the lower median and radial veins rise unpetioled, the upper median vein is present. Widely distributed from Mexico (Misantla in May) through Guatemala and Panama as far as Brazil (Pará, Sao Paulo, Espiritu Santo, Sa. Catharina).

S. trichopteraeformis *Jörgensen*. I cannot tell whether this species, having remained unknown to *trichopteraeformis* me, may be identical with *melanifera*. The body is short and rather squat. Of a pure black, the wings at a certain exposure to the light with a greenish lustre. Veins somewhat more densely scaled. Posterior hips with white stripes. Expanse of wings: 30 mm. Argentina (Bonpland) in November.

S. lasiphlebia *Dogn.* (15 k) is smaller and of a more compact structure than *tipulina*, abdomen and *lasiphlebia*. wings shorter and broader, the wings are lighter transparent, of a very intense green and carmine iridescence, the colour is a plain, dull blackish-brown, the metallic green scales are absent, the veins of the wings are covered with very thick, velvety brown scales; the grey dorsal stripe on the abdomen is absent. French Guiana.

S. diaphana *Dogn.* Body quite unicolorously black. Wings long and narrow, blackish hyaline, of *diaphana*. a rather intense iridescence. Veins and fringes black; costa and base of the forewing and proximal margin of the hindwing more densely scaled black. Expanse of wings: 26 mm. South East Peru (Carabaya).

S. pellucida *Schaus* (15 k) has a velvety-black body and in the ♀ semi-diaphanous blackish forewings; *pellucida*. the hindwings and in the ♂ the apical third of the forewing lighter transparent. Brazil (Rio de Janeiro; Santos).

43. Genus: **Sauritinia** *Dyar.*

The only species deviates from *Saurita* by the presence of an accessory cell on the forewing, only the 3 lower subcostal veins rising from a joint footstalk, whilst the 2nd subcostal vein rises from the cell itself before its upper corner, in order to form together with the said footstalk a long, accessory cell.

S. dubiosa *Schaus* is very similarly coloured to *Saurita sanguinea* (15 h), but considerably smaller. *dubiosa*. The body is black, collar, thorax and 1st abdominal ring orange-red. The wings are diaphanous smoky brownish with darker veins; on the forewing the costal and proximal margins, as well as a streak on the cell-fold are black. Expanse of wings: 21 mm. French Guiana.

44. Genus: **Scena** *Wkr.*

Only 2 species somewhat similar to each other, of a considerable size and with densely scaled wings. Thorax and abdomen are densely covered with woolly hair, the palpi erect. On the hindwings the upper median vein and the middle radial vein are absent. On the forewings both the upper subcostal veins rise separately from the cell, only the lower ones are petioled.

S. potentia *Druce* (15 l). The smaller one of the two species; blackish-brown with a slight, greyish-blue *potentia*. lustre. Collar, mesothorax, and the shoulder-covers being at the apex bordered with black, are orange. Antennae white at the tips. Mexico (Jalapa; Orizaba) and Costa Rica.

S. styx *Wkr.* (= *propylea Druce*) (15 k). One of the largest *Syntomidae*. Head, collar, mesothorax and *styx*. the shoulder-covers being black at the apex are dark orange, on each side of the collar a peculiarly opalescent, amethystine spot. Antennae black with a white apex. Ends of the posterior tarsi likewise white. Wings and abdomen black. The wings exhibit at the bases and at the cell-ends lustrous ultramarineblue spots. Abdomen above, at the sides and beneath likewise with blue spots. Apparently only from Mexico (Mexico-City, September, Jalapa). — The larva lives gregariously on a creeper with red blossoms.

45. Genus: **Micragyrta** Btlr.

Proboscis well developed; the slender palpi are erect and extend with their 2nd joints beyond the vertex, the 3rd joint being very small. Tibiae with short spurs. The veins of the forewings differ from those of the allied genera by the two uppermost subcostal veins rising from the cell on a joint footstalk, whereas the three lower ones are separately petioled. On the hindwings both the median veins stand on a long footstalk; the lower radial vein comes from the lower cell-angle. The subcostal vein and the uppermost radial vein are likewise petioled.

diminuta. **M. diminuta** Wkr. (= *gavisa* Wkr.) (15 l). The only species known hitherto most strikingly copies small *Agyrta*-species and also *Mimagyrta pampa* (12 k). The body is black with a blue lustre extending to the basal halves of the wings. The wings exhibit hyaline spots arranged exactly like in *pampa*. Forehead white. Expanse of wings: 30—34 mm. Amazon (Pará).

46. Genus: **Metaloba** Hmps.

In their exterior, the two species remind us of the genus *Calonotos* from which they differ by the short-petioled 2 uppermost subcostal veins of the forewing, by the much shorter cell of the hindwing, as well as by the petioled subcostal vein and 1st radial vein. In the ♂ the costal vein is rudimentary; the proximal margin exhibits an oval, lobular appendage containing in a fold thick woolly hair.

nana. **M. nana** Druce (15 l). Black; palpal base, forehead and collar, and at the sides of the first abdominal ring with white dots. The abdomen exhibits yellow-golden, dorsal and lateral longitudinal stripes. On the black forewings there are below the middle of the cell one, behind the cell 3 hyaline spots in both sexes. The appendage of the hindwing is black with brown hair. Colombia.

argante. **M. argante** Druce (15 m) differs from *nana* by metallic green longitudinal stripes on the abdomen. The forewings exhibit only one round hyaline spot behind the cell in the ♀, whereas the ♂ exhibits three, like *nana* in both sexes. The appendage in the ♂ is whitish with ochreous yellow hair. Expanse of wings: 42 mm. Ecuador.

47. Genus: **Psoloptera** Btlr.

Differing from the preceding genus by the unpetioled subcostal vein and uppermost radial vein on the hindwing, and by the absence of appendage of the proximal margin. The rudimentary costal vein is absent, too. On the forewing the first median vein distinctly rises below the lower cell-angle; the two lower radial veins run for some distance near each other, the upper radial vein comes from below the upper cell-angle. The subcostal veins rise on 2 petioles, as in the preceding.

basifulva. **P. basifulva** Schaus (= *thoracica* Druce) (15 m) differs from the following species by its larger size, somewhat narrower wings and the more orange-red colour of the thorax, which also extends to the base of the wings. From Panama, also from Peru.

thoracica. **P. thoracica** Wkr. (15 m) has wings of a deep indigoblue lustre, a dark carmine thorax, and white dots on the vertex, shoulders and first abdominal ring. Guatemala, Panama, Ecuador, East Colombia, Amazon, Peru.

leucosticta. **P. leucosticta** Hbn. (15 m) differs from the preceding by the black colour of the thorax; the first abdominal ring exhibits two white dorsal spots. Venezuela, Guiana, Amazon, Trinidad.

aurifera. **P. aurifera** H.-Schäff. (15 l, m) is considerably larger than the preceding. Blackish-brown, tips of the antennae white. Collar, shoulder-covers, mesothorax and first abdominal ring with green spots, the other rings show dorsal and lateral golden-green stripes. The blackish-brown forewings are in the basal halves golden-green and exhibit in the ♀ small white spots below the middle of the cell and behind the upper cell-angle, or only on either of them. Expanse of wings: 50 mm. Amazon (São Paulo).

48. Genus: **Eurota** Wkr.

This genus contains a number of rather variegated species the exterior of which reminds us of the Indo-Australian *Euchromia*. The squat abdomen exhibits on the segments lateral short hair. The antennae are thickened in the middle part of the shaft. The neuration does not exhibit any characteristic marks.

E. hermione *Burm.* (16 a). Among the species with yellow and red lateral stripes on the abdomen *hermione*. and a red proximal part of the hindwing, it has the largest hyaline spots and is considerably larger than the following. On the blackish-brown body there are yellow spots on the collar, shoulders and forehips; the anal margin of the 1st segment exhibits 2 yellowish-white spots. On the 5th and 6th rings the yellow and red lateral spots form transverse bands across the dorsum. The ventral side is yellowish-white on the first segments. Argentina. — The larva strikingly resembles that of *strigiventris* and mostly lives gregariously on *Senecio albi-caulis* and *pinnatus*.

E. paraguayensis *Schrottky* (26 k) which was considered by the author to be a form of *hermione*, is, *paraguayensis*. according to JÖRGENSEN, a distinct species; it is considerably smaller, of a much lighter brownish ground-colour; only the first abdominal ring exhibits laterally some red; the white dots at the posterior margin of the same ring are much smaller; the segments 4 and 5 exhibit laterally 2 distinctly defined, yellow spots. It flies in Argentina and Paraguay from January to June on compositae, in clearings as well as in the woods.

E. tisamena *Dogn.* greatly approximates the preceding, but all the yellow spots are here white. The *tisamena*. 4 first abdominal rings show above 2 white dots each, fading away posteriorly; the 5th and 6th rings exhibit white transverse bands with a lateral carmine tint; at the sides a series of white dots with single, small red scales. Venter, except the 2 last brown rings, entirely white. Wings as in *hermione*. Expanse of wings: 33 mm. Brazil (São Paulo: Paranapanema).

E. minerva *Schaus* approximates the preceding. Body black; collar and anterior half of the shoulder-covers exhibit large yellow spots. The 3 first abdominal rings show lateral carmine spots, the 2 next ones yellow spots. Forewings black, at the base a yellow stripe; base of proximal margin with red hair. The wings exhibit hyaline spots arranged the same as in the preceding species; but below the spot, being situated under the median, there is another, small, fourth spot, and the postmedian row of spots consists only of 4 spots. Hindwings as in *hermione*. Expanse of wings: 27 mm. Castro (Paraná). The species also greatly resembles the following, though it is much smaller, the hyaline spots larger.

E. schausi *Hmps.* (= *helena Schaus*) (16 a) differs from the preceding by the much smaller spots on *schausi*. the wings, its much larger size and the entire absence of the white dots at the posterior margin of the 1st abdominal segment. Brazil (Paraná).

E. igniventris *Burm.* (16 a) is greatly distinguished by the body being quite red; mesothorax and *igniventris*. outside of the shoulder-covers black. The abdomen shows black, blue-pupilled, dorsal spots on the 1st, 3rd and 4th segments. On the vertex, collar and thorax there are single scales of a blue lustre. The black wings exhibit yellow transverse bands. Argentina; before me there is a ♀ from BANG-HAAS without the patria being stated.

E. semiluna *Wkr.* (16 a). Black; palpi, vertex, collar and proximal margin of the shoulder-covers, *semiluna*. as well as the posterior margin of the thorax carmine. The 1st abdominal ring shows red spots, the 2nd a carmine band, and the 3 last ones red, confluent dorsal spots increasing in size posteriorly; the middle rings are bordered with metallic blue. Wings black, with orange spots, arranged in the same way as in *igniventris*, but a little more confined by the black ground-colour. Expanse of wings: 48 mm. Brazil.

E. selva *H.-Schäff.* (16 a). Blackish-brown; collar orange and scarlet; red are, furthermore, the meta- *selva*. thorax, lateral bands on the 3 first abdominal rings and spots on the 2 last segments, the 4th and 5th show above orange and red transverse bands, being strangulated in the middle. The forewings show hyaline stripes at the costal base, in and below the cell, as well as an irregular hyaline band behind the cell between the 2nd median and the 4th subcostal vein. Hindwings entirely hyaline with black veins and an irregular marginal band. Expanse of wings: 34 mm. Argentina.

E. herrichi *Btlr.* (= *sericaria H.-Schäff.*) (16 a) has the abdomen yellow curled except the last black *herrichi*. segment, and a carmine metathorax; the spots on the forewings are not quite constant and are inclined to coalesce. The basal spot on the hindwing is tinted red at the base. Paraguay; Rio Grande do Sul; Argentina.

E. sericaria *Perty.* Blackish-brown with yellowish-white collar and shoulders; metathorax carmine. *sericaria*. The 4 first abdominal rings have white bands, the others are quite blackish-brown. Wings similarly marked as in the preceding, but with a long white subcostal stripe extending as far as two thirds of the costal margin. Expanse of wings: 42 mm. Brazil (Rio de Janeiro; Minas Geraes).

E. vulcanus *Wkr.* (16 b) is a very large, differently coloured species. Black; tips of antennae, spots *vulcanus*. on the shoulders, sides of thorax, subdorsal and sublateral, oblong transverse spots on the abdomen white. Anterior femora and the lateral tufts on the abdomen are carmine. Wings black with hyaline spots arranged similarly as in *stictibasis*, but the base is not yellow, and on the hindwings, below the base of the cell there is another large hyaline spot. Expanse of wings: 52 to 60 mm. Mexico.

E. histrio *Guér.* (16 b) is blackish-brown with large hyaline spots of an orange-yellowish lustre on *histrio*. the wings. Forehead, metathorax, dorsum and sides of the abdomen exhibit white spots; collar and shoulders

with metallic blue spots; stripes on the shoulder-covers and lateral large spots on the 3 first abdominal segments are carmine. A common species occurring from Bolivia to Paraguay.

baeri. **E. baeri** *Rothsch.* (16 c). One of the smallest species with a black body; palpi, spots on the shoulders as well as broad lateral stripes on the abdomen are carmine. The hips and sublateral spots on the abdomen are white. The antennae are black, before the tips with a white band. The black wings are spotted white. Argentina (Tucuman, 600 m).

parishi. **E. parishi** *Rothsch.* (16 c) is one of the smallest species and greatly resembles the small Indo-Australian *Syntomis*-species. The body is black; forehead, shoulders and forehips are white; the first 5 abdominal rings are reddish white with black dorsal spots on the second to fourth segments; the other rings are black, the abdominal apex reddish white. The black wings exhibit diaphanous white spots. Cuba.

stictibasis. **E. stictibasis** *Hmps.* (16 b) is blackish-brown with hyaline spots on the wings, the one at the base of the forewing is more or less yellow. The collar and 2 rings on the two penultimate abdominal segments are yellow. The sides of the 3 first abdominal rings exhibit triangular, bright red spots, those of the first segment being connected on the dorsum by a yellow transverse streak. From Brazil (Sao Paulo).

maritana. **E. maritana** *Schaus* (16 c) differs from the preceding by the collar being only narrowly margined with yellow, and the entirely black ventral valve of the ♂. It has a long basal spot below the median, the hindwings exhibit a much smaller spot. Brazil (Paraná).

patagiata. **E. patagiata** *Burm.* (16 c) is easily recognizable by the bright red base of the forewing, and the whole inner-marginal half of the hindwing is red, too. On the blackish-brown body the collar and transverse bands on the 1st, 4th and 5th abdominal rings are white or yellow; the abdomen has lateral red spots, the 4th and 5th rings on the ventral side white bands. Argentina.

picta. **E. picta** *H.-Schäff.* (= *pictula* *Wkr.*) (16 c) is likewise similar to *stictibasis*, but all the abdominal segments are broadly margined with a bright yellow, the base of the proximal margin of the hindwing is yellow and carmine. Occurring from Venezuela to Paraguay, where it is found in open districts on compositae nearly all the year round. — The larva is light yellow with short, greyish-black, paired dorsal brushes and with white, black-haired, small tubercles; the head is brown. It often lives gregariously in different compositae and spins a soft, yellowish, somewhat transparent cocoon with interwoven hairs.

elegans. **E. elegans** *Druce* is considerably larger than the preceding and deviates by an entirely black collar; of the same colour are the head, antennae, palpi, legs and apex of abdomen. The abdomen is otherwise unicolorously pale yellow, the first ring and the sides of the 2nd and 3rd rings bright red. Forewings black, at the base light yellow. Spots, and the red base of the proximal margin of the hindwing like in *picta*. Expanse of wings: 50 mm. Paraguay.

strigiventris. **E. strigiventris** *Guér.* resembles the following, being somewhat smaller and distinguished by large, golden-yellow spots on the shoulders, as well as by the abdomen, exhibiting only lateral rows of large, triangular, golden-yellow spots being connected with each other. Venter with 2 rows of white, more or less triangular spots flowing posteriorly together. Wings very much like in *helena*, the basal spot of the forewing consists of 3 white spots. South Brazil to Argentina. — subsp. **boliviana** *nom. nov.* (= subsp. 1. *Hmps.*) is considerably smaller, particularly the ♀ has much smaller wings; the middle spots on the wings are smaller. Bolivia.

helena. **E. helena** *H.-Schäff.* (16 c) (= *laetifica* *Maass.*) is distinguished from all the other species by the abdomen being curled light yellow as far as the end, the red colour being altogether absent; the venter shows 2 rows of sublateral white spots. The brown wings exhibit white spots, at the base of the hindwing an orange-yellow spot. The ♀ has much smaller wings with reduced spots. Bolivia, South Brazil, Argentina.

nigricincta. **E. nigricincta** *Hmps.* (16 d) resembles *strigiventris*. Head and thorax blackish-brown; collar laterally yellow; on the metathorax a yellowish-white transverse streak. Abdomen orange, on the 1st ring a black middle spot, on the others black transverse bands, the last segment black; at the sides there is a series of black spots. Venter yellowish-white, with black bands. Wings like in the similar species; the yellow basal spot of the forewing greatly bends inward on the inner-marginal vein; the hyaline spot below the first median is very small and is situate close at the border. The yellow basal spot of the hindwing is small, the hyaline spot extends from the subcostal vein to the lower median vein, the spots above the 1st radial and 2nd median very small. Expanse of wings: 28 mm. Argentina.

spgazzinii. **E. spegazzinii** *Jørgensen* (16 c, 26 m) is very much like *nigricincta* *Hmps.*, but the black dorsal spot on the first abdominal ring is absent, and only the segments 2 to 4 exhibit a narrow black belt; the basal, yellow spot of the forewing runs from the median in a straight line obliquely to the base, and does not bend inward on vein 1. Venter quite orange. The ♀ has stunted wings. It flies in January to April in Argentina. — The yellow larva being provided on the segments 2 to 10 with paired, truncate, blackish-grey hair-tufts and with a red-brown head, lives on *Miacnia scandens* and changes into a light yellow cocoon with interwoven hairs.

E. xanthosoma *Hmps.* is likewise closely allied to the preceding, but it differs by its entirely orange-*xanthosoma*. yellow abdomen, only the last segment being black beneath. Beside the collar and shoulders also the vertex, forehips and chest are orange-yellow. Wings as in *spgazzinii*. Expanse of wings: 30 mm. Argentina.

49. Genus: **Dycladia** *Fldr.*

Half a dozen of small species partly resembling beetles, with the forewings marked yellowish-brown and black, or also with small hyaline spots. A characteristic mark is offered by the antennae being strongly thickened in the middle. On the forewing the first median vein rises with the two lower radial veins from the cell-angle. On the hindwing the lower median vein and the 3rd radial vein rise unpetioled.

D. lydia *Druce*. Black, posteriorly with a blue lustre. Collar, abdominal base and a fine lateral line *lydia*. chrome-yellow. The black forewings exhibit a postdiscal, curved, yellow-hyaline band; on the black hindwings a narrow hyaline stripe runs from the base to the middle of the distal margin. Expanse of wings: 26 mm. South Brazil.

D. melaena *Hmps.* (16 d). Body black; tips of antennae white. Hindhead and collar with orange *melaena*. spots. At the sides of the abdomen there are orange-yellow macular stripes. Wings black with hyaline spots in, below and behind the cell. Bolivia (Rio Songo). — subsp. **brasiliensis** *nom. nov.* (= subsp. 1. *Hmps.*) exhibits *brasiliensis*. hyaline spots only behind the cell between the upper median and lowest subcostal veins, whereas they are absent in and below the cell. Brazil (Sa. Catharina).

D. xanthobasis *Hmps.* The body is blackish-brown, posteriorly with a metallic blue lustre. Base of *xanthobasis*. palpi, hindhead and shoulders with orange stripes. At the sides of the abdomen there are stripes of confluent, triangular, orange-yellow spots. Forewings blackish-brown, at the base orange. Hyaline spots are in and below the cell, as well as an oblique band between the 1st median and lowest subcostal vein, extending as far as the margin and defining proximally a round, blackish-brown discal spot. Hindwings hyaline with black veins, margins, discoidal and apical spots, and an orange-yellow base. Expanse of wings: 26 mm. British Guiana.

D. vitrina *Rothsch.* (16 d). Head and thorax are brownish orange, forehead black, vertex with black *vitrina*. spots, palpal terminal joint black; the thorax shows a black middle stripe; the first abdominal segment is orange with a black middle band, the other rings are metallic blue, black curled. The black antennae are white before the tips. The wings are yellowish hyaline, at the bases, costal margins and veins orange-brown, a large discoidal and apical spot as well as the proximal angle are black. The hyaline hindwings are at the base orange, with a blackish-brown margin. Honduras and Ecuador.

D. lucetius *Cr.* (= *transiens* *Wkr.*) (16 d). Similar to *correbioides*, smaller, the abdomen exhibits as *lucetius*. far as the end broad, orange-brown lateral stripes. In the ♀ the black is more extensive on the forewings, the yellow reduced. Brazil (Pará, São Paulo), Paraguay.

D. correbioides *Fldr.* (16 d). Forewings orange with a black apical spot and black cellular spot which *correbioides*. extends, greatly broadened, as far as the proximal angle, hindwings orange with a black border. Body black, with lateral blue spots on the abdomen. Collar and shoulder-covers orange. The black antennae are white before the tips. Widely distributed and common in Mexico, Guatemala, Honduras, Costa Rica, Panama, Colombia.

50. Genus: **Syntomeida** *Harr.*

Rather large species reminding us of the Indo-Australian *Euchromia*, with dark, white-spotted wings. The erect palpi are at the base provided with long hair. The antennae are thickened after the middle. On the hindwings the lower median and lower radial veins have a short petiole, the upper median vein rises from the lower one shortly before the border, the middle radial is absent.

S. joda *Druce* (16 d). Head and thorax bluish-black, the vertex with metallic blue spots; collar and *joda*. shoulder-covers orange-yellow, bordered with black; forehips with orange and white spots, legs with white stripes. Abdomen black and metallic blue, with subdorsal orange spots on the 1st, 4th and 5th rings. The ventral valve, a spot in the centre of the venter and the anal tuft beneath orange. Wings black, the forewing with a yellowish-white spot in and below the middle of the cell and a second one behind the cell. Also the hindwing exhibits a spot below the cell and one behind it. Mexico.

- hampsoni*. **S. hampsoni** Barnes greatly approximates *joda* (16 d) from which it differs by subdorsal orange-yellow spots on all the abdominal segments. Forehips inside whitish, outside yellow; the anal tuft is only above yellow, at the sides and at the end black. The yellow ventral valve is bordered with black, and the venter exhibits yellow bands. — **befana** Skinner which was based on one example, scarcely differing, may be synonymous. From South Arizona.
- melanthus*. **S. melanthus** Cr. (= *apricans* Wkr.) (16 d). Black with a bronze-green, blue or violettish-blue lustre. Antennae black with white tips; collar and shoulders with orange spots; sides of thorax and hips with white spots. Abdomen with white bands merging into deep orange-yellow and which always remain white on the ventral side. Forewings with pale greenish-yellow spots: a large one below the base of the cell, one in the middle of the cell, and one close beneath it, and 4 in one row behind the cell. Hindwing with a white hyaline spot parted by the veins at the base, and 2 pale-yellow spots behind the cell. The extent and number of the spots varies greatly. Common from Mexico through the whole of Central America as far as Uruguay and Peru. — f. **nycteus** *Stoll* are specimens with greatly reduced spots on the wings. — **nexilis** form. nov. (= ab. 2. *Hmps.*) may be introduced for those specimens in which the two spots below the cell are confluent. — f. **albifasciata** Btlr. (16 e), finally, are the specimens with more or less white abdominal rings, in contrast with the yellow-curved type.
- austera*. **S. austera** Dogn. is much smaller than the preceding; head and thorax quite black with a deep green lustre, of the same colour is the abdomen exhibiting on the two first rings yellowish-white, on the 4 next ones dark brick-red belts; venter with white bands; hips with white spots, as well as the femoral joints of the hindlegs. Tips of antennae white. Forewing with a yellow dot at the base, a larger yellowish-white spot behind it between the median and inner-marginal vein, and a small round spot behind the cell between the upper radial and 5th subcostal vein. Hindwing with several spots, being hyaline at the base, yellowish in the cell. Expanse of wings: 38 mm. Paraguay.
- syntomoides*. **S. syntomoides** Bsd. (= *sauleyi* Guér., *niveifascia* Wkr., *wrighti* Gundl.) (16 e). Black with a blue lustre. The arrangement and number of spots, being here all white and somewhat diaphanous, is similar to that of *melanthus*. The first segment of the bluish-black abdomen exhibits a white band, which may also be broken up into spots or be absent altogether. The three middle segments exhibit on the ventral side white transverse bands. Preponderantly insular inhabitants: Cuba, Bahamas, St. Lucia, Dominica, Barbados, Martinique, but also from Mexico: Cordoba, Misantla, Tehuacan (Puebla) in April and September. — ab. **angasi** Druce has an entirely black ventral side without any white bands. — f. **spiracula** Mén. shows the spots on the wings greatly reduced, the spots in the cell or below the first radial vein are mostly absent altogether; on the hindwing the spot above the 2nd radial is absent. — f. **vidua** Mén. On the forewing also the spot below the middle of the cell is more or less extinct, on the hindwing the inner-marginal spot is absent.
- vulcana*. **S. vulcana** Druce (16 e). Bluish-black; sides of thorax and the hindhips with white spots. The abdomen exhibits on the 1st ring a white dorsal dot and subdorsal spots, and on the 3 middle segments sublateral white spots. The forewing exhibits at the costal base, below the base of the cell and in the middle of the cell yellowish-white dots. The hindwing with a hyaline basal spot. Expanse of wings: 54 mm. Mexico.
- ipomeae*. **S. ipomeae** Harr. (= *ferox* Wkr., *euterpe* H.-Schäff.) (16 e) is bluish-black on the head and thorax; collar, shoulders and thorax above and laterally with orange spots; hips orange; abdomen with broad orange bands. Wings metallic bluish-black, the forewing with an orange-yellow dot at the base, as well as small yellowish-white spots of various development below the base and middle of the cell, behind the upper cell-corner and 2 larger ones behind the lower cell-corner. The hindwings show a hyaline spot below the base of the cell. Expanse of wings: 48 mm. Southern United States.
- epilais*. **S. epilais** Wkr. (16 e). A beautiful, large, bluish-black species with white tips of the antennae. The forewing exhibits at the base of the costal margin a small, snow-white spot, another round one is below the middle of the cell, a small one at the end of the cell and 4 unequally large ones behind the cell. The hindwings exhibit behind the cell-end a white spot. The first abdominal ring exhibits above 2 large white spots with one or 2 dots between, the 3 following rings have lateral white spots. The last 2 abdominal rings are of a deep carmine. Mexico to Honduras. — The red larva with black hairs and hair-pencils on the 3rd, 4th, and 7th to 13th segments, with an orange-red head, according to *Dyar*, lives on *Nerium odoratum* and constructs a thin cocoon interwoven with its hairs, in which it changes into an orange pupa with black stripes and bands. It flies in Mexico from February to July. — v. **jucundissima** *Dyar* (= *epilais* Neum. and *Dyar*) is the form from Florida.

51. Genus: **Enope** Wkr.

Of a much more robust structure than the preceding genus with broader wings. Palpi shorter, more porrect and long haired. The whole body is densely covered with long, shaggy hair. In the neurulation no essential difference. Only one species:

E. toolumnensis *H.-Schöff.* (= *hirsuta* *Wkr.*) (16 e). Body black. Palpi and antennae at the tips white. *tolommen-*
Collar spotted white, legs striped white. Wings with a green lustre and with large yellowish hyaline spots, on *sis.*
the forewing in and below the cell, and an oblique row of 5 spots behind it between the lower median and 5th subcostal vein; at the base there are 2 subcostal, ochreous-yellow stripes. Hindwings subcostally and below the cell with white hyaline stripes, in the cell and behind it yellow hyaline spots. The inner-marginal area black without a green lustre. Expanse of wings: 50 mm. Colombia (Bogotá).

52. Genus: **Xanthomis** *Hmps.*

Characterized by long, roughly haired, porrect palpi, the woolly-haired thorax and abdomen, and the antennae being thickened behind the middle, in the ♀ serrate-dentate. On the hindwings the lower median vein and lower radial vein rise unpetioled from the cell, the first median vein from the lower one shortly before the border.

H. grandis *Druce* (16 f) is an uncommonly characteristic, rather large species, being above bright *grandis.*
orange, beneath black. The border of the wings is narrow at the apex of the forewing and round the proximal angle, on the hindwings broadly black. From Costa Rica; before me there are also specimens from Panama (Chiriqui).

53. Genus: **Hystiaea** *Wkr.*

Very large, robust animals with brown wings being decorated with yellow and red spots and metallic blue dots. On the forewings the upper radial vein rises below the upper cell-angle, just like on the forewings, too; here the discocellular is very large, from its lower corner the lower median and the lower radial vein rise unpetioled. The centre of the range is the Amazon District; only few species reach the southern parts of Central America.

H. paulina *Wkr.* (16 f) is not to be confounded with any other species by the dense hair on the upper *paulina.*
surface of the ♂ hindwings, leaving free only the marginal part. Otherwise like the following from which it differs by the abdomen, which does not exhibit a blue lustre posteriorly and shows only lateral blue spots. The orange-yellow oblique band of the forewings is much broader, the carmine stripes being more distinct and extending farther towards the margin. The hindwings are quite dark brown. Expanse of wings: 70 mm. Brazil (São Paulo).

H. imaon *Hmps.* (16 f) is easily recognizable by the peculiar shape of the hindwings being almost *imaon.*
quite brown, only a very minute red spot is situate at the border above the lower median vein. The forewings exhibit a narrow, orange-yellow band behind the cell and narrow, subcostal and submedian red stripes as well as above vein 1. The brown abdomen is posteriorly quite metallic blue. Amazon (Surimaya).

H. hoffmannsi *Rothsch.* (16 g) is somewhat allied to *imaon* and is at once discernible by the large *hoffmannsi.*
orange-yellow distal-marginal spot on the hindwing, the proximal half of the forewing being almost quite red, by the broader yellow postdiscal spot and the brown, not metallic blue abdominal end. Brazil (Rio Madeira).

H. meldolae *Btlr.* (= *bellatrix* var. *Wkr.*) (16 g) differs from *bellatrix*, particularly the form *aucta*, *meldolae.*
which it approximates greatly, by the very extensive spread of the red colour on the forewings; furthermore, the two upper spots of the yellow postdiscal macula small, the two lower ones large and moved more towards the margin. In Panama, Venezuela and Trinidad, apparently not rare.

H. bellatrix *Wkr.* (16 f) exhibits on the blackish-brown body metallic blue spots on the forehead, *bellatrix.*
neck, collar, metathorax and at the abdominal sides beginning from the 3rd ring. The base of the shoulder-covers and the two first abdominal rings above cream-coloured. The four pale yellow postcellular spots are arranged in one row. In the typical form the forewings are coloured exactly like in *amazonica*. — f. **columbiae** *columbiac.*
Btlr. has a considerably larger yellow postdiscal spot, the red spots on the hindwings stay separated, the yellow of the proximal margin is greatly reduced. — In f. **aucta** *form. nov.* (= ab. 2 *Hmps.*) (16 g) which is before me *aucta.*
from Muzo, the red colour is broadened from the median to the proximal margin and parted only by the black vein 1. In the specimen before me there is besides a yellow cuneiform spot in the base of the cell of the forewing; on the hindwings the red spots are larger and broadly flown together. — From Colombia (Bogotá) and Venezuela (Aroa).

H. cepheus *Cr.* (16 g) is characterized by 3 yellow abdominal rings which are dorsally interrupted; *cephus.*
the under surface also shows a yellow band at the 4th segment; laterally there are metallic blue spots. Forehead, shoulder-covers and forehips usually with yellow spots. Forewings with a metallic blue spot at the base and 2 at the transverse vein; short carmine stripes are at the base below the costa and median as well as at the

base of the lower median vein. In the cell-end an obsolete grey spot and 4 larger ones behind it, the two lower ones of which are moved more towards the margin. The hindwings exhibit large red spots below and behind the cell. Expanse of wings: 64 to 72 mm. Trinidad; Venezuela; Surinam. — It is open to doubt whether a form from Colombia (Medina, FASSL) lying before us in one ♂ example is to be taken as a subspecies to *cepheus*, or rather to be regarded as a distinct species: — *oculea* (subsp. nov. ?) (16 h) above all differs by a quite yellow cell of the forewing, in the centre of which there is a jet-black round spot. Between 2 reddish submedian stripes there is on the fold a black, bent stripe, behind which there is a reddish yellow spot. Veins towards the margin somewhat lighter. Forehead, collar and forehips yellow. The 3 first abdominal rings exhibit large dorsal, metallic blue spots, so does the last ring. The red spots of the hindwings are very extensive.

monticola. **H. monticola** Klages likewise resembles *cepheus*. Blackish-brown, on the forehead and shoulders yellow-brownish, on the vertex, collar, metathorax and chest blue spots. Forehips spotted yellow. The 1st abdominal ring exhibits dorsally and subdorsally 2 yellow-brownish spots each, the 2nd and 3rd ring with subdorsal yellowish transverse bands, on the 2nd ring dorsally a metallic blue spot, beginning from the 2nd ring there are lateral and sublateral blue spots; on the ventral side from the 2nd to 4th rings yellow transverse bands. Forewings at the base and transverse vein blue; subcostally, submedianly, in the cell-end and below the base of the lower median vein striped carmine with a brownish dusting; the postdiscal spot and hindwings like in *cepheus*. Expanse of wings: 62—66 mm. Venezuela.

boliviana. **H. boliviana** Druce (16 h) is easily recognizable by the yellow abdominal rings being not on the 1st and 2nd segments, but on the 2nd and 3rd, and being interrupted on the dorsum at their posterior margin by blue spots. Forehead and base of shoulder-covers exhibit yellow spots. In the cell-end of the forewing there is a large yellow spot being two-pronged towards the base, in the submedian space two extinct, yellow-reddish, bent, stripe-like spots. The lowest macula placed outwardly of the postdiscal spot is the smallest. Bolivia.

peruviana. **H. peruviana** spec. nov. (16 h) approximates *boliviana* by being also yellow on the 2nd and 3rd rings, but the segments are broad and uninterrupted. The forehead is black, the shouldercovers in the whole upper half yellow. Beside the red stripes being arranged like in *bellatrix*, on the forewings, the basal half of the cell exhibits yet a fourth. At the cell-end there are, as usually, 2 blue dots. The yellow postdiscal spot is small and narrow and extends only from 4 to 7. The hindwings are almost quite pale red with an irregular brown border and brown costal-marginal spot. Behind the yellow rings the abdomen is above entirely metallic blue. One ♂ from Peru (Cuzco), BANG-HAAS.

falerina. **H. falerina** Druce. The body is black, the abdomen with a metallic blue reflection, also the head and neck with blue spots. Forewing in the basal half quite red, with black stripes; at the base and cell-end metallic blue spots, and behind the cell a broad, yellow oblique band. Hindwings quite red with a black marginal band, which grows broader at the apex and at the middle of the distal margin. Expanse of wings: 72 mm. Peru (Marcapata).

maon. **H. maon** Druce (16 h), as *imaon*) differs from *imaon* by the normal shape of the wings and more intensely prominent red stripes on the forewings. Bolivia.

amazonica. **H. amazonica** Btlr. (16 i) is characterized by a bent, narrow, red stripe in the submedian area, a narrow red costal stripe and a mostly quite obsolete inner-marginal stripe, a large yellow postdiscal spot extending from the proximal margin almost to the distal margin, and like in the allies by a quite brown, blue-spotted body without any yellow markings. The hindwing, in the nomenclatory type, exhibits a large red postcellular spot, which is reduced and parted into two small ones in — f. *inferioris* Btlr. Amazon; from the Coll. FASSL there is before me a typical ♂ from East Colombia (Villavicencio, 400 m).

proserpina. **H. proserpina** Hbn. (16 i) differs from the preceding by a quite obsolete carmine spot in the cell-end and a lower one below the rise of the 2nd median vein. The yellow spot in the cell-end is absent. Amazon; Peru.

glaucozona. **H. glaucozona** Druce (16 i) is well recognizable by the peculiarly greyish-yellow tint of the postdiscal spot. The abdomen is like in the preceding without any yellow rings. On the forewings there is only little to be noticed of red markings; in the middle of the cell there is a reddish spot being divided in two at the end. Veins and submedian fold are striped somewhat darker. On the hindwings a large red postcellular spot. Amazon.

excreta. **H. excreta** spec. nov. (16 i). Closely allied to the preceding; at first sight discernible by two red spots on the hindwings. The forehead and base of the shoulder-covers are spotted yellow; the blue lateral spots at the abdomen are very large; the ventral side of the two first segments is spotted yellow. The veins are not darker striped; in the middle of the cell there is a square reddish spot; below it in the submedian space two reddish spots touching each other outside with the tips. The yellowish grey band behind the cell has a somewhat different shape. Described according to a ♂ from Peru (Tarapoto, BANG-HAAS).

tina. **H. tina** Wkr. (= *batesi* Fldr.) (17 a) is a greatly deviating, little species with narrow wings and a black body with intensely metallic greenish-blue spots. The blackish-brown forewings, with greenish-blue stripes subcostally and in the cell, exhibit behind the cell a broad, orange transverse band. Amazon (Rio Grande do Sul, Olivença).

54. Genus: **Agyrtidia** *Hmps.*

This genus containing one of the largest of all the Syntomids known hitherto, is characterized by a woolly haired thorax, broad wings in which all the subcostal veins stand on a joint pedicle. The 1st radial rises below the cell-angle, the lower radial veins separately. On the hindwings the lower median and lower radial veins stand on a joint pedicle.

A. uranophila *Wkr.* (17 a) is easily recognizable by the size and the metallic blue bordering of the *uranophila*. large hyaline spots. The black abdomen exhibits a metallic blue dorsal band, similar, though profusely white-dusted subdorsal stripes and an entirely white underside. Brazil, Peru and Bolivia (Coroico).

55. Genus: **Macrocneme** *Hbn.*

This genus contains numerous species of mostly very similar insects difficult to discern, of black colour decorated with blue and green metal-colours and very characteristic by the long hindlegs the tibiae and tarsi of which are provided with more or less long-haired scales. The erect palpi extend beyond the head. The antennae with a thickened median part are in the ♂ long-combed, in the ♀ mostly serrate-dentate. The nervation does not offer any peculiarities. As to the biology, comp. the General Topics (p. 36).

M. cyanea *Btlr.* (17 a) resembles the following species, but it has quite blue forewings except the *cyanea*. apex. Brazil (Rio de Janeiro); also from Peru.

M. lades *Cr.* (= *leucostigma* *Perty*, *naja* *Burm.*) (17 a). Easily recognizable by the white tips of *lades*. the posterior tarsi and the expansion of the bluish-green colour on the forewing, extending only as far as the cell-end and being crossed by an oblique, velvety-black band near the base. The golden green abdomen exhibits at the base above 2 white dots, the ventral side being spotted white. A very common species, widely distributed from Mexico to Peru and Argentina. — ab. **ferrea** *Btlr.* has a metallic blue abdomen, the black oblique band *ferrea*. separating the blue basal colouring from the disc is reduced. Described from Espiritu Santo. — In specimens from Peru: **chionopus** *form. nov.* — the hairy cover of the whole posterior tarsi is white. *chionopus*.

M. cupreipennis *Wkr.* (17 a) is a larger species easily recognized by coppery lustrous, golden green *cupreipennis*. colour covering the whole insect. The tips of the antennae are white, and so are also dots on the forehead, collar, base of palpi, forehips, base of femora, on the dorsum of the first abdominal ring and on the ventral side of the middle segments. Brazil, the exact habitat not being stated.

M. caeruleus *Dogn.* Palpal base in front white; on the forehead 2 white dots; collar with white *caeruleus*. dots and single blue scales. Abdomen black with a metallic green reflection, on the 1st ring 2 lateral white dots. The venter exhibits in the middle a series of white dots. The legs are black with blue scales, at the joints dotted white. The black forewings are in the basal half between the veins of a radiant metallic bluish-green, so are the hindwings in the disc. Expanse of wings: 37 mm. Venezuela (Merida).

M. semiviridis *Druce.* Anterior body black, tips of antennae white, abdomen and legs bluish-black; *semiviridis*. the first abdominal ring with lateral white spots; the venter exhibits a middle row of white spots. Forewings black, in the basal half between the veins metallic bluish-green; hindwings bluish-green with a broad black margin. Expanse of wings: 50 mm. Colombia.

M. nigricornis *Schrottky* has a black body with a green reflection, and white spots on the collar, pro- *nigricornis*. thorax, first abdominal ring (subdorsally), chest and the two first ventral segments. Forehips dark blue. Wings above with a faint metallic green lustre, beneath dark brown. Expanse of wings: 33 mm. Argentina.

M. adonis *Druce* (17 b). Discernible from the similar species with quite black tarsi by the extension *adonis*. of the blue colour on the forewing reaching almost to the margin, here mostly with an intense violet lustre. A golden green stripe at the proximal margin extends as far as the base. A metallic blue spot on the hindwing is usually more strongly developed than in the allies. Distributed from Mexico to Panama. — The example figured in the Biologia from Chiriqui has no blue in the apical part, but instead a blackish stripe runs from there to the transverse vein (= ab. 1 *Hmps.*).

M. cinyras *Schaus* (17 b) differs from the very closely allied *adonis* by the blue colour of the forewing *cinyras*. not forming an extensive surface, but consisting only of stripes between the veins behind the cell from vein 5 down as far as the proximal margin. In the discocellular itself there is only a narrow blue stripe near the upper end. Described from Mexico (Jalapa, Coatepec).

- chrysitis*. **M. chrysitis** Guér. (= *iole* Druce) (17 b). Most similar to *lades* (17 a), distinguished by the quite black tarsi and the more golden green, not so blue colour, and usually larger size. The black oblique band near the base is considerably narrower. Likewise widely distributed and common from Mexico to Rio Grande do Sul.
- deceptans*. — **deceptans** form. nov. (= ab. 1 *Hmps.*). Specimens from Guatemala and Rio Grande do Sul occasionally exhibit some white colour at the extremest tips of the posterior tarsi.
- laconia*. **M. laconia** Druce (17 b). The wings are unicolorously black, only at the base there are some metallic blue scales. Forehead, vertex, collar, sides of thorax, and hips are metallic blue. The black abdomen shows on the dorsum and at the sides likewise blue spots, the first two segments being ventrally margined with blue. From Mexico and Guatemala.
- nordina*. **M. nordina** Schaus looks very much like the preceding. Body black; outside of the palpi, spots on the forehead and vertex, as well as the forehips metallic bluishgreen, of the same colour are spots on the mesothorax; at the sides of the abdomen a broad, metallic green stripe. On the black forewings there is at the base of the proximal margin a metallic bluish-green stripe. Expanse of wings: 35 mm. Distributed in Mexico (Guadalajara, Zacualpan, Cuernavaca). — In specimens from West Mexico (Guerrero) there may occur orange colouring on the collar and posterior tarsi: **atilis** form. nov. (17 b).
- maroniensis*. **M. maroniensis** Schaus has a black body; the base of the femora, and forehips are white, ventral valve margined with white. The venter exhibits 2 rows of white spots. On the head and thorax there are dispersed blue scales; behind the eyes in the distal half of the collar and on the shoulders white dots. The wings are black, the forewings lighter towards the apex. Expanse of wings: 24 mm. French Guiana.
- evelina*. **M. evelina** Druce (17 c) is the only *Macrocneme* exhibiting above on the forewings a large white apical spot; the blackish-brown ground-colour turns somewhat lighter brownish towards it. Forehips and base of proximal margin of the forewing with metallic blue spots. Tips of antennae white. Occurs in Mexico and Panama.
- immanis*. **M. immanis** *Hmps.* (17 c) is the largest species and differs from the similar ones by its quite black thorax and the absence of the basal white dots of the forewing. Both the wings are uninterruptedly bluish-green as far as beyond the cell. Bolivia, also from Ecuador.
- thyra*. **M. thyra** Möschl. (17 c) is much smaller than the preceding and besides different by its metallic green, not black thorax, and white basal dots of the forewings; the green colour of the basal half is interrupted by a black oblique spot below the base of the cell. On the under surface the proximal margin of the forewing and the base of the hindwing are white. Chest and venter are white in their whole extent. Expanse of wings: 38 mm. Guiana, Brazil to Peru. From Colombia and Trinidad there originates a form with an uninterrupted green basal part of the forewing and without any white beneath: **intacta** subsp. nov. (= subsp. 1. *Hmps.*). — In **boliviana** **viana** subsp. nov. the green colour of the wings extends as far as the margin. Bolivia (Rio Songo).
- thyridia*. **M. thyridia** *Hmps.* (17 d) has, like the preceding, a coppery lustrous abdomen, but is immediately discernible from it by its entirely black, and not white; under surface exhibiting only a middle row of minute white spots. The forewings exhibit like in *chrysitis* and *lades* a black oblique band in the basal third; the greenish golden colour occurring also on the under surface, is not spread far and varies greatly by being brassy golden to copper-coloured. The bases of all the wings are to a small extent whitish beneath. Surinam, Venezuela.
- affinis*. **M. affinis** Klages differs from the preceding by its black thorax being subdorsally striped metallic blue, and blue-striped shoulder-covers being in the ♀ not bordered with white. Forehips and posterior tibiae striped blue, the latter without any white at the ends. Abdomen like in *thyridia*. The forewings, with only 1 white dot at the base of the costa, are striped metallic blue, not green. Expanse of wings: 36 mm. Venezuela.
- maja*. **M. maja** F. (17 c). Black; tips of antennae white; forehead, palpal base, collar, chest, forehips and 1st abdominal ring dorsally with white dots. The abdomen shows subdorsal, metallic green stripes, lateral and ventral rows of white dots. Forewing in the distal half as far as the margin suffused with metallic bluish-green, frequently with continuations towards the base below the median and at the proximal margin; at the base 2 white dots. Hindwings with a bluish-green apical spot. Expanse of wings: 38 mm. Surinam; Amazon (Pará).
- guyanensis*. **M. guyanensis** Dogn. Black, thorax and abdomen with a green lustre; palpal base, forehead and collar dotted white, so is the 1st abdominal ring subdorsally and sublaterally. Ventral valves black, on each side with a white dot. Venter quite black with single green scales. Hips black. Wings black, with subcostal green stripes, also below the median and at the proximal margin; in the disc of both wings metallic blue scales. Expanse of wings: 31 mm. French Guiana.
- cyanescens*. **M. cyanescens** Dogn. Body black; forehead, collar, shoulder-covers, thorax, hips and legs with metallic green spots. The abdomen shows dorsal, subdorsal, and sublateral green spots; ventral valve metallic green. Wings black with a deep violettish-blue lustre, at the base a little metallic green. Expanse of wings: 42 mm. East Colombia.

M. misitra *Schaus* (17 c) has the most thinly scaled wings, and a collar spotted orange-red, whereby *misitra*. it is easily recognized from among the species with yellow hindfeet; like in the following species, the ventral valve of the ♂ is margined with orange. The abdomen shows dorsal and lateral rows of blue spots. Mexico (Paso de San Juan, Vera Cruz).

M. laciades *Schaus* (17 d). The ♂ exhibits, like in the preceding species, a ventral valve margined *laciades*. with orange, the anal apex being orange, too. The collar is quite black, the base of the yellow hind tarsi is likewise black; the black wings are a little more densely scaled. From Mexico.

M. auripes *Wkr.* (17 d) differs from the allied species with yellow hind tarsi at once by the golden *auripes*. green stripes in the middle part of the costal margin and cell of the forewing. The ventral valve of the ♂ is bordered with white like in the following species. The ventral part of the ♂ exhibits sublateral white spots on the middle segments. Distributed in Honduras, Guatemala, Costa Rica, Panama and Colombia.

M. jalapensis *Schaus* (17 d) has, like *auripes*, the ventral valve bordered with white but it is immediately *jalapensis*. discernible by the quite black wings turning somewhat lighter brownish towards the apices of the wings; only the base of the proximal margin of the forewing exhibits a tiny blue spot; forehead, collar, shoulders and hips are spotted metallic blue, so are the abdominal sides. Mexico (Jalapa).

M. chrysotarsia *Hmps.* (17 d). Among the species with yellow posterior tarsi, this species exhibits *chrysotar-* the greatest extension of the golden green colour on the forewings, spreading as far as behind the cell and *sia*. down to vein 1. The ventral valve of the ♂ is besides bordered neither with orange nor with white, but laterally spotted metallic blue. Panama, Venezuela. — This species also occurs in Venezuela with quite black tarsi.

M. indistincta *Btlr.* (= *splendida* *Btlr.*, *cyllarus* *Druce*) (17 c) differs from the species with white *indistincta*. tarsi of the *lades*-group by the posterior tibiae being set with hair only on one side (above); the forewings, being suffused with bluish-green, have a black basal part; only the extreme base shows two fine, metallic blue dots. The fringes are coloured white at the proximal angle of all the wings. The abdomen is suffused with green, not striped. Widely distributed from Panama to Brazil. — **hampsoni** *Schrottky* (= *indistincta* ab. 1. *Hmps.*) *hampsoni*. has quite black fringes, and the golden green colour of the forewings is more extensive, particularly at the proximal margin. Paraguay.

M. caurensis *Klages* is somewhat smaller than *alesa* (17 d), the palpi are white at the base and anterior *caurensis*. side of the 2nd, sometimes also of the terminal joint. On the collar, shoulders, meso- and metathorax and forehips there are white spots of a blue opalescence, the shoulder-covers and tibiae being striped white and blue. On the forewings there is golden green colour also in the cell, whereas on the inner-marginal vein it is absent. All the rest like in *alesa*. Expanse of wings: 30 mm. Venezuela.

M. alesa *Druce* (17 d). The smaller size and the expansion of the golden green colour at the costal *alesa*. margin of the forewing almost as far as the apex and on vein 1 separate this species from the very closely allied *vittata*. From *indistincta*, which it nearly resembles still more, it is distinguished by its much smaller size as well as by the abdomen being only dorsally and laterally striped green, not entirely suffused with golden green. Peru and Bolivia.

M. vittata *Wkr.* (17 d) is somewhat larger than *alesa*, and the green colour is not so extensive; in the *vittata*. ♂ the front side of the palpi is white. The shoulders show blue and white spots, the shoulder-covers such stripes. The fringes of all the wings are often white towards the proximal angles. From Venezuela and the Amazon (Pará).

M. esmeralda *Btlr.* (17 e) likewise greatly approximates the preceding species, but it has the abdomen *esmeralda*. entirely black beneath without any white spots, with dorsal, lateral and sublateral golden green stripes. The golden green colour is spread almost over the whole forewing, only the margins and veins remain black. Panama (Amazon).

M. albitarsia *Hmps.* (17 e) is one of the smallest *Macrocneme* with unicolorously black body and *albitarsia*. wings; metallic blue, small spots are to be noticed on the forehead, collar, shoulder-covers, thorax and hips, as well as on the sides of the abdomen and at the extreme base of the forewing. The apices of the wings and the terminal joints of the posterior tarsi are white. — From the Amazon.

M. hesione *Druce* (17 f) somewhat resembles *evelina* by the lighter apex of the forewing, being beneath *hesione*. all white; the veins remain black; the other parts of the animal are black, on the forewings with a purple lustre; anus and ventral side of the abdomen metallic green. Panama.

M. nigratarsia *Hmps.* (= *vittata* *Druce*) (17 e) looks rather like *vittata*, but it has quite black posterior *nigratarsia*. tarsi. The green colour is confined on the forewings, on vein 1 it is altogether absent. The ♂ has the ventral valve margined with white, but no white ventral spots, whereas the ♀ exhibits such on the two middle segments, one ♀ from Trinidad on 4 segments. From Mexico (Tabasco), Guatemala and Trinidad.

M. eacus *Cr.* (= *errans* *Hbn.*, *pusilla* *Btlr.*) (17 e) is quite unicolorously bluish black; at the palpal *ecacus*. base, behind the eyes, on the collar and shoulders small bluish-white spots. On the chest and sides of the abdomen single metallic blue scales. At the base of the forewing is a white dot; middle area with a more intense blue lustre. Expanse of wings: 32 mm. Surinam; Pará.

sura. **M. sura** *Schaus.* Palpi and legs black, suffused with metallic blue; posterior tarsi with white ends. Head black, on the forehead 2 large white spots, smaller ones below the antennae. The collar exhibits blue and white spots; thorax black, shoulder-covers anteriorly spotted blue and white. Abdomen above metallic green, beneath black, ventral valve green; the middle of the venter exhibits 2 rows of small white spots. Forewings dull metallic bluish green, a subbasal band and the distal margin black. Hindwings black. Expanse of wings: 35 mm. This species described from Brazil has remained unknown to me.

viridifusa. **M. viridifusa** *Schaus.* Head and thorax greenish black, the collar outside and inside bordered with white. Abdomen dull green with 2 white lateral spots at the base; a white ventral spot; hips spotted white; legs greenish black. Forewings brownish black with dark green veins, costal and proximal margins. Expanse of wings: 38 mm. Castro (Paraná).

56. Genus: **Phaco** *Newm.*

Animals with very long and narrow wings, with a woolly thorax and abdominal base. On the forewings the 1st median vein rises before the lower cell-angle from which the 2 lower radial veins rise, the uppermost from the cell. On the hindwings the lower median and lower radial vein are petioled, the 1st median vein rises from the upper one close before the margin.

cephalena. **Ph. cephalena** *Druce* (17 e). Head and thorax are black with white dots on the head, collar and shoulders; the abdomen is metallic bluish-green with white lateral stripes and a white band across the first segment. The blackish-brown wings being provided with hyaline spots exhibit in the basal part of the forewing a golden green spot, between the lower median and lower radial vein a more bluish-green, large spot. The antennae exhibit above a trimming of scales. Colombia, Ecuador.

quadriguttata. **Ph. quadriguttata** *Dogn.* (17 e) greatly resembles the preceding and is to be distinguished by the very long-stretched submedian hyaline spot, by the absence of the spots between the lower radials and below the 1st radial vein as well as by the much greater extent of the golden green scaling on the forewings; on the hindwings there is another minute hyaline spot between the upper median and lower radial vein. Ecuador and Colombia.

aquiguttata. **Ph. aquiguttata** *Dogn.* (17 f) has a black body: forehead and prothorax are metallic greenish-blue; each half of the collar exhibits a large, round, white spot, a similar, very large one with a greenish-blue iridescence on the metathorax. The first abdominal ring exhibits 2 large white dorsal spots, the other rings show greenish-blue bands, the angular membrane is yellowish-white. The brown forewings exhibit below the median a large oval hyaline spot, above it in the cell a cuneiform spot and at the upper cell-angle a minute punctiform spot; behind the cell an oblique band of 5 hyaline spots, the middle one being very small, in the shape of a streak, the two lower ones moved towards the margin. The hindwings being hyaline in the disc exhibit a black margin. From Columbia, also from Ecuador.

geminiguttata. **Ph. geminiguttata** *Dogn.* (17 f) is not to be confounded owing to the hyaline double spots being peculiarly placed behind each other on the fore- and hindwings; the forewings are strewn with golden green scales. Head and thorax are black, on the forehead, collar, shoulders, meso- and metathorax white spots. The first black abdominal ring exhibits white dorsal and lateral spots, the rest is metallic greenish-blue with white lateral stripes quickly narrowing down posteriorly. The ♂ antennae are above thickly covered with metallic greenish-blue scales. Colombia (San Antonio; Medina).

sylva. **Ph. sylva** *Schaus* (17 f) from Brazil (Rio de Janeiro), before us also from Colombia, is a smaller species, the wings densely strewn with golden and coppery lustrous scales and with hyaline spots arranged about similarly as in *cephalena* (17 e), though those being situate towards the costal margin are very small. The abdomen, with a golden green lustre, has on the first segment a white transverse band, on the other segments bluish-white lateral and sublateral spots. — From Colombia (coll. FASSL) there is a form before me: **impellucida** *form. nov.* (17 f), in which all the hyaline spots of the forewings are absent, whereas on the hindwings they are present.

salmoni. **Ph. salmoni** *Druce* (17 g) by the arrangement of the hyaline spots resembles *quadriguttata*, though they are all much smaller. Head and thorax are black, collar and shoulders spotted white; the metathorax exhibits a very large, round, white spot. The golden green abdomen with a black dorsal stripe exhibits on the second ring large white spots, on the black under surface there are broad white sublateral stripes. Colombia.

albicincta. **Ph. albicincta** *Schaus* (17 g). Head and thorax are black; the shaft of the antennae blue. Collar, hips and spots at the posterior femora, the 2 first abdominal rings and the whole ventral side are white; the abdomen otherwise metallic blue, anal tuft black. The black wings are strewn with small, silvery blue scales and the hindwings exhibit below the cell a large oval hyaline spot. Expanse of wings: 46 mm. Ecuador.

Ph. unimacula *Rothsch.* (17 h) differs from the preceding, similar species by the more coppery golden *unimacula*. scaling of the wings, by the black, white-spotted collar, the black, white-spotted two first abdominal rings, the greenish coppery other segments with black ring-indentations and dorsal line; the segments 3 and 4 show bluish-white lateral spots, the last ring subdorsal white spots. Described from Peru. The species also looks very much like *impellucida* (17 f), the form of *sylva* described above.

Ph. bacchans *Schaus.* Body black; tips of antennae and ends of tarsi white. The basal joint of the *bacchans*. antennae, vertex, collar, shoulders and metathorax show white dots. Legs striped blue. The abdomen shows dorsal, lateral and sublateral rows of white and blue dots. The black forewings are in the larger basal halves suffused with golden green, with a white dot at the base. Hindwings black with a green spot behind the lower cell-corner. Expanse of wings: 46 mm. Peru.

Ph. pinocha *Dogn.* differs from the preceding by its entirely black abdomen with metallic green lateral *pinocha*. stripes and only beneath some white dots, as well as quite black antennae. The hindwings are velvety black, dusted metallic green along the costal margin, and at the proximal margin with some metallic blue scales. All the rest as in *bacchans*. Expanse of wings: 34 mm. Ecuador (Loja).

Ph. aurata *Schaus.* Body black; forehead, vertex, collar and shoulders with white dots; on the meta- *aurata*. thorax there is a light golden spot. Hips and posterior tibiae spotted white. The 2 first abdominal rings exhibit subdorsal white spots, the others yellow spots; a sublateral row of spots and the ventral side are yellow. Wings black, suffused with golden yellow. Expanse of wings: 46 mm. Peru.

Ph. caeruleonigra *Schaus* (17 g). Head and thorax bluish-black, the abdomen more greenish-blue. *caeruleoni-*
The articular ends of the legs, forehips, sides of the forehead, and hindhead exhibit white dots. Wings silky *gra*. lustrous blackish grey with a dark blue reflection. Expanse of wings: 36 mm. Peru.

Ph. longipennis *Neum.* The access to the description of this species was not possible. *longipennis*.

57. Genus: **Chrysocale** *Wkr.*

Large species with a magnificent golden green and coppery lustre, the ♂ with long-combed antennae and erect palpi. Thorax and abdominal base covered with long hair, and with lateral hair-tufts on the last segments. In contrast with the preceding genus, the two upper subcostal veins on the forewing rise from the cell.

Ch. principalis *Wkr.* (17 g). Head and thorax black; palpal base, forehead, vertex, collar, sides of *principalis*. thorax, and hips with white spots. Abdomen with golden green bands warming towards the anal end by copper into metallic carmine, the ventral side with white transverse bands. Forewings black, in the basal third with a large, golden green spot; from the cell-end to the proximal angle extends a large green spot with a somewhat more coppery lustre, and in the apical third there are green stripes noticeable between the veins. A small hyaline spot in the middle of the cell, a larger one below it; at the cell-end a small spot and four behind it. Hindwings black with a blue reflection and 2 hyaline spots. It is found in Mexico and Guatemala.

Ch. regalis *Bsd.* (17 g) resembles the preceding, though it is somewhat smaller and all the white *regalis*. spots are smaller, the one in the middle of the cell being absent; besides, the white spots are absent on the collar and shoulder-covers; the cell-end is quite blackish-blue, the abdomen unicolorously bluish-green. Colombia, Ecuador, Argentina. — ab. **quadripunctata** *Dogn.* from Ecuador (Loja) has on the forewings only 3 small hyaline *quadripunc-*
spots, on the hindwings only the one at the base. *lata*.

Ch. plebeja *H.-Schäff.* (= *opulenta* *Wkr.*) (17 k) looks something like *ignita* (17 i), but without any *plebeja*. hyaline spots. The body is black, with a slight coppery lustre. Forewings metallic green, at the costal and distal margins black; the parts below and behind the cell more coppery lustrous. In the middle of the cell there is a black longitudinal spot, from the inner corner of which a black stripe runs vertically to the proximal margin. Hindwings bluish-black. Expanse of wings: 56 mm. Venezuela.

Ch. gigantea *Druce* (17 h). Forewings greenish lustrous, before the middle more copper-coloured, *gigantea*. with a black discal part, two antemedian and 5 postmedian hyaline spots; the green hindwings exhibit a large hyaline spot below the cell and 3 spots between the lower median and 1st radial vein. The body is blackish-brown, the abdomen spread with golden green; palpal base and forehips spotted white. Ecuador and Colombia.

Ch. splendens *Dogn.* (17 h). Body brownish-black; head, mesothorax and legs with a green metallic *splendens*. lustre; forehead and forehips white. The abdomen exhibits on the middle rings 3 metallic green dorsal spots; the 3 last rings and the venter quite green; on the middle rings 2 white lateral spots. Wings metallic green with a coppery lustre. Behind the middle of the costa a triangular black spot extending down as far as the 2nd median. Proximally to it in the cell a small hyaline spot, another one in the upper cell-corner, and a third is situate between the 2nd median and 4th radial, and a small one above the upper radial vein.

The marginal area is black, the hindwings black with a metallic green antemarginal band. Expanse of wings: 50 mm. Ecuador (Loja).

ignita. **Ch. ignita** H.-Schäff. (17 i). On the bluish-black body the collar, shoulder-covers and mesothorax are copper-coloured. The forewings exhibit at the base a metallic grass-green spot distally bordered by a straight black stripe, behind it a coppery lustre is spread. The middle of the cell, distal margins, and hindwings blackish-blue; two hyaline spots are in the middle and at the end of the cell. Venezuela, Colombia, Brazil.

ferens. **Ch. ferens** Schaus (17 i) initiates a small group of species without any hyaline spots with unicolorously metallic green wings. The body is black, palpal base, forehead, collar and shoulders spotted white. The abdomen exhibits dorsal, lateral and ventral rows of bluish white spots, the 2nd and 3rd ring small, unscaled, ochreous-yellow subdorsal spots. Bolivia, Peru. — subsp. **quadruplex** Dogn. is somewhat smaller and shows on the fore- and hindwings below the median one small, triangular hyaline spot and, according to HAMPSON, does not differ from *ferens* with respect to the species. Described from Colombia.

corax. **Ch. corax** Hmps. is a very large species with jet-black, velvety hairs on the body. The wings, and abdomen laterally and beneath are metallic dark bluish-green. Forehead and vertex with a blue lustre. Expanse of wings: 54 mm. Peru.

gigas. **Ch. gigas** Rothsch. (17 h) is considerably larger than the preceding from which it differs besides by white posterior tarsi; as for the rest, the legs are blackish-brown, hips and tibiae metallic blue; head and collar black with metallic blue spots; the black abdomen exhibits lateral metallic blue spots. Peru, Ecuador, Colombia.

58. Genus: **Calonotus** Hbn.

Medium-sized species with black wings with or without hyaline spots and the abdomen striped metallic golden or green, the ♂ with doubly combed antennae. On the forewings the upper median vein rises from the lower cell-corner; both the lower radial veins are, in their proximal course, very near to each other; the two uppermost subcostal veins rise separately from the cell. The cell of the hindwing is large; from its upper angle the subcostal and 1st radial veins rise unpetioled. — The species greatly approximate each other, owing to their considerable variability, so that we are not yet able to exactly define the species and subspecies by means of our present knowledge.

metallicus. **C. metallicus** Druce (17 i) is recognizable by the concavely indented distal margins of all the wings. The black body exhibits orange golden spots on the meso- and metathorax, the abdomen similarly coloured broad dorsal and lateral stripes. At the base of the forewing an orange golden spot, behind it a minute hyaline spot; a large, round hyaline spot is behind the cell, the hindwings exhibit one hyaline spot. Costa Rica, Panama.

tiburtus. **C. tiburtus** Cr. (17 i). The bluish-black body exhibits metallic coppery spots on the meso- and metathorax, similarly coloured dorsal and lateral stripes on the abdomen. The blackish-blue forewings exhibit below the middle of the cell and behind the cell one hyaline spot each, the ♀ has besides a third spot between the median veins. The hindwings exhibit a postcellular hyaline spot. Distributed in Costa Rica, Panama, Venezuela, Surinam. — A form from Trinidad, without any white spots on the thorax and palpal base, has *trinitatis*, been established as **trinitatis** Strand.

phlegmon. **C. phlegmon** Cr. (17 k) differs from the similar species by its considerable size and the presence of a mostly small hyaline spot below the base of the cell of the hindwing, beside the spot behind the cell; the forewings exhibit at the costal-marginal base likewise a small hyaline spot. Surinam, Pará, São Paulo.

chalcipleurus. **C. chalcipleurus** Hmps. (17 k) greatly resembles *tiburtus*, but it is at first sight discernible by the golden green colour. The wings are broader, the white hyaline spots smaller, the antennae of the ♂ longer combed; the spot between the median veins of the forewings is present also in the ♂; beside the green basal spot below the median there is also one at the costal margin; the first abdominal ring exhibits only 2 dorsal spots, no lateral ones as in *tiburtus*.

hoffmannsi. **C. hoffmannsi** Rothsch. (17 k). A small, insignificant species which, according to my opinion, is identical with *Paramya chrysonota*; the blackish-brown, very narrow forewings exhibit below the median a hyaline spot with a much smaller one below it, at the cell-end 2 hyaline dots, as well as above and below the lower radial vein a hyaline spot, the hindwing near the base one and in the disc 2 hyaline spots. The black abdomen is striped in a dull coppery colour on the dorsum and sides. The head is metallic green, the black thorax is spotted white on the collar and shoulders. Amazon (Itaituba).

triplagus. **C. triplagus** Hmps. (= *tripunctatus* Hmps. pt.) (17 k) is black; forehead, collar, sides of thorax, ends of femora, hips and first abdominal ring with small white spots; beginning from the 2nd abdominal ring there are broad, goldengreen, longitudinal stripes on the dorsum and sides, on the venter a white median stripe.

Wings like in the following, but with golden green stripes not only subcostally, but also below the base of the cell; a green blurred spot is also below the cell-end. Amazon.

C. tripunctatus Druce (18 a) greatly approximates the preceding species and differs by the absence of the white spots on the collar and base of abdomen; the abdomen exhibits dorsal and subdorsal broad, sub-lateral narrow silvery green, not greenish golden stripes. From Trinidad and St. Vincent. — The figure in HAMPSON's Cat. Lep. Phal. 1, t. 12. f. 7 refers to the present species, not to *triplagus*, as is assumed in ZERNYS Catalogue.

C. opalizans Rothsch. (18 a) forms the transition between the preceding species and *helymus*; the hyaline spots of the former have almost disappeared on the broad brown wings; the species is distinguished by the abdomen being entirely opalescent like mother-of-pearl. Venezuela.

C. helymus Cr. (= *aterrima* Sepp) (18 a) is in both sexes characterized by its entirely unspotted, dark brown, very broad wings. The abdomen exhibits broad, greenish golden dorsal and lateral stripes, on the ventral side a white stripe. French Guiana. — The larva lives on the coffee-tree and is anteriorly and posteriorly yellow, in the middle more greenish. The segments exhibit blue warts bearing on the 2nd and 3rd rings tufts of long, black hair being yellow at the end; the 8th ring exhibits above a pencil of long, black hair.

C. longipennis Rothsch. (18 a) has, like the preceding, unspotted forewings which, however, are much longer and narrower, quite black with a blue purple lustre, and exhibit metallic green basal spots below the costal margin and the median. Chest, forehips and the basal joints of the palpi are white. White spots are besides at the femoral ends, on the forehead, collar and first abdominal ring. Surinam.

C. aurata Wkr. (18 b) looks like a *Macrocneme*; body blackish-brown; tips of antennae white; at the palpal base, forehead, collar, shoulders, and chest white dots. The 1st abdominal ring exhibits dorsal and lateral, double, white dots, the 2nd ring only lateral ones; the first segments below white. Vertex and legs spotted golden green; femoral base posteriorly spotted white. The basal half of the black forewing is golden green. Expanse of wings: 40 mm. Venezuela.

C. chryseis Druce (18 a) is a very large species from Colombia and Bolivia with dorsal, lateral and sublateral golden spotted, not striped abdomen and thereby easily recognizable; the venter is striped white. The wings are in the ♀ unicolorously golden green; the ♂ exhibits round hyaline spots below the middle and in the end of the cell, behind the cell above the rise of the upper median vein, as well as a minute spot above the 1st radial; the hindwing shows hyaline spots below and behind the cell.

C. plumulatus Klages is, like the following, distinguished by extremely long-combed antennae. Blackish brown; forehead, collar, chest, forehips, and the ends of the middle and posterior tibiae with white dots. The abdomen shows, beginning from the 2nd ring, dorsal, lateral and sublateral, broad, golden green stripes, the 1st ring subdorsal, white streaks and lateral spots, the venter a middle row of small white spots. Forewings blackish-brown with metallic bluish-green stripes below the costa and median. Expanse of wings: 50 mm. Venezuela.

C. antennatus Rothsch. (18 b) has the hyaline spots of the wings placed the same as *tiburtus* (17 i); the basal spot of the forewing and the stripes on the abdomen are copper-coloured, like in the former, from which the ♂ is easily discernible by the extraordinarily strongly combed antennae and the hyaline spot between vein 2 and 3; the ♀ differs almost only by somewhat narrower wings and smaller spots. Venezuela.

59. Genus: **Poliopastea** Hmps.

Small to medium-sized species, resembling on the whole by their exterior the unspotted species of the preceding genus, from which they differ by the porrect palpi and by the normal course of the lower radial veins of the forewings.

P. pava Dogn. (18 a). Head and thorax bluish-black; first palpal joint, forehead and collar with double, bluish-white dots; forehips spotted bluish-white. Posterior tibiae strongly thickened, without any spurs, with a long, ochreous yellow hair-tuft and thickly scaled tarsi. The abdomen exhibits unsealed, ochreous-yellow ring-indentations, lateral and dorsal white dots. Forewings black with a green lustre. Hindwings bluish-black with a cuneiform hyaline spot, being bifid at the end, below the cell at the base. Expanse of the wings: 54 mm. Venezuela (Merida).

P. viridis Druce (18 b) has grey wings with an intense green lustre, the veins with a blue lustre. Head and thorax are black; the second palpal joint, hips and first joint of the tarsi spotted white. The abdomen is dark bluish-grey with a ventral row of white dots. Ecuador.

- ockendeni*. **P. ockendeni** *Rothsch.* (18 b). Distinguishable from the preceding species by its deep metallic blue, not green wings, with 3 white basal dots, bluish-white spots on the forehead and vertex, collar, shoulders, meso- and metathorax, quite black palpi, and metallic blue forehips. The abdomen is blackish-green with bluish-white dorsal and sublateral lines. British Guiana, Peru.
- rosenbergi*. **P. rosenbergi** *Rothsch.* (18 b) likewise approximates the preceding species, being considerably larger, the forewings in the basal half metallic green; the hindwings exhibiting at the base a small white transparent spot are in the costal half metallic bluish-green. Head and thorax black, spotted white; the abdomen is metallic green with a coppery lustre, on the first segment 2 white dots behind each other. Hips white. West-Ecuador.
- verdivittata*. **P. verdivittata** *Klages*. Black; forehead, neck, shoulder-covers, chest and joints of femora spotted white; golden green spots are on the collar and shoulders, meso- and metathorax. The abdomen exhibits broad, golden green dorsal, lateral and sublateral stripes, the lateral stripes begin at the 1st ring with white spots. The black forewings show, in the subcostal space at the base, a small hyaline stripe, below the base of the cell a broad, golden green stripe, and at the costal base a small white spot. Hindwings above black. On the under surface the cells of all the wings are striped green. Expanse of wings: 44 mm. Venezuela. — f. **fenestrata** *Klages* shows a hyaline spot below the middle of the cell and a series behind it between the upper median and lowest subcostal veins; the hindwing with a hyaline spot behind the cell.
- plumbea*. **P. plumbea** *Hmps.* (18 b). The smallest species with blackish-grey wings and body. Metallic blue, small spots are on the forehead and vertex, shoulder-covers, legs, the dorsum and sides of the abdominal rings and on the ventral valve of the ♂, which is besides broadly margined with white; the 4th ring exhibits a large white ventral spot, the next rings indistinct, white sublateral spots. The fringes are white at the proximal angle. Amazon; French Guiana.
- obscura*. **P. obscura** *Wallgr.* (= *nox* *Druce*) (18 b) is a unicolorously dark leaden-grey species. Tips of antennae white; collar, shoulders and legs, as well as the base of the forewing with metallic blue dots. The abdomen exhibits a lateral row of small blue spots. Expanse of wings: 34 mm. Ecuador and St. Lucia.

60. Genus: **Dinia** *Wkr.*

Three very characteristic species, particularly distinguished by the long, dense hair-tufts at the sides of the broad, flat abdomen, beginning from the 3rd ring as far as the large anal tuft. The broad wings are entirely transparent with black margins. The shaft of the antennae is greatly broadened in the middle and above hairy, doubly combed. The very large cell of the hindwing extends almost to the margin; the upper median vein and both the lower radial veins rise all separately.

- acagnus*. **D. aeagnus** *Cr.* (= *auge* *Wkr.*) (18 c). Blackish-brown, the hair-tufts of a magnificent brilliant carmine. The wings hyaline with narrow black margins and discoidal spots; at the base of the forewing there are two silvery lustrous blue dots, at the proximal margin a carmine stripe. Widely distributed and mostly common from Mexico to Argentina.
- mena*. **D. mena** *Hbn.* (= *saucia* *Wkr.*) (18 c) has no silvery blue dots at the base of the forewing, but instead there are carmine stripes also at the base of the costal margin and above vein 1. Likewise very common and distributed from Panama to Brazil, Peru and Bolivia. — **puniceocincta** *Strd.* is a form with carmine bands at the median segments of the abdomen.
- subapicalis*. **D. subapicalis** *Wkr.* (= *merra* *Wallgr.*) (18 c). In this species having become known hitherto only from Peru, the lateral hair-tufts and the anal tuft are black, the abdomen above with 3 carmine transverse bands. The marginal band of the hindwing is extremely broad; the basal part of the proximal margin of the forewing beneath, and the middle costal-marginal area of the hindwing above are orange.

61. Genus: **Paradinia** *gen. nov.*

The only species known hitherto representing a striking image of *Corematura chrysogastra* (18 g) is very closely allied to the genus *Dinia*; in the veins there is no remarkable difference; the whole animal is much more slenderly built, the abdomen not flattened, the lateral hair-tufts much less developed and flatly appressed. The antennae are not thickened in the middle and do not exhibit any hairy cover. Type: *P. chrysogastrides* *Draudt.*

- chrysogastrides*. **P. chrysogastrides** *spec. nov.* (18 c). The body is black. The forehead, a transverse stripe between the antennae, the neck, the sides of the collar, a middle line on the shoulder-covers and their distal hairiness

are ochreous-yellow as well as a middle line on the metathorax, being continued on the 2 or 3 first abdominal rings as triangular dorsal spots. Underneath, the otherwise black abdomen is curled orange-yellow; the lateral hairing and the underside of the anal tuft, being black above, is carmine. Antennae, palpi and legs are black, the inner side of the hips and femora striped ochreous yellow. The basal parts of the hyaline wings are ochreous yellow, carmine are stripes at the base of the costal margin, the median and along the proximal margin as far as near the anal angle. The margins of the forewings are narrowly, those of the hindwings broadly bordered with black. Described according to 2 ♂♂ from Colombia; type in Coll. DRAUDT.

62. Genus: **Mesolasia** Hmps.

Large, robust species, the exterior of which reminds us of *Homoeocera*-species, from which, however, they are easily discernible by the uncommonly large cell of the hindwing. Like there, the antennae are greatly thickened in the middle and exhibit here on the upper side a thick cover of hair. The upper median vein and both the lower radial veins of the hindwing rise all separately, the uppermost radial vein a little below the upper cell-angle.

M. haemorrhoidalis Stoll (*haemorrhusa* Hbn.) (18 c) is a very large, characteristic species easily recognizable by the carmine first and the 4 last abdominal rings. Occurring from British Honduras to Brazil (Rio de Janeiro). *haemorrhoidalis*.

M. paula Schaus (18 d) differs from the preceding by only the 3 last segments of the black abdomen being red. From the exteriorly very similar *Homoeocera lophocera* Druce it is easily discernible by the difference of the veins on the hindwings: *Homoeocera* has a very minute, *Mesolasia* an uncommonly large discocellular. Brazil (São Paulo). *paula*.

M. felderi Rothsch. (18 d) differs from the preceding species by its smaller size, a more graceful structure, and very much narrower black margins of the wings; the narrow, black discal spot only extends as far as the rise of the 1st median vein. From French Guiana and Brazil. *felderi*.

M. hampsoni Dogn. is black on the front body and the 5 first abdominal rings, the other rings are carmine, the anal tuft yellow. Wings like in the preceding, but with a larger apical spot of the forewing. Expanse of wings: 40 to 43 mm. Venezuela (Merida). *hampsoni*.

M. melanobasis Druce (18 d) is well characterized by the apical hyaline spots in the very broad marginal band of the hindwing. The black abdomen with 3 red terminal segments exhibits on the first ring a large dorsal spot, on the others small white ones. Brazil (São Paulo, Sa. Catharina, Paraná). *melanobasis*.

M. ornata Mén. (18 e). Head, thorax and the 3 first abdominal rings black; the anterior side of the palpi, the margins of the shoulder-covers and spots on the collar and the black abdominal rings are white. Beginning from the 4th ring, the abdomen is carmine with dorsal black, white-pupilled spots. On the ventral side two rows of white spots. Wings hyaline with black veins and margins, middle spot and apical spot; the proximal margins of all the wings striped yellow. Expanse of wings: 42 mm. Brazil (Minas Geraes). *ornata*.

63. Genus: **Trichura** Hbn.

A very characteristic genus, looking very much like Ichneumonids owing to the strangulated abdomen; in order to increase this impression, in single species the ♂♂ exhibit at the abdominal end a long, terebrac-like appendage consisting of soft hair and densely covered with scales. The hyaline wings are distinguished by the extraordinarily long cell of the hindwing, so that the transverse vein disappears in the black marginal band. All the veins rise separately. The shaft of the antennae is thickened in the middle and above covered with rough, hairy scales. HAMPSON's division of the species into such with, and such without an abdominal appendage is not maintainable, as in many species, such as *dixanthia*, *monstrabilis* etc., the ♂♂ sometimes occur with the appendage, sometimes without it.

T. cerberus Pall. (= *caudata* F., *urophora* H.-Schäff.) (18 d) has yellowish hyaline forewings with narrow black margins and a discoidal spot varying greatly in extent. The velvety-black abdomen with metallic bluish-green spots and bands has underneath a large, white basal spot and sublateral white macular rows. Widely distributed in Venezuela, Surinam, Brazil (Amazon, Rio de Janeiro, São Paulo) and Trinidad. — Specimens with particularly narrow black margins and discoidal spots, as they are before me from Bolivia from the Rio Songo, have been denominated: **angusta** Stgr. (i. l.?) (18 d). — This species exhibits the longest tail-appendage which may even grow longer than the whole body. *cerberus*. *angusta*.

- fulvicauda.* **T. fulvicauda** Lathy is at once distinguishable from the preceding by the orange-yellow tail-appendage; furthermore, the anterior side of the palpi, the forehips, the 3 first abdominal rings on the ventral side and sublateral spots on the 3rd ring are orange. On the yellow hyaline forewing there is below the median an orange-yellow basal spot. Paraguay.
- monstrabilis.* **T. monstrabilis** Klages. Body black, with metallic blue or green spots on the forehead, vertex, collar, shoulders, shoulder-covers, thorax and legs; anterior side of palpi, spots on the neck and forehips in the ♂ are white. The abdomen shows a bronze-green lustre, the strangulated segment is laterally and underneath white. The ♂ with or without a long tail-appendage. Wings hyaline with a black base, margins, middle and apical spots. Expanse of wings: 32 to 38 mm. Venezuela.
- grandis.* **T. grandis** Kaye is a very large species with an expanse of wings of 50 mm. Body black; the forehead, a dorsal spot on the 1st abdominal ring and minute lateral spots on the others are metallic green; on the 3rd and 5th segments sublateral white spots. Forewings ochreous-yellow hyaline with very narrow black margins; hindwings white hyaline with a broad black proximal margin and apex. South Brazil (Santos).
- melanosoma.* **T. melanosoma** Hmps. (18 e) is easily recognizable by the large, black apical spot of the forewing. The body is jet-black, above with indistinct deep-blue spots on the forehead, vertex, collar, metathorax and base of abdomen; the abdomen exhibits on the strangulated segment sublateral white stripes. Brazil (Sa. Catharina).
- fumida.* **T. fumida** Kaye is smaller than *esmeralda* (18 e) and has an entirely black abdomen without green spots, only the head and thorax exhibit single metallic green, small spots. The forewings are smoky-brownish hyaline, the hindwings bluish hyaline, both with a somewhat broader black margin than in *esmeralda*. Expanse of wings: 34 mm. Trinidad.
- esmeralda.* **T. esmeralda** Wkr. (18 e) differs from *cerberus* by the hyaline forewings not being yellow and their narrower margins. The forewings exhibit an orange-yellow spot at the base. The ventral side exhibits behind the white basal spot only a pair of white sublateral spots. Honduras, Guatemala, Venezuela, Brazil (Pará, Rio de Janeiro). — In Colombia flies a form with entirely white, sublateral macular rows: **completa** form. nov., which is before us from the Rio Dagua (A. H. FASSL).
- pusilla.* **T. pusilla** Rothsch. Head, collar, chest, and a spot on the blackish-brown thorax are steel-blue. Palpi white. Abdomen greenish steel-blue; the strangulated ring shows lateral white spots; tail-appendage as long as the abdomen. Forewings yellow hyaline, narrowly bordered with black. Hindwings whitish hyaline with a black apical spot. Expanse of wings: 26 mm. Peru.
- latifascia.* **T. latifascia** Wkr. (18 e) has a black body with a deep metallic blue lustre; the strangulated 2nd abdominal segment exhibits on each side a large white spot. In the nomenclatural type, the discoidal spot of the forewing is broad. This type flies in Brazil (Pará, Rio de Janeiro). — In **ismene** Möschl. (= ribbei Druce) the discoidal spot is very narrow. This form flies more in Central America, Panama, Colombia, Surinam, but it is also stated from Bolivia.
- dixanthia.* **T. dixanthia** Hmps. (18 e) is presumably much rather to be considered a form of *latifascia*, for the only difference is the orange-yellow colour of the lateral spot of the 3rd segment; both vary extremely in the width of the black margins and discoidal spots, and among a great number of ♂♂ of both forms lying before me, from the same habitat, the one half has a tail-appendage, the other half not, which, therefore, is presumably no distinguishing mark, for other differences are not to be discovered. Likewise from Brazil (Minas Geraes, Santos).
- coarctata.* **T. coarctata** Drury (18 e). Body black with minute, metallic bluish-green spots on the forehead, vertex, collar, thorax and abdomen, the 2nd segment of which exhibits a white spot underneath; the 3rd segment shows 2 white sublateral spots. Wings faintly yellowish hyaline, with black margins. From Venezuela and Brazil (Pará, Pernambuco, Rio de Janeiro, Santos).
- druryi.* **T. druryi** Hbn. (= *coarctata* Cr.) (18 f) has a black body being spotted metallic bluish-green on the forehead, collar, shoulder-covers and thorax; the forehips, the ventral side of the 2nd abdominal ring, and some spots on the 3rd are white. Above, the abdomen exhibits on the first 3 rings metallic green transverse bands, on the following rings similar dorsal and lateral spots. The yellowish hyaline forewings have an orange-yellow costal and proximal margin, and a narrow black distal margin. In the ♂ the black discoidal spot is broader, and the hips are black. Widely distributed from Mexico to British Guiana.
- cyanea.* **T. cyanea** Schaus (18 e) approximates *druryi* and differs by its quite black, not bluish-green spotted abdomen which is orange on the lateral tubercles at the base, and sublaterally striped white on the 3rd and 4th segments. Head, collar and legs are spotted metallic blue. Costal and proximal margins of the hyaline wings are orange. Rio de Janeiro.

T. mathina Druce (18 f) is distinguished by entirely orange-yellow antennae; the body is black, *mathina*, with orange spots on the head and thorax; the black abdomen exhibits yellow bands above only on the 3 first segments; underneath, the 2nd segment is white, the third shows sublateral white spots. The wings are transparent orange-yellow with narrow black distal margins, on the hindwings the lower end of the discocellular is connected with the marginal band by a small black spot. The forehips are white in the ♂. French Guiana.

T. aurifera Btlr. (= melas var. Wkr.) (18 f) is a large, imposing animal with a black body; head and *aurifera*, thorax with orange-yellow spots, palpi and legs quite orange, the latter except the black tarsi. The forehips in the ♂ white. The first 4 abdominal rings exhibit orange-yellow transverse bands, the 2 following ones yellow dorsal spots and subdorsal blue spots; the second ventral segment is quite white, the 3rd exhibits 2 white spots. The yellowish hyaline wings are orange at the costal and proximal margins, the appendage to the proximal margin of the hindwing is orange and black-haired. The antennae are quite black. Venezuela; French Guiana; Amazon (Pará).

T. fasciata Rothsch. (18 f) is somewhat smaller than the preceding and distinguished by the quite *fasciata*, orange-yellow, black-curved abdomen; only the two last rings are black with white, large, round spots of a blue iridescence. All the rest is like in *aurifera*, also the antennae are black. Peru, Chanchamayo.

T. frigida Burm. is black on the head and thorax, with white hair; base of antennae yellowish. The first *frigida*, 3 abdominal rings black, the others yellow-haired; above there are triangular white spots, which are bordered with black on the yellow segments. Venter white. Wings hyaline with black veins and margins being strewn with white scales like the hyaline parts, the most densely at the base and proximal margin. Expanse of wings: 30 mm. Argentina (Buenos Ayres).

64a. Genus: **Corematura** Btlr.

Like the preceding genus, but the antennae are not thickened; the abdomen is strangulated at the 2nd and 3rd segments and exhibits a very long anal hair-tuft. On the forewings both the lower radial veins rise from the cell-angle, in *Trichura* the middle one rises separated from the lower one above it.

C. aliaria Druce (18 f) has a considerably more strangulated abdomen than the following. Head and *aliaria*, collar are orange-brown, the rest of the body is greenish bluish-black. The anterior side of the palpi, the sides of the forehead, and the hips are white; the 2 first abdominal segments are white beneath, the 3rd exhibits a white spot, being forked towards the anal end. French Guiana to Brazil.

C. chrysogastra Perty (= postflava Guér., abdominalis Wkr.) (18 g) is an easily recognizable species: *chrysogastra*, the head is black, with yellow spots and stripes on the thorax; the abdomen shows yellow, triangular dorsal spots, broad, carmine lateral stripes, and an orange-yellow venter; the long anal tuft is black. Ecuador, Peru, Bolivia, Amazon.

64. Genus: **Pezaptera** Btlr.

From the preceding genus it differs by the upper median vein and the two lower radial veins rising jointly from one place. The strangulation on the abdomen is only trifling, and instead of the long anal tuft there are only short hair-tufts at the end and sides of the last ring.

P. sordida Wkr. (= divisa Wkr.) (18 g). Blackish-brown, antennal tips white. The abdomen exhibits *sordida*, on the 2 first rings lateral white spots and a ventral spot on the first ring; the anal tufts are carmine. Wings hyaline, with black veins, margins, discoidal and apical spots. Expanse of wings: 24 mm. Amazon.

65. Genus: **Homoneuronia** Dyar.

Siphon well developed; the erect palpi extend beyond the vertex. Antennae doubly combed in the ♂, the shaft thickened in the middle. Abdomen strangulated at the base. Spurs of tibiae short. On the forewings the upper median vein rises far from the lower cell-angle; the lowest radial vein is absent. On the hindwings both the median veins rise from the same place and approach each other again towards the margin; both the lower radial veins come from the lower cell-angle, the subcostal and the upper radial vein from the upper one.

H. modesta Schaus. Body and legs are blackish-blue, the antennae black. Chest, forehips, and the *modesta*, strangulated abdominal ring, laterally and beneath, are white. Wings hyaline with black veins and margins; the hindwings are opalescent whitish, margin and apex are broader black. Expanse of wings: 27 mm. French Guiana.

66. Genus: **Aethria** Hbn.

It contains species mostly copying the genus *Dinia*. The black abdomen, often with a blue lustre and white spots, shows a large red anal tuft, but the last segments are laterally not provided with hair-tufts. The extremely extensive cell of the hindwing, the transverse vein of which disappears in the marginal band, makes it approach the preceding genera; all the veins rise separately. The abdominal strangulation is slight.

sarcosoma.

A. sarcosoma Btlr. (= *laudamia* Druce) (18 g) differs from all the species by the abdomen being entirely carmine except the 1st ring, with minute white dorsal spots and black segmental lines. Anal tuft in the middle black; the 3 first segments and the last one are white beneath. Spots on the forehead, collar, shoulders, shoulder-covers, thorax and legs are white; collar with opalescent blue spots. Wings hyaline with black veins, broad margins and discoidal spots. Expanse of wings: 32 mm. Colombia.

sanctula.

A. sanctula Dogn. (18 g) has a quite black body with a blue lustre above. The last abdominal rings are scarlet above, the anal tuft ochreous-yellow. Wings hyaline, with black margins and veins, and very large, square discal spots. Expanse of wings: 35 mm. Brazil (Santos).

*andro-
macha.*

A. andromacha F. (= *sanguiflua* Hbn.-G. nec Wkr., *finalis* Wkr., *pennata* Möschl.) (18 g, as *andro-macha*) differs from the allied species by the orange colour of the two last abdominal segments. Above, the abdomen is unicolorously black, without any blue spots. The underside of the palpi, spots on the shoulders, forehips, as well as the ventral side of the two first abdominal rings are white in the ♂. — The form **rubra** form. nov. (= ab. 1. *Hmps.*) (18 g) has the two last abdominal rings carmine; it lies before me from Bolivia; the species is besides found in Venezuela, Surinam and Pará.

carnicauda.

A. carnicauda Btlr. (= *sanguiflua* Wkr.) (18 h) has a black body with a metallic blue small spot, the anal tuft is of a bright carmine; distinguishable from *aner* by its entirely black underside, palpi and shoulders. — From Trinidad, Venezuela, Brazil (Pará, Sa. Catharina, Santos).

innotata.

A. innotata Schaus, which remained unknown to me, according to the short, insufficient description, seems to belong here. Body black with a carmine anal tuft. Wings hyaline, with black veins and black margins; the distal margin broader black, particularly at the apex and proximal angle. Transverse vein broadly black. Hindwing very broadly bordered with black. Expanse of wings: 38 mm. Brazil (Petropolis).

analís.

A. analis Schaus, described from Peru, is likewise unknown to me in nature; antennae black, combed and thickly scaled above the middle third. Body black, with blue scales on the collar, shoulder-covers and femora. Abdomen black, the 3 last rings orange-red. Wings hyaline with black veins and margins. The distal margin of the forewings inside dentate; transverse vein broadly black; at the base of the proximal margin some violet hairs. Hindwings with a broad, black distal margin. Expanse of wings: 29 mm.

aner.

A. aner *Hmps.* (*carnicauda* *Hmps.*) (18 h) is a smaller species, which is well characterized by the extensive white colouring of the underside: palpi, sides of forehead, basal joint of the antennae, fore- and hindhips, the 3 first abdominal segments and sublateral spots on the others, as well as a ventral spot at the anal tuft are white, as well as spots on the shoulders; on the upperside the abdomen shows metallic blue dorsal spots, the anal tuft is carmine; in **auriflua** form. nov. it turns ochreous-yellow. — Described from Venezuela, the yellow form is before me from French Guiana.

fulvicauda.

A. fulvicauda Btlr. (18 g) differs from the similar species by the black, posteriorly blue-banded abdomen, the extreme anal tuft of which is yellow; the 3 first rings and the last ones are white beneath; fore- and hindhips white like the anterior side of the palpi and of the collar. Expanse of wings: 28 mm. Brazil (Sao Paulo).

stipata.

A. stipata Wkr. (18 h) differs from the species known by its ochreous-yellow underside with earmine lateral spots and black middle spots on the abdomen; the blackish-brown, blue-lustrous abdomen exhibits a series of dorsal yellowish spots. Anterior body blackish-brown with white dots. Wings hyaline with black margins and veins, a white dot at the base of the costa on the forewing, the proximal margin being striped yellow. Expanse of wings: 34 mm. Amazon (Pará).

eburneifera.

A. eburneifera Fldr. (18 h). The body is black; white are: the anterior side of the palpi, the basal joint of the antennae, throat, hips and stripes at the front femora. The collar, shoulder-covers and metathorax are spotted blue, the 3 first abdominal rings above blue; the first 4 rings exhibit dorsal double rows of dots and lateral carmine spots, the other rings on the dorsum and sides one white row of dots each. Underneath, from the 2nd to 4th rings there are triangular white spots, on each of the next two segments 2 spots. Wings hyaline with black veins and margins, the base being black with a blue spot. Expanse of wings: 38 mm. Amazon.

A. gracilis Möschl. (18 h). Body blackish-brown, with a whitish-blue reflection, and a narrow, white *gracilis*. dorsal stripe on the abdomen; the 2 last rings are laterally carmine, so is the anal tuft, which is intermixed with black in the ♂; in the ♀ the last ring and the anal tuft are quite red. Wings opalescent hyaline with black veins and margins, and a black discoidal spot in the ♂. Expanse of wings: 34 mm. Surinam; Rio de Janeiro.

A. dorsilineata Hmps. (18 h). One of the smallest species particularly distinguished by two fine, white, *dorsilineata*. dorsal, longitudinal lines running across the thorax and abdomen. Collar and shoulder-covers are bordered with white; the whole underside of the abdomen is carmine, above only the last segments, as well as the sides of the anal tuft, which is black in the middle. The wings are milky-white diaphanous with narrow black margins. Hitherto known only from Jamaica.

A. paulista spec. nov. (18 h) is one of the smaller species with a black body; anterior side of the palpi *paulista*. and forehead are white; vertex, collar and metathorax of a metallic bluish green lustre. The abdomen exhibits above triangular, white dorsal spots, being surrounded by opalescent blue, furthermore white lateral spots, and the ventral segments are posteriorly margined by white. The last segments are laterally red-haired, the anal tuft is red with a black middle. The hyaline forewings with narrow black margins have a large, black discoidal spot; the hindwings are very broadly margined by black. One ♂ from Sao Paulo from BANG-HAAS.

A. lepida spec. nov. (18 i) ought to form a section of its own, owing to the upper radial rising far below *lepida*. the upper cell-angle. It is allied to the subspecies *manca* of the following species, but it is still smaller, with narrower wings, without a discoidal spot of the forewing, with but narrow black distal margins. The ventral side of the abdomen is curled white; above there are white dorsal spots surrounded by a faint blue; the white lateral spots are insignificant and coalesce with the white ventral bands. The anal tuft is black in the middle, laterally red. One ♂ from St. Laurent du Maroni (French Guiana); type in the Coll. DRAUDT.

A. leucaspis Cr. (18 i) greatly resembles *daltha* from which, however, it is immediately distinguishable *leucaspis*. by the absence of the subapical hyaline spot of the hindwing. The under surface of the abdomen is black with white sublateral spots. The anal tuft being generally carmine may also be yellow: **flava** form. nov. (18 i). Not *flava*. rare and distributed from Venezuela through Guiana as far as Brazil. — In Bolivia there flies a subrace: **manca** *manca*. subsp. nov. being considerably smaller. Its forehead and anterior half of the collar is white, the abdominal spots are also of a plain white, not bordered with blue. The discoidal spot of the forewing and the border of the hindwing are broader.

A. daltha Druce (18 i) is well characterized by its size and the hyaline subapical spot in the black *daltha*. marginal band of the hindwing. It differs from the strikingly similar *eliza* by the two lower radials rising closely together and by the antennae not being thickened in the middle, and particularly by the entirely white ventral side of the abdomen, only the last segments being black, with white spots; all the hips are entirely white, too, and the legs striped white. Amazon (Pará); also from French Guiana (St. Laurent du Maroni).

A. eliza Klages (18 i) is one of the largest and most beautiful species, resembling above *daltha* so very *eliza*. much that one is obliged to look very closely. Beside the differences of the neurulation mentioned there and the antennae being thickened in the middle, it may be recognized by the black underside of the abdomen exhibiting lateral and sublateral rows of white spots. Above the first segments are almost entirely metallic blue with white dorsal spots, beginning from the 4th ring, the white dorsal spots are placed in blue spots growing smaller towards the anal end. — The species having been described from Venezuela is before me also from Bolivia (Rio Songo); the latter form: **tenuistriga** form. nov. (18 k) has much finer black margins, the discal spot of the *tenuistriga*. hindwing is not coherent with the marginal band.

A. ocina Druce (18 k) differs from the similar species by the black discal spot of the hindwing being *ocina*. separated from the marginal band. Metathorax and abdomen at the base metallic blue. The abdomen exhibits dorsal and lateral rows of white spots, the ventral side is quite white. Anal tuft carmine and black. Expanse of wings: 44 mm. Bolivia.

A. langleyi Klages. The body is black, the forehead laterally white. Spots on the collar and shoulders, *langleyi*. shoulder-covers and thorax are of a golden green; forehips with silvery white spots. Abdomen above of a metallic blue lustre, with dorsal and lateral rows of golden green, white-pupilled spots; anal tuft and the last segment laterally carmine; on the venter there are 2 rows of white spots. Wings hyaline with black veins and margins; base of the forewing black with a golden green spot. Expanse of wings: 30 mm. Venezuela.

A. platyzona Fldr. (18 k) is quite unlike the other *Aethria*-species known and entirely resembles a *platyzona*. *Cosmosoma* from the *stibostictum*-group: head and thorax are black, on the forehead and vertex some blue spots, the abdomen being orange-yellow, except the first segment and the 3 last ones being black. The hyaline wings show broad black margins and discoidal spot. Colombia.

rubipectus.

A. rubipectus *Schaus* (18 k) is likewise dissimilar to the other species, above black, on the thorax and abdomen a blue lustre; anterior side of the palpi, forehead, neck and borders of the shoulder-covers are white; chest and hips carmine. The hyaline wings exhibit narrow black margins. Hayti.

67. Genus: **Paraethria** *Hmps.*

The abdomen is not strangulated, does not exhibit any lateral hair-tufts at the end, but it is above roughly haired at the base. On the forewings the median veins are on a common petiole, the middle radial vein rises above the lower cell-angle. On the hindwing with a long cell the subcostal and 1st radial vein rise petioled, all the others separately.

angustipennis.

P. angustipennis *Rothsch.* (19 a) and the following species have somewhat stunted hindwings. The body is black, the palpi are entirely white; the abdomen shows at the sides of the 3rd segment a small whitish spot. From the Amazon.

mapiria.

P. mapiria *spec. nov.* (18 k) is perhaps only a form of the preceding, at any rate it is very near to it. The body is above metallic bluishgreen, also the legs, otherwise below black. The palpi are black, only at the anterior side white like the forehead. The abdomen exhibits above on the 3 first rings a white longitudinal stripe, at the sides of the same segments a very large, yellowish-white spot being connected across the ventral side with that of the other side. Described according to a female from Bolivia (Mapiri); from BANG-HAAS.

triseriata.

A. triseriata *H.-Schöff.* (18 k) is black with white dots on the thorax and abdomen. Characteristic are the hindwings being black with a basal hyaline spot below the cell; the forewings are hyaline with broad black margins; the middle radial vein is more intensely black than the others. Found from Brazil as far as Argentina, in day-time on compositae.

flavosignata.

P. flavosignata *Rothsch.* (19 a) differs from *triseriata* by the orange-banded segments 2 to 6 of the abdomen and by the thorax being spotted and striped orange-yellow; head, palpi, and forehips are orange, the legs brown, the antennae black. The two last abdominal rings are spotted scarlet. On the yellowish hyaline wings the black margins, particularly at the proximal margin, profusely powdered with brownish scales. Bolivia.

68. Genus: **Aethriopsis** *Btlr.*

Veins of hindwings like in the preceding genus. On the forewings the median veins and the lower radial vein rise widely separated, the upper radial rises below the upper cell-angle. The palpi are longer than in *Paraethria*.

barbata.

A. barbata *Schrottky.* Body black; forehead, posterior margins of the eyes, spots on the collar and stripes on the shoulder-covers white. Chest anteriorly with rosy red hair, laterally spotted white; anterior and posterior hips, as well as the apices of the posterior femora white. Abdomen with lateral white spots, underneath in the middle white. Wings hyaline with black veins and discal spot, beginning from which the costal margin, as well as the distal and proximal margin are broadly bordered with black. Hindwings opaline-white, at the costal margin yellowish, below it black. Expanse of wings: 28 mm. Paraguay.

69. Genus: **Argyroeides** *Btlr.*

Easily recognizable by the long, slender abdomen, the 2nd segment being strangulated, and with hair-tufts at the end. The entirely hyaline forewings are broad, the hindwings narrow, the proximal margin is formed by a small lobe covered with hair. The upper median vein of the forewing rises below the cell-angle, the 1st subcostal vein from the cell.

strigula.

A. strigula *Druce* (19 a) has the shoulder-covers and abdominal rings bordered with orange-red; a spot on the metathorax and the strangulated 2nd segment are yellowish-white; forehead and vertex blue; the second joints of the palpi, bases of antennae, spots on shoulders and hips are white; venter banded yellowish-white. The wings are faintly yellowish hyaline with narrow black margins. Brazil (São Paulo).

flavicornis.

A. flavicornis *Rothsch.* (19 a) is one of the larger species, recognizable by the orange-yellow antennae. Body black; palpi and 2 spots between the eyes golden yellow, the proximal margin of the shoulder-covers orange-haired; the abdomen is suffused with blue and exhibits on each side of the first ring a yellow spot; forehips white, middle and posterior hips cream-coloured, ends of tibiae orange-yellow, the legs otherwise brown. The wings are yellowish hyaline, veins, costal and proximal margins orange, distal margins narrowly black. Amazon (Teffé).

A. menephron *Druce* (19 a). Head yellow, with black spots on the forehead and vertex, collar and shoulder-covers black, bordered with yellow; thorax black with a yellow middle line and posteriorly a yellow transverse band. Chest and legs yellow. Abdomen black, on the 1st and the 4 last rings yellow bands; the strangulated segment laterally and beneath yellow. Wings hyaline with yellow and black veins and margins. Expanse of wings: 24 mm. Panama. *menephron*.

A. flavicincta *Druce*. Body black, collar bordered with yellowish-brown; the abdomen is above and beneath curled yellow. Wings brownish hyaline with black veins and margins. Expanse of wings: 26 mm. Venezuela. *flavicincta*.

A. vespina *Schaus* (= *lydia* *Druce*) (19 a) most strikingly copies certain *Pseudospheex* and *Sphecosoma*-species: the body is above black, collar and thorax striped yellow, the abdomen with yellow bands. The antennae are black; the underside and legs reddish-yellow, forehips light yellow. The wings are yellowish hyaline, in the ♀ dusted darker; in the latter the tips of the antennae are yellow. Paraná, Rio Grande do Sul; Paraguay, in day-time on the blossoms of Senecio. *vespina*.

A. fuscipes *Rothsch.* has an entirely black body with dark-brown legs; the strangulated abdominal segment is yellow-brownish. Wings yellow hyaline, the forewings a little darker with brown veins, the hindwings with black veins, distal and proximal margin. Minas Geraes. *fuscipes*.

A. spectrum *Schaus*. Body above black; at the base of the abdomen there is a yellow-reddish transverse streak. The abdomen exhibits on the 3 first rings a white lateral stripe, the venter a white middle stripe. Thorax below striped white. Legs light brown. Wings hyaline. Veins and margins reddish-brown, the distal margin in the apical half darker. Expanse of wings: 28 mm. Costa Rica. *spectrum*.

A. ortona *Druce* (19 b) has a black body with a blue-lustre on the abdomen; palpi and femora striped white, shoulders and hips spotted white; the neck is carmine, the venter white. The wings are hyaline with black margins, a broad, blackish-brown proximal margin, discal and apical spots. Ecuador. *ortona*.

A. rubricauda *Dogn.* ♂ (= *quindiensis* *Dogn.* ♀) (19 a, b) is on the body chestnut-brown, on the sides of the abdomen orange. Wings hyaline with a broad, brown border, the costal base yellowish, distal margin on both the upper radial veins proximally expanded; veins and a large discal spot brown. Hindwings at the proximal margins with blackish hair. In the ♂ the orange lateral stripes only begin from the 3rd ring and are above united on the last segments. Colombia (Quindiu Pass, 3800 m, Monte Socorro); the discal spot is in the ♂ considerably narrower. Legs and chest in the ♂ whitish, in the ♀ more olive-brown like the venter which is white in the ♂. According to the couple before me from the Coll. SEITZ, I unhesitatingly combine *quindiensis* as the ♀ with *rubricauda* as the ♂. *rubricauda*.

A. notha *Schaus*. Anterior body and 1st abdominal ring black. Forehead white. Abdomen above dark brownish green, laterally rosy. The strangulated segment bare; underneath the 2 first rings white, the others rosy banded. Chest and legs black, femora white, anterior femora striped red. Forewings hyaline with fine black veins and margins; at the base and at the proximal angle one small red spot each. Hindwing with a broadly black apex and proximal margin. Expanse of wings: 25 mm. Costa Rica. *notha*.

A. auranticincta *Klages*. The head and the whole underside is orange, as well as the bases of the antennae; antennae, collar and thorax above black; borders of the collar and of the shoulder-covers, as well as a spot on the metathorax orange. The strangulated abdominal segments are above unscaled, brownish-yellow, the other rings posteriorly with orange bands, the anal tuft carmine. Wings yellow hyaline with black veins strewn with yellow, and narrow black margins; costa and a basal spot on the forewing, often exhibiting a red dot, as well as the proximal margin of the hindwing orange. Expanse of wings: 24 mm. Venezuela. *auranticincta*.

A. boliviana *Druce* (19 b) differs from the preceding by its black head and white chest and hips; the strangulated rings are scaled and orange. Expanse of wings: 28 mm. Bolivia. *boliviana*.

A. braco *H.-Schäff.* (19 b). The body is black, on the head, collar, metathorax and 2nd abdominal segment white spots. The shoulder-covers are striped carmine, the lateral stripes on the posterior abdominal rings, and the anal tuft being red, too. From Venezuela, São Paulo, Paraguay, very common almost the whole year round, and in heaps together with other small species particularly on the blossoms of Senecio brasiliensis. *braco*.

A. ophion *Wkr.* (19 b) is much larger than *braco* from which it differs besides by the shoulder-covers being quite black. The black body has a slight blue reflection, and the head is all black. The strangulated abdominal ring is only laterally yellowish-white, above black. Honduras, Venezuela, Brazil (Sa. Catharina). *ophion*.

A. tricolor *Pack.* Body blackish-brown; between the eyes and antennae yellow lines, and a triangular yellow spot on the hindhead; palpi yellow, outside striped black; collar and shoulder-covers spotted yellow. The 3rd to 5th abdominal rings scarlet; the first 5 rings exhibit above a yellow macular stripe. Chest, legs and the basal two thirds of the venter are ochreous-yellow. Wings hyaline with fine black veins and margins, and apical spot. Inner-marginal appendage of the hindwing brown with a light end. Expanse of wings: 36 mm. Amazon. *tricolor*.

- sanguinea*. **A. sanguinea** Schaus (19 b). The yellow-white collar, entirely black head and thorax separate this species from the similar ones; the first abdominal ring is above yellowish-white, the 5 last ones with carmine bands; underneath the 2nd ring exhibits a white spot. The hyaline forewings exhibit a relatively large, black, apical spot. Brazil; it is also before me from Paraguay (Puerto Bertoni).
- affinis*. **A. affinis** Rothsch. (19 b). By the red-striped shouldercovers and the entirely black head and collar, the species is at once discernible from the two preceding, similar species. The base of the hips and a spot below the shoulder are white; the first abdominal ring is yellowish-grey, the 5 last ones above with red bands. The wings are yellowish hyaline with but very narrow black borders. Brazil (Minas-Geraes).
- ceres*. **A. ceres** Druce (19 c). The lustrous metallic blue abdomen spotted white above makes the species easily recognizable; the rest of the body is black; anterior side of the palpi, sides of the forehead, neck, chest and hips are spotted white. Underneath the two first abdominal rings are white, two middle segments and the last ones spotted white. The wings are comparatively broadly bordered with black. Venezuela and British Guiana.
- placida*. **A. placida** Druce (19 c) has a black body with metallic blue spots; the strangulated 2nd abdominal ring is yellowish-white, on the ventral side broader than above. Ecuador.
- minuta*. **A. minuta** Druce (19 c). Body black, with a faint blue lustre; the anterior side of the palpi, sides of the forehead, bases of antennae, and spots on the chest and hips are white; the strangulated abdominal ring is yellowish; on the underside the 4th and the last segments exhibit white transverse bands. The hyaline forewings are yellowish in the disc. Honduras.
- eurypon*. **A. eurypon** Druce (19 c) has a black body; orange are: a band behind the eyes, and the anal tuft; the anterior side of the palpi, forehead, shoulders, sides of the thorax, and hips are spotted white; the first 4 abdominal rings are laterally yellowish-white; underneath the 3rd and 4th rings show a white band. The forewings exhibit an orange-yellow spot at the base of the costal margin. Guatemala and Panama.
- augiades*. **A. augiades** Druce (19 c) is easily recognizable by the deep carmine head and thorax; the other part of the body is bluish-black, in some places spotted white. From Ecuador, known also from Colombia and Bolivia.
- variegata*. **A. variegata** Kaye has a black body. Shoulder-covers striped carmine. The 2nd and 3rd, as well as the 3 last abdominal rings exhibit dorsal, double, blue dots, the 5th segment a yellow band. Wings hyaline, finely bordered with brown, and with a brown discal streak. Tibiae carmine. Expanse of wings: 32 mm. Paraná, in April.
- laurion*. **A. laurion** Druce (19 c) has a black body; the anterior side of the palpi, throat and hips are white; the second and third abdominal rings are laterally and beneath yellowish, the anal tuft, too. A characteristic mark of the species is the black distal margin projecting in the shape of a spot between the 2 upper radial veins and the lowest subcostal vein, also on the hindwings. The forewings exhibit a small red basal spot, red scales being also noticeable at the costal margin between the middle and apex. From Panama.
- flavipes*. **A. flavipes** Hmps. (19 d) is recognizable by the orange-yellow legs; the body is brownish-black, the strangulated abdominal rings are laterally and beneath yellowish. Brazil (Castro in Paraná).
- magon*. **A. magon** Schaus (= *gyas* Druce) (19 d) differs from *flavipes* by the black legs with white hips; the strangulated abdominal ring is above and beneath yellowish. The yellowish hyaline wings have somewhat broader black margins. Brazil (Sa. Catharina).
- hadassa*. **A. hadassa** Druce (19 c) is the most imposing species with a black body; chest, hips, and abdomen above and at the sides spotted metallic blue; the venter exhibits on the two first segments white discal spots, on the others white double spots, of which the first and fourth are the largest. The yellowish hyaline wings with orange-yellow costal and proximal margins exhibit narrow black distal margins. Ecuador.
- suapurensis*. **A. suapurensis** Klages differs from all the other species by the posterior tibiae exhibiting rough hairy scales; body blackish-brown; anterior body in some parts with yellowish or grey hair; forehips and spots on the middle and posterior hips whitish. On the abdomen the strangulated segments are bare, brownish-yellow; the next segments bordered with yellow. Wings yellow hyaline, veins and margins finely blackish-brown, in some places strewn yellowish; inner-marginal appendage on the hindwing black-haired. Expanse of wings: 23 to 26 mm. Venezuela.

70. Genus: **Didasys** Grote.

Siphon well developed. Palpi long, erect. Antennae in both sexes doubly combed, in the ♂ long, in the ♀ short. The abdomen exhibits on the last rings lateral hair-tufts; in the ♂ the valves exhibit very long hair-tufts. The neuration as in *Argyrooides*, but the middle radial rises on the forewing above the lower cell-angle.

D. belae Grote (19 d). Head, collar, and abdomen scarlet; thorax and legs striped black and white. *belae*. The abdomen exhibits dorsally and on the 1st ring laterally small black spots, the 2 valval tufts are black. Venter whitish, with black bands. Wings hyaline with black veins and margins. The base of the forewing, a discal spot bordered with black, and an antemarginal series of spots in the broadly black distal margin are scarlet. In the ♀ the abdominal spots are larger and the anal apex is black. Expanse of wings: 28—34 mm. Florida.

71. Genus: **Burtia** Grote.

The terminal joint of the erect palpi is porrect. The abdomen exhibits on the first segment lateral tubercles, on the last lateral hair-tufts, and in the ♂ very long and hairy elapsing-organs. On the forewings the lower radial veins rise separately, all the subcostal veins on a joint pedicle; on the hindwings the upper median vein rises before the lower cell-angle which sends forth the lower radial veins; the subcostal vein far before the upper cell-angle.

B. cruenta H.-Schäff. (19 d). Vertex, collar, and abdomen carmine; palpi and forehead black and *cruenta*. white. Thorax brown, the shoulder-covers bordered with white; chest and legs striped red and white. Venter with a white median stripe, anal tuft partly black. Wings hyaline with black veins, margins, and apical spot; at the costal margin a red stripe. Expanse of wings: 22 mm. Cuba.

B. rubella Grote (= *cruenta* H.-Schäff. pr. p.) (19 d) differs from the preceding by its entirely black *rubella*. anal tuft, and above all by the apical spot of the forewing being filled up with carmine. Likewise found only in Cuba.

72. Genus: **Hypocladia** Hmps.

It differs from the allied genera, above all by the long and narrow shape of the wings, by which, together with the deviating marking, there appear certain resemblances to *Chrostosoma*. Veins of the forewings as in *Didasys*; on the hindwings the upper median vein and the lower radial vein come from the same place of the lower cell-angle, the subcostal and the 1st radial vein in the same way from the upper cell-angle.

H. militaris Btlr. (19 d). Body brown; spots on the vertex, collar and metathorax, as well as lateral *militaris*. stripes on the abdomen, being broken up into spots, are carmine. Forehips and transverse bands on the ventral side white. Forewings brown with whitish stripes in and below the cell, as well as a bent transverse row behind the cell. Forewings blackish-brown with diaphanous stripes in, below and behind the cell. Expanse of wings: 28 mm. Amazon.

H. parvipuncta Hmps. differs from the preceding by its entirely blackish-brown body exhibiting *parvipuncta*. carmine spots on the shoulders and 1st abdominal ring. Venter and base of palpi spotted white. Wings as in *militaris*. Expanse of wings: 30 mm. British Guiana.

H. restricta Hmps. likewise resembles the preceding. Body blackish-brown, tips of antennae white; *restricta*. vertex and shoulders with carmine spots, as well as the sides of the 2 first abdominal rings, while the rest of the abdomen is above black, on the ventral side white, forehips and stripes on the legs white, too. Forewings blackish-brown with a purple lustre, with similar hyaline spots as the preceding; the postdiscal ones between the upper median and middle radial vein extend far towards the margin. Hindwings black with hyaline spots in, below and behind the cell. Expanse of wings: 30 mm. Panama.

H. albipuncta Druce. Body brown. Neck and broad lateral stripes on the abdomen red. Forewings *albipuncta*. brown, behind the cell with 3 small white spots, at the base of the proximal margin a white blurred spot. Hindwings white, bordered with brown. Expanse of wings: 40 mm. South East Peru.

H. elongata Druce. Anterior body brown, neck and abdominal base yellow. Abdomen above brown, *elongata*. with subdorsal darker spots, laterally and beneath red. Forewings dark-brown with lighter veins; behind the cell there is a broad, brownish-white oblique spot extending from the costal to the distal margin. At the base of the cell a greyish-white stripe, in the middle 2 dots. Hindwings diaphanous white, bordered with brown. Expanse of wings: 46 mm. Venezuela.

H. calita Dogn. Head blackish; base of palpi and 1st joint of antennae rosy, vertex yellow. Collar *calita*. and shoulder-covers white with black spots. Abdomen above yellow, from the 3rd to 7th rings above spotted black, on the following rings banded black; at the sides a row of black dots; venter, hips, inner side of femora, ankles and tarsi rosy, legs otherwise grey. Forewings of a pure white, on the veins and margins grey with black spots between the veins in transverse rows near the base, before the middle, at the cell-end, creating the impression of a large, oval, postdiscal transverse spot, behind it a short row from the costa to the middle radial vein, as well as a row before the margin. Hindwings white, bordered with brown, at the proximal margin yellowish. Expanse of wings: 40 mm. Colombia.

73. Genus: **Hyalomis** *Hmps.*

Small species with broad, hyaline forewings exhibiting on the under surface at the proximal margin a hairy cover. The upper median vein and the lower radial veins all rise far separated from the lower cell-angle. The hindwings are very narrow and short, pointed, with a long, though extremely narrow cell, so that the transverse vein is very short. The upper median vein and lower radial vein are absent, the subcostal and 1st radial vein are long-petioled. The abdomen is not noticeably strangulated.

espia. **H. espia** *Dogn.* Body above black; 4 abdominal rings yellow, the 3 first ones above interrupted by black. Underside yellow, legs yellow and black. Wings hyaline with fine black distal margins, apical spots and veins; costal and proximal margins yellow. Expanse of wings: 23 mm. Ecuador (Loja).

thyria. **H. thyria** *Druce* (19 d). This small, neat species has a bluish-black body, being white beneath; anteriorly below the shoulders there is on each side a red spot. The very faintly yellowish, hyaline wings exhibit very narrow black margins. The costal margin of the hindwing is white-haired. From Ecuador and Bolivia.

hypochryseis. **H. hypochryseis** *Hmps.* (19 d). Body black with carmine spots on the anterior chest as in the preceding, but the abdomen shows orange lateral spots and an orange underside; orange are, furthermore, the anterior side of the palpi, forehead, throat, and spots on the collar, the borders of the shoulder-covers, and the feet. The narrow hindwings have above a white, beneath an orange-yellow costal margin and orange-yellow fringes. From Brazil.

platyleuca. **H. platyleuca** *Wkr.* (19 d). Body above black, beneath white, forehead margined with grey; tips of antennae white; shoulder-covers with a fine yellowish border. Wings hyaline with fine black veins and margins; costa of the hindwing white with a black stripe below it. Expanse of wings: 24 mm. Venezuela.

74. Genus: **Diptilum** *Prittw.*

This peculiar genus contains species distinguished by a great reduction of the hindwings, in some they even almost disappear entirely. On the very broad forewings the upper median vein and the lower radial veins rise separately; the proximal margin is in several species beneath covered with hair. The hindwings, in case they are developed, are narrow, pointed, and the lower radial is absent; the 1st median and 2nd radial rise separately. In case they are stunted, they disappear below the forewings, only the separated inner-marginal part hanging down as a hairy, small lobe.

Sect. I. Hindwings greatly stunted.

telamonaphorum. **D. telamonaphorum** *Prittw.* (26 l). Body blackish-brown. Throat carmine; hips white; tarsi and underside of the posterior tibiae orange-red. The abdomen exhibits above on the 2nd to 4th rings yellowish dorsal spots; underneath these rings are whitish. Wings yellowish hyaline with fine black veins, margins, and discal spot. On the under surface the veins and the discal spot are orange-red. Expanse of wings: 24 mm. Brazil (Minas Geraes, Rio de Janeiro).

flavipalpe. **D. flavipalpe** *Hmps.* (26 k) differs from the preceding species by the orange-yellow palpi with a black terminal joint, the yellowish-white forehead, orange-red throat, black body with brownish, streak-like spots on the collar, shoulder-covers, and thorax. The abdomen exhibits above on the 3 first rings yellow spots. The forewings are purely hyaline, not yellowish. Expanse of wings: 24 mm. Argentina.

halteratum. **D. halteratum** *F.* (= *dieides* *Prittw.*) (19 e) differs from the preceding, similar species by the brown, not orange-red, colour of the tarsi and veins on the wings beneath, and the very fine, small middle dot being situate above the rise of the middle radial. From Venezuela and Brazil (Rio de Janeiro, Sao Paulo), very common also in Argentina and Paraguay, almost all the year round on compositae.

proleuca. **D. proleuca** *Druce* (19 e). Quite black, only the two first abdominal rings are yellowish-white. The hyaline forewings are somewhat yellowish; the very much reduced hindwings are black, with yellowish-white hair at the proximal margin. From Venezuela; before me also from Brazil (Sa. Catharina).

culex. **D. culex** *spec. nov.* (19 e). In this species the hindwings are the most extensively reduced, so that only by means of a magnifying glass we are able to discover yet a very small stump, whereas the forewings are most conspicuously broadened. The body is unicolorously brownish-black, the first abdominal rings beneath somewhat whitish. The wings are yellowish hyaline with a very narrow black distal margin; the costal margin and veins are brownish-orange. Only one somewhat mutilated example from the collection of the Museu Paulista from South Brazil.

Sect. II. Hindwings developed.

sylpha. **D. sylpha** *Dogn.* Head and thorax black, forehead and collar margined with white, the collar laterally red. Abdomen above with a dark greenish-blue lustre, beneath white, at the end black. Legs black, femora inside white. Wings hyaline with fine black veins and margins, at the rise of the middle radial a black dot.

The costa of the hindwings is white with a black stripe below it, being expanded towards the margin to such an extent that the whole rest of the wing turns black here. Expanse of wings: 25 to 27 mm. Ecuador.

D. chrysocraspis *Hmps.* (19 e) has a black body with an orange-yellow underside, and lateral spots *chrysocraspis* on the abdomen, varying in extent, the tarsi being orange, too. The proximal and costal margins of the forewings are orange; the costal margin of the hindwing is white. Bolivia.

D. doeri *Schaus* (19 e) has a black body; forehead and palpi anteriorly orange, collar and shoulder-covers striped orange, also the hips and tarsi. Prothorax laterally spotted carmine. The abdomen exhibits orange spots at the sides, the venter is quite orange. Wings hyaline with fine black veins, distal and proximal margin; at the rise of the middle radial a black dot. Costa of the hindwing white, below it a black stripe, fringes orange. Expanse of wings: 26 mm. Brazil (Sa. Catharina) to Paraguay.

D. philocles *Druce* (19 e) is recognizable by the black abdomen being spotted white laterally and ventrally. In front below the shoulders on each side a small red spot. The costal margin of the hindwing is white-haired. Panama (Chiriqui) and Brazil (São Paulo).

D. bivittata *Wkr.* (19 e) is striped in a bright orange on the sides of the blackish-brown abdomen, on the hindwings and shoulder-covers; the costal and proximal margins of the forewings also show orange-yellow stripes. Brazil (Santos); Paraguay; Argentina; nearly all the year round particularly on compositae.

D. aterea *Schaus* (19 e) strikingly resembles *bivittata*, but it has a whitish-haired proximal margin on the under surface. It differs besides from the said species by a much narrower black distal margin of the forewing; the proximal margin is entirely black, the orange colouring being confined to the extremest base. The hindwings are narrower, quite orange-yellow, only traversed by a black longitudinal stripe in the fold, and the margin black, fringes yellow, costa white, the proximal margin in the ♂ hyaline, with blackish hair. The body is coloured as in *bivittata*, but the extent of the orange colour seems to vary greatly: one ♂ is above almost entirely black, only the underside and tarsi being orange, whereas the ♀ lying before me is preponderantly orange. Brazil (Casa Branca; Matto Grosso).

D. aurantiipes *Rothsch.* Body, legs and antennae orange, thorax marked yellow and black, the two first abdominal rings are margined black. Wings yellow-reddish hyaline with orange-brown margins and discal spots. Length of forewings: 11 mm. Amazon.

D. hoffmannsi *Rothsch.* Body unicolorously blackish-brown, legs orange. Wings yellow-reddish hyaline, the distal half of the costa orange, the proximal half hyaline, the distal margin brown, the proximal margin red-brown. Length of forewings: 14 mm. Peru.

D. crassum *Zerny* differs by much broader hindwings from all the other species. Black, abdomen with a blue reflection. Yellow are the two first joints of the palpi, the sides of the head, and shoulders, on the abdomen above the rings 5 to 7 with a broad, black median band; the whole ventral side is yellow, the legs yellow and black. Antennae very long-combed, abdomen broad and stout. Wings faintly yellowish hyaline with fine black veins, margins and apical spots. Expanse of wings: 28 mm. Colombia (Bogotá).

75. Genus : **Syntrichura** *Btlr.*

Antennae thickened in the middle and above roughly haired. Second and third abdominal rings strangulated. On the forewings the lower radial vein is absent; the middle one rises below the middle of the discocellular. The 3rd and 1st subcostal veins rise at the same place from the 4th, the 5th from the cell. On the very narrow hindwings with a long discocellular, the third radial vein is likewise absent, the 1st median and middle radial vein rise from the lower cell-angle, the upper radial from below the upper cell-angle.

S. melaena *Dogn.* (19 f) is easily recognized by the unicolorously black body; only on the head and collar there are scarce whitish, tiny hairs interspersed. The last quarter of the antennae and a dot below their base are white. Peru (Cajon; Hillapani).

S. placida *Druce* (19 f) has a black body. The front side of the palpi and dots on the forehead are white; vertex and collar with a bluish-green lustre; prothorax laterally spotted carmine. Wings hyaline with fine black veins and margins. Expanse of wings: 22 mm. Guatemala.

S. virens *Btlr.* (19 f) has a bright bluish-green lustre on the body; the abdomen exhibits above on the strangulated segments a white dorsal stripe and lateral and ventral spots. — In *reba* *Druce* the prothorax is spotted carmine. Both the forms fly in French Guiana and Brazil, the latter was also found in Colombia, Venezuela, and to the north as far as Panama (Chiriqui).

76. Genus: **Herea** Wkr.

The differences from the preceding genus are to be found in the abdomen being suddenly expanded behind the rather considerable strangulation, and exhibiting lateral tubercles at the base. On the hindwings the discocellar is very short, the subcostal and first radial vein are on a joint pedicle, all the rest as in *Syntrichura*.

meta-xanthus. **H. metaxanthus** Wkr. (19 f). The body is black; beginning from the 4th ring, the abdomen is orange-yellow with a black median stripe; anal hairing and lateral lines on the penultimate ring black. Wings hyaline with fine black veins and margins; the proximal margin of the forewing and costal part of the hindwing more grey. Expanse of wings: 28 mm. Amazon (Pará).

prittwitzi. **H. prittwitzi** Möschl. (= *xanthogaster* Druce) (19 f). This small species has a black body with an orange-yellow venter and lateral stripes on the abdomen; the palpi are anteriorly whitish, of the same colour the middle of the anal hairing underneath. French Guiana, Bolivia.

ruficeps. **H. ruficeps** Wkr. (= *collaris* H.-Schäff.) (19 f) is easily recognized by the orange-brown head and collar, the rest of the body being black; the orange colouring may be extended to the prothorax and the base of the shoulder-covers. Tips of antennae, forehead and the first ventral segments are white. In the ♀ the black discal spot on the forewing is usually more developed. Distributed from Guiana to the Amazon.

77. Genus: **Eumenogaster** H.-Schäff.

Most of the species of this genus greatly resemble *Pseudospheex* from which, however, they are immediately distinguishable by the well developed neuration of the hindwings. They are characterized by their long-haired palpi, roughly and long-haired thorax and legs. The first abdominal ring exhibits lateral tubercles, followed by a great strangulation; the last segments have lateral hair-tufts. On the forewings the lower radial is present and rises, with the middle radial, from the lower cell-angle, while on the hindwings it is absent; the two median veins and the middle radial rise separately, the subcostal and first radial from the upper cell-angle.

notabilis. **E. notabilis** Wkr. (19 f) is easily recognized by the broad, brown proximal and distal margins of the faintly yellowish hyaline wings, the costal margin being striped red or orange, and between the transverse vein and apex there are scant black and red scales interspersed. The body is anteriorly blackish-brown, striped and spotted yellow, the abdomen red, posteriorly more brown, the strangulated rings black, in the middle yellowish-white. From Guiana to the Amazon (Pará). — v. **caurensis** Klages from Venezuela differs but slightly by somewhat more pronounced yellow hair on the collar and shoulder-covers, white spots on the anterior and posterior hips, as well as at the extremest end of the anterior femora; the yellowish-white spots on the first abdominal rings are silvery white.

pseudopolybia. **E. pseudopolybia** Schrottky. Head black and yellow, antennae black, forehead metallic blue, palpi with dark yellow hair. The black thorax, with a blue lustre, is marked yellow. Legs black, hips and tarsi yellow haired and scaled. Abdomen black, with a blue lustre, the 4 first rings with yellow bands, on the ventral side much broader and more extensive. Wings yellowish hyaline with dark brown veins and margins. Expanse of wings: 20 mm. Paraguay.

pseudosphecia. **E. pseudosphecia** Hmps. (19 g) has, like the following, scarlet antennae, but a reddish-brown abdomen, the 3rd segment exhibiting a whitish band. The anterior body is black, marked yellow, the forehead white. The costal-marginal half of the forewing is greatly darkened by brown scales. From the Amazon (Pará; Teffé).

affinis. **E. affinis** Rothschild. differs from *pseudosphecia* by its white forehead, light brown thorax, dark red-brown metathorax and base of abdomen; the other abdominal rings are black, not red-brown; the costal part of the forewing is dusted more scarlet. Venezuela.

nigricauda. **E. nigricauda** Dogn. Head black, forehead white, vertex, collar, and palpi yellow; shaft of antennae scarlet, at the base yellow. Thorax marked black and yellow; the first 4 abdominal rings are ochreous-yellow, the following ones black. Underneath the 3rd and 4th rings are white, the 3 last ones black, the others yellow. Hips white, legs yellow with black ankles. Wings yellowish hyaline, in the costal half darker yellow; fringes and proximal margin above fine black, below yellow. Expanse of wings: 28 mm. French Guiana.

E. haemacera *Hmps.* (19 g). Black, the antennae are above scarlet, except the black base; forehips, *haemacera*, the second segment and the basal half of the third ventral segment white; on the 3 first abdominal rings lateral white and yellow streaks. The hyaline wings with fine brownish veins and margins are tinted orange-brownish in the costal-marginal half. Venezuela, Guiana, Amazon.

E. eumenes *H.-Schäff.* (19 g). Body black; tips of antennae white; the abdomen exhibits lateral *eumenes*, white stripes on the 3 first rings. The costal halves of the hyaline wings are yellowish, the veins and margins narrowly black. Expanse of wings: 34 mm. Surinam; Brazil.

78. Genus: **Urolasia** *Hmps.*

Palpi not so long-haired as in the preceding genus, the abdomen only very little strangulated, but also with lateral hair-tufts and a large anal tuft. On the forewings the upper median and the 2 lower radial veins rise separately; on the hindwings the middle median vein is nearer to the lower cell-angle from which the 1st median and the middle radial vein rise, the lowest radial being absent.

U. opalocincta *Druce* (19 g). Body black, on the forehead, collar, shoulder-covers, hips, and meta-*opalocincta*, thorax metallic blue spots—the strangulated abdominal rings exhibit subdorsal, white, intensely opalescent bands and a silvery white underside, on the 5th and 6th segments sublateral silvery spots. The black marginal band of the forewing expands greatly towards the proximal angle, the hindwings are broadly bordered with black, the border growing narrower towards the proximal angle. French Guiana.

U. albipuncta *Druce* has a bluish-black body with a white forehead. The base of the abdomen, dorsal *albipuncta*, and sublateral rows of spots on the abdomen are white. Wings hyaline with a black distal and proximal margin and apex. Expanse of wings: 32 mm. Venezuela.

U. brodea *Schaus* (19 g). The body is black, the abdomen above with bands of a blue lustre, *brodea*, beneath at the base with a white median stripe. Anterior side of the palpi, sides of the forehead, spots on the shoulders and hips white. Thorax and legs spotted blue. Wings hyaline with broad, black margins. Expanse of wings: 30 mm. Trinidad.

79. Genus: **Sesiura** *Hmps.*

By the abdomen being slightly strangulated only at the 5th and 6th segments and then growing broader again, the only species is separated from the preceding genus; lateral hair- and anal tufts as there; on the forewings the two lower radial veins rise contrariwise in common, on the hindwings the upper median and the middle radial vein rise separately, the lowest radial being absent.

S. smaragdina *Wkr.* (= *saturatissima* *Wkr.*) (19 g) looks like a small *Aethria leucaspis* *Cr.* and is *smaragdina*, coloured and marked exactly the same way, but the white spots on the abdomen are absent. — Here the red anal tuft may also turn yellow: **flava** *form. nov.* (= *ab. 1. Hmps.*) (19 g). — Both forms are widely distributed *flava*, from Venezuela, Guiana as far as the Amazon.

80. Genus: **Metastatia** *Btlr.*

In the veins no essential difference from *Sesiura*, only the uppermost subcostal vein does not rise from the cell, but in common with the other subcostal veins. The abdomen is somewhat strangulated at the second segment, the last ring exhibits lateral hair-tufts. The posterior tibiae are considerably expanded.

M. pyrrhorhoea *Hbn.* (19 h). Anterior body black, spotted white, the abdomen with a deep blue lustre *pyrrhorhoea*, and with dorsal and lateral lines composed of white spots; anal tuft earmine; venter spotted white. The black forewings, with a slight blue lustre, exhibit a large, triangular, hyaline area in the basal half, and a postdiscal band; the hyaline hindwings a broad, black border; fringes at the anal angle white. British and French Guiana, Amazon.

M. azurea *Lathy* differs from the preceding by its more extensive hyaline spots, a much brighter *azurea*, blue, the absence of white spots on the shoulders and prothorax, the shoulder-covers not being bordered with white, the ventral side being quite unicolorously greyish-white; beside the anal tuft, the whole last abdominal segment is earmine. Ecuador.

81. Genus: **Abrochia** H.-Schüff.

A considerable number of small to almost medium-sized, neat species being mostly coloured yellow on the body and resembling *Sphecosoma* or small *Cosmosoma*-species by their exterior, but being at first sight recognizable by the veins of the hindwings. The first palpal joint long-haired; the female antennae rather thickened in the middle, serrate-dentate, those of the ♂♂ doubly combed; the second abdominal ring is strangulated. On the forewings, the upper median and the lower radial veins rise separately, the upper radial from the upper cell-angle, the 1st subcostal vein from the cell. The cell of the hindwing is long, the lower radial being absent; the upper median and middle radial vein rise separately, the subcostal and the uppermost radial vein from the upper cell-angle.

- faveria*. **A. faveria** Druce (19 h) differs from the following by an orange-yellow discoidal spot and large, faded black apical and inner-marginal spots on the forewings. From Panama (Chiriqui).
- dycladioides*. **A. dycladioides** Heyl. (19 h) is a peculiar species from Brazil (São Paulo), being very much distinguished by a remarkably large, round, black discoidal spot of the forewing. The body is orange, the head and last abdominal rings black, the anal hair with a leaden lustre. The legs are orange, tarsi and posterior tibiae black, posterior tarsi partly yellow. The veins and margins of the basal parts of the wings are yellow, the rest black.
- humilis*. **A. humilis** H.-Schüff. (19 h). Head and collar black, thorax orange. The 2 first segments and the legs of the 3rd abdominal segment are orange, the others black, posteriorly margined by blue. Wings hyaline, veins and margins of the proximal halves orange, distally black, as well as a broad apical spot. Hindwings with orange veins and margins and a black apical spot. Expanse of wings: 28 mm. Brazil.
- cosmosomoides*. **A. cosmosomoides** Rothsch. Head and thorax black; forehead, palpi, thorax and legs golden yellow; antennae black, in the middle brownish orange; the distal half of the collar and the shoulder-covers orange-yellow, the latter bordered with black. On the thorax 2 golden yellow middle spots. The 2 first abdominal rings are golden-yellow, the others steel-blue, bordered with golden yellow. Forewings yellowish hyaline, the distal two thirds of the costa and the median deep orange, the other veins and margins and a broad apical spot sooty black; hindwings very small, yellow hyaline with black veins and fringes. Expanse of forewings: 14 mm. Venezuela.
- augusta*. **A. augusta** Druce (19 h). Head and thorax black, on the vertex and collar spotted blue; base of shoulder-covers yellow. Legs yellow, tarsi and anterior tibiae black. Forewings hyaline, base, costal and proximal margin black; veins and margins in the middle area yellow. Discal and apical spots, as well as the veins in the marginal area are black. On the hindwings the veins in the basal area are black, distally yellow. Expanse of wings: 26 mm. Mexico; Guatemala.
- sanguitarsia*. **A. sanguitarsia** Hmps. (19 h) is a true copy of *Eumenogaster haemacera* (19 g) from which it differs by the hemochrome tarsi. Body black, at the second abdominal segment laterally and beneath, on the two following ones beneath spotted white. Antennae hemochrome. The hairing of the palpi, forehead and thorax is sparsely intermixed with orange hairs. The wings are also here reddish-brown in the costal halves; the costal-marginal veins of the hindwing are red. Bolivia (Rio Songo).
- postica*. **A. postica** Wkr. (19 h). Head, mesothorax, the first and last abdominal rings are black, the latter more or less with a leaden grey lustre; base of palpi, sides of thorax, and shoulder-covers, as well as the middle abdominal rings are orange. The wings are narrowly bordered with black. Amazon (Pará).
- pelopia*. **A. pelopia** Druce (19 h) differs from the following by the veins being entirely black, and the collar being anteriorly orange-yellow, the metathorax and ends of the shoulder-covers being orange, too, as well as the 5 first abdominal rings. Panama; Bolivia.
- mellita*. **A. mellita** Schaus (19 i) somewhat resembles *pelopia*, though it is easily discernible by the veins and margins being yellow in the basal halves of the wings. Anterior body black with silvery blue spots of a lilac iridescence on the vertex and collar. The 2nd to 5th segments of the abdomen are yellow, the rest being black, the last segment with a silvery blue and purple lustre. Underside and legs yellow, tarsi black. Both wings exhibit large, black apical spots. Described from Costa Rica (Sixola); the figure according to a specimen of the Coll. FASSL from Muzo (Colombia); it, therefore, seems to be widely distributed.
- tetrazona*. **A. tetrazona** Hmps. (19 i). Body black; base of palpi, sides of forehead and vertex spotted orange; collar, shoulder-covers and thorax scaled orange; the first abdominal ring is subdorsally spotted orange; the second strangulated segment is quite light yellow, the following 4 rings are banded orange. The proximal margin of the hindwing orange. The ♀ differs by yellowish wings, a large, orange and black discal spot and a brown spot below the apex of the wing. Bolivia (Rio Songo); Amazon (Pebas). — **obsoleta** *subspec. nov.* (= subsp. ♀ Hmps.) is a female form from Brazil (Minas Geraes), in which the orange bands on the abdomen have disappeared; the discoidal spot of the forewing is absent, too.

A. julumito *Dogn.* (19 i) is characterized by very large, black apical spots of the forewing. The *julumito*. head is quite scarlet, the antennae black, palpi yellow. Collar, shoulder-covers and thorax yellow with fine black margins. The abdomen is orange-yellow with a black median line, beginning from the 5th ring black with a leaden lustre, the segments 3 and 4 finely bordered with black. Underside and legs are quite yellow. Described from Ecuador (Loja), before me also from French Guiana (Nouveau Chantier).

A. sanguiceps *Druce* (19 i) is larger than the preceding, of a more intense orange colour, only the *sanguiceps*. vertex being red, with black spots, the other part of the head orange; the mesothorax is extensively black; the forehips are spotted blue, the middle tarsi striped black; only the two first abdominal segments are orange, the others black, the 3rd to 5th laterally spotted orange. French Guiana.

A. singularis *Wkr.* (19 i) is easily distinguished from *sanguiceps* by the black head and anterior half *singularis*. of the thorax; besides, the abdominal end is only faintly tinted blackish, so that the orange colour shines through. Amazon (Pará).

A. discoplaga *Schaus* (19 i) is black on the head, collar and most anterior part of the thorax, the *discoplaga*. vertex and base of the collar spotted silvery blue with a violet iridescence; the rest of the body is ochreous yellow, the 2 last abdominal segments black. Underside and legs yellow, tarsi partly black. On the hyaline wings the basal half of the costal margin, the median, vein 2, the base of vein 3, and the proximal margin are yellow; the rest of the veins and margins, as well as a large discal spot are black; the veins of the hind-wings are yellow, the margins black, the proximal margin with ochreous-yellow hair. Venezuela; also from French Guiana (St. Jean Maroni).

A. sodalis *spec. nov.* (19 i) is very closely allied to the preceding and differs at once by the quite *sodalis*. black veins, the black, narrow proximal and costal margins, the absence of the discal and apical spots; only the extreme base of the wings is yellow. The last three abdominal rings are black, also underneath, whereas in *discoplaga* the ventral side remains yellow. — From the original description of the latter which is before me only in a female example, the sex is not to be inferred; it is, therefore, not impossible that *sodalis* of which there is a male before me from French Guiana, is the dimorphous ♂ of *discoplaga*.

A. consobrina *Wkr.* (19 i). Body orange-yellow, head and thorax marked black; the first abdominal *consobrina*. segment exhibits black dorsal and subdorsal streaks, the last rings are blackish-brown with a purple lustre. The hyaline wings do not show any black spots at the apex and proximal angle; the base of the costal margin is orange. Amazon.

A. mellina *H.-Schäff.* (19 k) has a yellow body. The hindhead is carmine with 2 white dots. A spot *mellina*. in the mesothorax and the borders of the shoulder-covers are black. Abdomen with black articular lines and median stripe, the latter being on the last ring expanded like a spot. Wings hyaline with fine black veins and margins; the forewing with yellow stripes at the costa and proximal margin; both wings with black apical spots. Expanse of wings: 24 mm. Venezuela; Pará.

A. igniceps *spec. nov.* (19 k) differs from the preceding by only the upper part of the forehead *igniceps*. being scarlet; the hindhead itself is yellow with a black middle spot; the collar is bordered with black; the spot-like expansion of the middle line on the last segment being absent. There is no black apical spot on the wings which are but extremely finely bordered with black; the distal half of the proximal margin of the forewing is yellow; costal and proximal margins otherwise black, only at the base spotted in a lemon colour. Hips spotted metallic bluish-green, legs yellow, only the posterior tibiae and femora, as well as all the tarsi above striped black. Described according to a ♂ from Peru (Marcapata, BANG-HAAS).

A. atridorsata *Hmps.* differs from *mellina* (19 k) by the orange-yellow spot being spotted black on *atridorsata*. the vertex, without any red, by the whitish ends of the antennae, the absence of the black articular lines on the abdomen. The black dorsal stripe forms transverse bands on the 2 last rings. On the forewings the costal margin is not orange. Expanse of wings: 26 mm. British Guiana.

A. munda *Wkr.* (19 k) has an entirely orange-yellow body, the dorsal stripe running through across *munda*. the thorax and abdomen; each abdominal ring is black-curved, the collar and shoulder-covers are bordered with black. There are no discal nor apical spots on the wings. Amazon (Pará).

A. fulvisphex *Druce* (19 k). Body orange yellow; forehead, collar, shoulder-covers and thorax striped *fulvisphex*. black; the four first abdominal rings exhibit a black median line with small, leaden-coloured spots in it, the third and fourth segments are finely bordered with black; black lateral spots on the middle segments. The hyaline wings have no discal spot, an orange-yellow costal and proximal margin. French Guiana (Cayenne; Nouveau Chantier).

A. aequalis *Wkr.* (19 k) is recognizable by the orange-yellow discal spot of the forewing and by the *aequalis*. shoulder-covers in the middle, the thorax and collar being striped black; the whole body is orange-yellow, the antennae at the base black, otherwise orange. Costal and proximal margins of the forewings are orange, the fringes brownish. Venezuela; Amazon.

zethus.

A. zethus *Hbn.* (19 k). Body yellow and orange; palpi, vertex, and thorax banded black, as well as the borders of the collar and of the shoulder-covers. Wings hyaline, with fine black veins and borders, at the costa and proximal margin striped orange, the fringes brownish. Expanse of wings: 30 mm. Pará; Argentina.

moza.

A. moza *Druce* (19 k) is the only species known hitherto with an almost entirely black body exhibiting a red anal tuft; the second strangulated segment is laterally and beneath white, and besides, the sides of the forehead, the shoulders, the metathorax and the hips are spotted white. The yellowish hyaline wings show a red costal-marginal stripe and black narrow margins. Panama (Chiriqui).

82. Genus: **Pseudargyroeides** *Klages*.

Distinguished from the preceding by shorter palpi, the shaft of the antennae being thickened in the middle also in the ♂, the anterior and middle tibiae being roughly scaled; not only the 2nd, but also the 3rd abdominal ring strangulated. On the forewings the uppermost radial vein rises from below the upper cell-angle, otherwise as in *Abrochia*. Only one species.

caurensis.

P. caurensis *Klages* greatly resembles *Argyroeides suapurensis*. The body is blackish-brown; palpal ends anteriorly orange. Spots on the sides of the forehead, neck, collar, thorax, as well as the borders of the shoulder-covers yellow-haired. Behind the eyes metallie green stripes, on the metathorax a lustrous blue spot. The 2 first abdominal rings above spotted yellow, the 3 next ones margined by yellow. Wings yellowish hyaline, veins and margins blackish-brown, so is a discal streak and an apical spot, the proximal margin of the hindwing black-haired. Expanse of wings: 29 mm. Venezuela.

83. Genus: **Ecdemus** *H.-Schäff.*

The erect palpi extend just as far as the vertex. The cell of the forewing is very long, narrowed towards the apex, so that the transverse vein grows very short. The median veins and the lower radial vein rise in long interspaces before the lower cell-angle, the upper radial from below the upper cell-angle, the 3 lowest subcostal veins petioled, both the upper ones from the cell. On the hindwings it is just the same: the median and lower radial veins all rise at about the same distance from each other, the transverse vein is very short; the subcostal vein and the uppermost radial vein rise here long-petioled. Only two species known.

hypoleucus.

E. hypoleucus *H.-Schäff.* (19 k). Body black, throat orange-yellow, hips and venter as far as the 5th segment white, like the anterior side of the palpi and spots at the ends of the middle and posterior tibiae. Recognizable by the broad black costal margin between the cell-end and middle radial. From French Guiana as far as the Amazon (Pará).

obscuratus.

E. obscuratus *Schaus* differs from the preceding chiefly by the great expansion of the black costal and distal margins, whereby the hyaline spots are greatly reduced, which are besides thinly scaled blackish. Base of palpi ochreous-yellow and white. Abdomen above bluish-black, beneath white. Costa Rica.

84. Genus: **Agunaix** *Hmps.*

The first palpal joint long-haired; on the forewings both the lower radial veins rise from the lower cell-angle, the upper one from far below the upper cell-angle; very characteristic is the course of the subcostal veins, all of which rise at the same distances from the lowest. On the hindwings the median and lower radial veins all rise rather closely together, the subcostal and upper radial vein are petioled; the distal margin is concavely indented near the anal angle.

lacrumans.

A. lacrumans *Schaus* (19 l). The only species is an insignificant insect with very long, narrow wings, being thinly scaled blackish and a black abdomen. The basal half of the forewing is more densely scaled than the rest. From Peru and Bolivia; a female example is also before me from the Coll. FASSL, from West Colombia, Rio Aguaca Valley, 2000 m.

85. Genus: **Cercopimorpha** *Bllr.*

Palpi erect with an obtuse terminal joints; tibiae with rather long spurs; abdominal base above roughly haired. On the forewings both the lower radials rise from the lower cell-angle, the 1st subcostal vein from the cell. On the hindwings the lower median and upper radial vein stand on a joint pedicle, the middle radial rises above it, the subcostal and upper radial vein likewise petioled.

C. tetragonia *Hmps.* (191). Anterior body blackish-brown, abdomen above metallic blue, beneath *tetragonia*. white with a black anal tuft. Forehead and anterior side of the palpi white; neck and prothorax earmine, shoulder-covers striped orange. The brown forewings show in the cell-end a square, orange-red spot, the hindwings are in the centre hyaline diaphanous. The basal halves of the wings are on the under surface suffused by metallic blue on the costa and median. So far only known from Venezuela (Merida).

C. homopteridea *Btlr.* (= *peetinata Wkr.*) (191). Blackish-brown; palpi at the articular ends white. *homopteridea*. Vertex, collar, and shoulder-covers striped grey. Neck and abdomen orange, the 1st segment and the anal tuft black. Forewings blackish-brown, with short, white, small stripes below the costal base and median; before the apex is a faded grey spot and before the margin an indistinct, white, dentate line. Hindwings blackish-brown, in the disc diaphanous. Expanse of wings: 30 mm. Pará.

C. meterythra *Hmps.* (191) is very easily recognizable by the red hindwings being bordered with black; *meterythra*. the brown forewings exhibit hyaline spots in the cell-end and above and below the lower radial vein. The body is black, on the abdomen subdorsally spotted blue with a white ventral side; neck red, palpi and legs white striped. Known from Bolivia.

86. Genus: **Teucer** Kirby.

The ♂♂ of this genus are mostly distinguished by secondary sexual marks in the shape of accumulations of rough scales on the under surface of the wings, as well as by lobular or pointed prolongations of the anal angle on the hindwing. The veins on the forewings are not quite constant in the different species and do not offer any characteristic marks. On the hindwing the 1st radial and the subcostal stand on a short pedicle, in some species the costal vein is rudimentarily present.

T. subplena *Wkr.* (191) is distinguished by the carmine, last abdominal segments, the body being *subplena*. otherwise blackish-brown, the hindhead spotted red; hips and venter are white, the anus ochreous-yellow. The brownish-grey forewings with olive-grey striped veins are spotted black and exhibit in some places more thinly scaled, lighter patches. The hindwings are black with small hyaline spots in and below the cell and yellowish-white spots at the proximal margin. Brazil (Rio de Janeiro).

T. distincta *Rothsch.* Body brownish-black; collar, last abdominal ring, underside and forehips brick-red, on the metathorax a chrome-yellow band. Forewings brownish-black with large hyaline spots in and below the cell and 2 behind it, below and above the upper radial vein. Apex white; the veins of the apical half and a transverse line in the marginal area grey. Hindwings hyaline with a very broad black border. Surinam.

T. brevipennis *Btlr.* (191). Head and thorax brown and blackish; in the neck there are 2 orange *brevipennis*. spots; hips white. Abdomen blackish, at the apex grey, the venter white. Forewings blackish-brown, on the veins dusted ochreous. Hyaline spots in and below the cell and 4 behind it between the 1st median and lowest subcostal vein. Before the border is an indistinct, ochreous-yellow line. Fringes at the apex, on the middle radial and between the median veins white. Hindwings black, with hyaline stripes at the base, the fringes and the rough scaling of the under surface white. Expanse of wings: 24 mm. Amazon.

T. hypophaeus *Hmps.* (191) greatly approximates the preceding species and is distinguished by *hypophaeus*. the somewhat grey, spotted brightening of the distal half of the forewing, the ochreous-yellowish dusting being absent; the transverse vein appears in the grey discal spot as a grey line, the ochreous-yellow line before the margin is absent, and there is a small hyaline spot besides, above the lower median vein. On the under surface of the hindwing the rough scales are yellowish-grey, the inner-marginal area being white. Venezuela and French Guiana.

T. germanus *Rothsch.* differs from *hypophaeus* by much smaller hyaline spots of the forewings and *germanus*. quite black hindwings with a sooty-grey proximal angle; only at the base 2 small grey, diaphanous spots. The under surface of the hindwings is quite sooty black with minute, transparent basal spots. Length of forewings: 12 mm. Venezuela.

T. apicalis *Rothsch.* The body is black, vertex and forehips orange; legs blackish-brown. Forewing *apicalis*. in the proximal two thirds black, in the marginal third yellowish-grey with black, interrupted longitudinal stripes on the veins; spots in and below the cell and 2 behind it are diaphanous grey. Hindwings in the basal half diaphanous white, distally blackish-brown, towards the proximal angle yellowish-grey. Length of forewings: 16 mm. Surinam.

T. albapex *Druce* (191). Black; anterior side of the palpi, hips and stripes on the femora white; *albapex*. abdomen with a blue lustre, with white lateral stripes, venter white. The hyaline forewings with broad, black veins exhibit very broad black margins and discal spots, the extreme apex being narrowly white; the black hindwings exhibit in the middle a hyaline stripe extending almost to the margin. French Guiana.

- glaucopis.* **T. glaucopis** *Fldr.* (20 a) is a larger, well recognizable species with a blackish body; hindhead and collar spotted carmine; anterior side of the palpi, forehead, thorax, shoulder-covers and base of the femora spotted white. The abdomen shows large, white, lateral and ventral spots. The blackish-brown forewings are of a lighter whitish behind the cell, with black veins, the hindwings hyaline with a blackish-blue border. Distributed from French Guiana to the Amazon District and not rare. — In a male example from Colombia *obsoleta*. (Coll. SEITZ) from the Rio Dagua the white lateral spots on the abdomen are absent altogether: f. **obsoleta** *form. nov.*
- carmania.* **T. carmania** *Druce* (20 a). Black; anterior side of the palpi, sides of the forehead, and forehips white; abdomen beneath almost as far as the apex white. Forewings with 2 hyaline stripes in the cell, one below it and 3 more between the lower median and radial vein. Hindwings hyaline with a black border. Expanse of wings: 28 mm. Ecuador.
- rubrothorax.* **T. rubrothorax** *Rothsch.* differs from *carmania* by the entirely carmine thorax, much smaller and entirely black hindwings with a white costal base. Length of forewings: 11 mm. Amazon.
- brunnea.* **T. brunnea** *Hmps.* The body is dull red-brown, in the neck orange. The abdomen exhibits, from the 5th to 7th rings, orange subdorsal spots and white sublateral stripes. The red-brown forewings exhibit a discal dot on the dark middle band being angled at the lower cell-end and before the border a light dentate line. Expanse of wings: 26 mm. Argentina.

87. Genus: **Epanycles** *Btlr.*

Shaft of antennae in the middle somewhat thickened. The first radial and subcostal vein of the hindwing petioled, the middle radial rising from above the lower cell-angle; the proximal margin of the ♂ beneath shows a long hair-tuft. On the forewings the upper median and the lower radial veins rise from the lower cell-angle, the 1st radial vein from the upper angle, being strongly bent downward. Only one rather dark species:

- imperialis.* **E. imperialis** *Wkr.* (20 a). The forewings are brown with a purple violet lustre, at the base of the costal margin a brassy-green spot; hindwings grey, in the disc diaphanous. The body is blackish-brown with brassy-green spots particularly towards the anus. Known from Guatemala, Venezuela, Guiana, Amazon (Pará) and Peru.

88. Genus: **Pterygopterus** *Btlr.*

Only few large, dark-coloured species, the ♂♂ with a long-extended proximal angle of the hindwings, and long hair-tufts at the same place. The cell of the hindwing is long, the lower median vein rises afar from the cell-angle, the upper median and lower radial vein from its lower corner, the middle radial from below the middle of the discocellular.

- leucomelas.* **P. leucomelas** *Wkr.* (= *superbus Druce*) (20 a) is a magnificent, large species, which is unmistakable by the large, white apical spot being margined by black, whereby it most strikingly copies large Ichnumonids. On the forewing, being otherwise deep velvety-black, turning somewhat brownish towards the margin, the metallic blue median vein is very prominent; at the base, above vein 1, there is besides a blue spot; the hindwings are blackish-blue, at the apex metallic blue. Body bluish-black; tips of antennae orange. Widely distributed from Panama, Guiana, Colombia (Muzo) as far as Brazil (Pará).
- flavicornis.* **P. flavicornis** *Kaye.* This species having been described according to a ♀, is said to differ from *clavipennis* only by its entirely orange-yellow antennae, as well as by the rounder contours of the ♀♀ hindwings, the proximal angle not being extended. It may be the ♀ of *clavipennis* which has not become known hitherto. British Guiana.
- clavipennis.* **P. clavipennis** *Btlr.* differs from *caeruleus* by the antennae being orange-yellow only in the terminal third, and by the abdomen exhibiting a metallic green lustre at the base and sides. Forewings bluish-black, at the costal margin, in the inner half of the proximal margin and below the cell-end greenish, in the marginal area brown, at the base and at the end of the median, and at the base of the inner-marginal vein metallic green. Hindwings bluish-black, costa and veins metallic green. Expanse of wings: 48 mm. Brazil.
- caeruleus.* **P. caeruleus** *Hmps.* (= *clavipennis Druce*) (20 a) is a large, blackish-blue species with an intense, bronze-brown lustre on the forewings, a metallic blue spot at the base and a faintly blue median. On the under surface the veins are suffused by blue. Antennae black, the two terminal thirds orange. Head, metathorax, legs and abdomen with metallic blue spots. Apparently a rare species, having hitherto only been found in Mexico (Jalapa, Orizaba) in October.

89. Genus: *Episcepsis* Btlr.

Species of medium to big size, with a preponderantly dim colouring of the wings, usually with metal-colours on the abdomen. The forewings, being rather broad, exhibit the usual neuration, the hindwings mostly show in the ♂ a long hair-tuft in an anal fold of the proximal angle being here often extended to a point. The lower median vein rises far from the lower cell-angle, the upper median vein and the 3rd radial from it, the middle radial distinctly from above it. The base of the abdomen is covered with long hair.

E. melanitis Hbn. (20 b) is an entirely deviating type, which at first sight does not look at all like *melanitis*. a Syntomid. The velvety deep blackish-brown forewings exhibit a broad, orange-yellow, oblique band; on the under surface both wings are suffused with a metallic blue in the basal halves. The body is blackish-brown, palpi and legs striped white, the venter shows sublateral series of white spots. The hair-tufts on the abdomen and proximal margin of the hindwings are white. British and French Guiana.

E. lenaeus Cr. (20 b). Head, thorax and forewings dark sepia-coloured, the latter with a white apical *lenaeus*. spot; the hindwings in the disc diaphanous, otherwise slate-coloured. In the neck 2 carmine spots. The bright red forehips separate the species easily from the very similar *thetis*. Abdomen above metallic blue, the hair at the base blackish-brown. The hair-tufts in the anal fold white in the ♂. Distributed from Mexico through Central America as far as Guiana and Surinam.

E. thetis L. (= *thoos* F., *lenaeus* Druce pr. p.) (20 b) has a white apical spot on the forewings, white *thetis*. forehips and first palpal joint; hindhead and shoulders are spotted carmine; on the brown forewings the veins are not lighter prominent; the first 3 ventral segments are spotted white; the hair-tufts at the proximal margin are yellowish. Occurring from Panama, Venezuela as far as Argentina.

E. hampsoni Roths. greatly approximates *thetis* from which it differs by its black palpi and forehips *hampsoni*. (the latter show some white only at the base), orange-yellow neck, distinctly light grey veins particularly in the basal half of the forewing and snow-white hair-tuft in the ♂. The venter is unicolorously sooty black. Length of forewings: 18 mm. Surinam.

E. capysca Schaus. This species, and the following, so strikingly resemble *Patreliaura capys*, that one *capysca*. must look very closely in order to distinguish them; the principal distinguishing mark are of course the unpetioled upper median and lower radial veins of the hindwing and the rise of the upper radial of the forewing from the upper cell-corner. Besides, the base of the palpi is white, and the abdomen beneath spotted white, the whole animal being somewhat larger, at an average. The head is ochreous-yellow, spotted black, the forehead blackish with some white scales. The blackish-blue hindwings exhibit a hyaline spot in the cell, below and behind it. Costa Rica (Tuis).

E. capyscoides Dogn. (20 b) is perhaps only a local race of the preceding, chiefly differing by the *capyscoides*. presence of a white, diaphanous spot on the inner-marginal base of the hindwing; only the hindhead is orange. The species described from French Guiana is before me also from Bolivia.

E. rhypperas Hmps. (= *lenaeus* Druce pr. p.) (20 b) is somewhat smaller than the very similar *thetis*; *rhypperas*. on the forewings the veins appear lighter; hindhead and shoulders are spotted orange, not carmine, the venter is much more extensively white; the hair-tufts at the proximal margin are entirely white. British Honduras.

E. gnoma Btlr. (20 c) and the following are easily distinguished from the numerous similar species *gnoma*. by the white forehips. Shoulders and hindhead spotted red, the lower end of the collar not. The abdomen is of an intense metallic blue, the 3 first segments beneath spotted white; the light veins of the wings form the only difference from the following species. From French Guiana, the Amazon and Rio de Janeiro.

E. gnomoides Schaus exactly resembles the preceding, but the veins of the forewings are black and *gnomoides*. not lighter than the ground. Costa Rica (Sixola River).

E. klagesi Roths. differs from *gnoma* by the white apical border and much more pronounced *klagesi*. light veins of the forewings, an orange neck and an entirely white ventral side. Venezuela.

E. sordidus Roths. differs from *klagesi* by its dirty dark brown forewings with lighter veins, the *sordidus*. apical fourth being whitish brown-grey, the abdomen above and beneath unicolorously black-brown. Venezuela.

E. vinasia Schaus. The body is brownish-black, palpi and legs striped grey; hindhead ochreous-yellow, *vinasia*. collar laterally spotted ochreous-yellow. Abdomen above metallic blue, with basal blackish-brown hair, beneath all white. Forehips ochreous-yellow. Forewings brownish-black with grey veins. Hindwings bluish-black, in and below the cell with a broad white longitudinal stripe from the base; the proximal margin striped white in the ♂ with a yellow-reddish hair-tuft. Expanse of wings: 32 mm. Costa Rica.

- lamia*. **E. lamia** *Btlr.* (20 c) is difficult to distinguish from the following species: the ground-colour is on the whole somewhat browner, the wings more stretched, more pointed, the surest distinguishing mark being a red spot on each side of the lowest end of the collar, without a red spot on the shoulders being present. Besides there are more or less distinct whitish sublateral lines at the base of the abdomen. Amazon. —
- flavomaculata*. In ab. **flavomaculata** *form. nov.* (= ab. 1. *Hmps.*) the red colour of the spots on the head and forehips has turned yellow.
- inornata*. **E. inornata** *Wkr.* (= *lamia Druce pr. p.*) (20 c) is unicolorously blackish-brown on the forewings. The forehips, as well as two small spots in the neck and below the shoulders are red. Abdomen above metallic blue, only the dorsal hair are brown, below all brown, not white-spotted. Hindwings blackish, in the centre diaphanous, the anal hair-tufts in the ♂ yellowish. Mexico, Guatemala, Costa Rica, Panama.
- dodaba*. **E. dodaba** *Dyar* (20 c) from Mexico (Santa Rosa, Orizaba: July to September), Venezuela and a ♂ from Ecuador, differs from the most similar *inornata* by the presence of a red spot on each side of the lower end of the collar, so that there are thus 3 pair of red spots next to each other: on the hindhead, collar, and shoulder. The venter is all black in the ♀, while in the ♂ the 3 first rings beneath are spotted white.
- redunda*. **E. redunda** *Schaus* (20 c) on an average is somewhat smaller and has rounder wings than *dodaba* which it extremely resembles. The colour of the forewings is a little more sooty, that of the hindwings somewhat more bluish. It differs besides by the absence of the red lateral spot on the collar, such a spot being only situate below the collar on the shoulder. The venter is spotted white, in contrast with *inornata*. From the following it differs by the more extensive white colour on the hindwing, extending beneath, in the shape of a broad longitudinal stripe, from the base almost to the margin. Most widely distributed from Mexico, Costa Rica, Trinidad, Venezuela, British and French Guiana as far as Peru.
- frances*. **E. frances** *Dyar* extremely resembles *redunda* (20 c) and differs by the entire absence of the white colour on the under surface of the hindwings, below the median the scaling is only somewhat thinner. Mexico.
- hypoleuca*. **E. hypoleuca** *Hmps.* (= *lamia Druce pr. p.*) (20 d) is separated from the very similar *inornata* by the black veins of the forewings and the white spots on the 3 first ventral segments. Costa Rica.
- dominicensis*. **E. dominicensis** *Rothsch.* Body of a deep sooty brown; collar and forehips orange. The last 2 abdominal rings have a metallic blue lustre. Forewings deep purple brown with a white apex. Hindwings sooty black, in the disc lighter diaphanous. Dominica.
- ockendeni*. **E. ockendeni** *Rothsch.* is a unicolorously sooty brown animal, the forewings slightly tinted violettish purple, the hindwings greyish-brown. Length of forewings: 20 mm. Peru.
- venata*. **E. venata** *Btlr.* (= *aelia Schaus*) (20 d). Forewings dirty whitish with brownish margins, veins and discoidal spots. Hindwings blackish, in the disc diaphanous. Body blackish-brown, abdomen towards the apex above suffused with blue. Forehips, as well as two spots each on the neck and shoulders are red. From Mexico: Jalapa, Tabasco, Misantla, taken in June; the type originates from the Amazon (Rio Jutahi).
- endodasia*. **E. endodasia** *Hmps.* (20 c) is on the body and forewings quite unicolorously blackish-brown, only the hips and the anterior half of the venter are yellowish-white. The blackish-grey hindwings are semi-diaphanous in the disc, the hair-tuft at the proximal angle is yellowish. Brazil (Paraná).
- obsoleta*. **E. obsoleta** *Burm.* (20 c) is above blackish-brownish, on the wings with deeper blackish-brown veins. Palpal base, hips and venter light rosy. The hairy cover at the proximal angle of the ♂ hindwing is beneath yellowish. Expanse of wings: 32 mm. Argentina.
- moloneyi*. **E. moloneyi** *Druce* (20 d). The ♂ has no extended proximal angle of the hindwing, but instead, the posterior femora and tibiae on the inside exhibit long white hair-tufts, whereby it is easily distinguished from all the other species. Blackish-brown, with metallic bluish-green spots on the forehead, vertex, collar, shoulder-covers, and thorax, and small carmine spots on the sides of the collar behind the eyes and at the palpal base. Forehips white. Abdomen laterally, on the last 4 rings also dorsally spotted green. Underneath the 2nd to 4th rings are white. Hindwings in the basal part whitish hyaline, distally blackish-brown. Expanse of wings: 38 mm. British Honduras.
- sixola*. **E. sixola** *Schaus*. Head and thorax brownish-black; palpi at the base, hips at the base and end spotted white, forehips of the ♂ white, in the ♀ striped pink. Collar dorsally and laterally spotted red. Abdomen bluish-black, underneath with 2 rows of white spots. Forewings blackish-brown with darker veins and a faded dark shade before the margin. Hindwings black; in the cell a short white stripe, at the base of the proximal margin a large white spot; behind the cell small whitish spots between the upper median and middle radial vein. Expanse of wings: 34—37 mm. Costa Rica.

E. demonis *Druce* (20 d). Body blackish-brown; on the hindhead, on the dorsum of the first segment and at the sides of the fourth segment carmine spots. The brown forewings with black veins are spotted darker brown in the cell, before the proximal angle and before the apex, and exhibit hyaline spots in the cell-end and behind the cell between the upper median and 4th subcostal vein. The hyaline hindwings are broadly margined by black. Panama (Chiriqui; Lino). *demonis*.

E. littoralis *Rothsch.* Greyish-brown, the head with a blue lustre, the palpi and thorax with a bluish-green opalescence, the abdomen laterally with a slight green lustre. Legs greyish-brown, only the hips and the outside of the tibiae with a green lustre; antennae black. Forewings purple-brown; hindwings greyish-brown with a blue lustre, in the disc lighter and diaphanous, the proximal angle long-stretched. In the ♀ the hindwings are normal, darker brown, without any blue lustre. Length of forewings: ♂ 19 mm, ♀ 17 mm. Venezuela. *littoralis*.

E. scintillans *Rothsch.* (20 d). Most similar to the preceding species, from which it differs by a much more intense and more extensive metallic bluish-green on a darker ground, the colour of the body being here more blackish-brown, the abdomen above of a deep black with a purple lustre, laterally metallic bluish-green, the forewings darker, with a more purple-blue lustre, the hindwings blackish-grey, not greyish-brown. All the legs with a green lustre, the hips of an intense metallic bluish-green, antennae deep purple. Venezuela, Guiana, Amazon. *scintillans*.

90. Genus: **Androcharta** *Fldr.*

It contains well marked species of more than medium size, with very broad forewings; the distal margin is almost as long as the costal margin, the proximal margin very short. The hindwings are very small, in the ♂ pointed and peculiarly distorted and somewhat basin-shaped, the proximal angle drawn forth to an isolated, small lobule; the veins strongly curved and near each other.

A. rubricincta *Burm.* (= *leechi* *Druce*) (20 e) has the abdomen above curled red and black, large white spots on the shoulder-covers, small metallic blue dots on the head, collar, bases of wings, metathorax, and on the black abdominal rings. The brown forewings exhibit 4 small, white spots, the brownish hindwings show a broad, white marginal part. Brazil (Amazon, Sa. Cruz), Argentina. *rubricincta*.

A. meones *Cr.* (= *compta* *Sepp*, *mconioides* *H.-Schäff.*) (20 e) differs from *diversipennis* by large, white spots on the shoulders, and the hyaline spots behind the cell are mostly larger. Colombia, Amazon, Venezuela, Surinam. *meones*.

A. giganteum *Druce* is twice as large as *meones* which it otherwise greatly resembles. The hindwings of the ♂ are silvery white, without the black margin, also longer and more pointed. Both sexes are without the red median band across the abdomen. Rio Napo. *giganteum*.

A. klagesi *Rothsch.* differs from *meones* by its smaller size, light liver-coloured forewings and much smaller hyaline spots. Hindwings yellowish. Length of forewings: 18 to 19 mm. *ROTHSCHILD* considers this animal to be a good species, because it flies together with *meones* at the same places. Venezuela, in December and January. *klagesi*.

A. cassotis *Druce* (20 d). Black; forehead, collar, metathorax and legs spotted metallic blue; abdomen subdorsally and sublaterally with series of blue spots. The black forewings exhibit blue dots at the base and at the cell-angles; red stripes are subcostally, in the cell-end, in the submedian space and at the proximal margin. Behind the cell there is a broad, orange-yellow oblique band from the proximal margin to the 1st median vein. Hindwings in the ♂ grey, at the proximal margin black, in the ♀ with a carmine spot behind the cell; the ♀ is without the red cellular stripes of the forewing. Expanse of wings: ♂ 44 mm, ♀ 56 mm. Ecuador, Amazon. *cassotis*.

A. diversipennis *Wkr.* (= *parvipennis* *Btlr.*) (20 e). The blackish-brown abdomen exhibits carmine dorsal spots (in the ♂ only on the two first segments), as well as subdorsal rows of large, metallic blue spots, and sublateral red spots on the 3 first segments. On the forewing there is beside the large hyaline spot behind the cell in the ♀ a round hyaline spot below the middle of the cell which is absent in the ♂. Hindwing in the ♂ white, in the ♀ with a broad, blackish-brown border. Venezuela, Brazil, Peru. — The species varies considerably. In ab. **brasiliensis** *Btlr.* the ♀ is without the hyaline spot above the middle radial. — **claripennis** *Btlr.* is a male form with 2 small hyaline spots below the cell behind the red stripes. — **obsolescens** *form. nov.* (= ab. 3 *Hmps.*) is without any red stripes at all on the wings; on the abdomen, the ♂ is without any sublateral red spots, the ♀ has only two red dorsal spots. *diversipennis*, *brasiliensis*, *claripennis*, *obsolescens*.

A. stretchi *Btlr.* (20 f) has quite black forewings with a cuneiform hyaline spot in the cell being all filled up with a metallic blue, an oblique whitish spot below it, which turns into a white hyaline spot in the *stretchi*.

♀, and a large, transparent postdiscal band; the hindwings are white, in the ♀ in the middle hyaline. The body is black, with metallic blue spots. Amazon, Peru. — In *hampsoni* subsp. nov. (= subsp. 1 *Hmps.*) there appear on the forewing carmine stripes at the costal margin as far as behind the middle and below the base of the cell; the spot below the middle of the cell is absent; the 3 first abdominal segments show lateral red spots. Uruguay.

hoffmannsi. **A. hoffmannsi** Rothsch. The body is black, with metallic blue spots on the head, thorax, and sides of the abdomen; the latter exhibits a large carmine spot on the 2 first segments. Legs dark brown. Forewings black, with blue spots at the base and a large blue discal spot; above the inner-marginal vein there is a white diaphanous spot, 3 smaller ones between the upper median and middle radial vein. Hindwings in the disc white, broadly bordered with greyish-brown, in the ♀ with black. Length of forewings: 22 to 24 mm. Brazil (Rio Madeira).

91. Genus: **Proctocopis** gen. nov.

Siphon well developed; palpi rather feeble, not projecting beyond the forehead, stretched forward, the terminal joint a little downward, long-haired. Head, thorax and first abdominal segment densely and moderately long haired; abdomen smoothly scaled, the anal segment with a short hair-tuft from the sides of which the uncommonly long valves project. The shaft of the antennae beyond the middle only slightly thickened, above scaled, in the ♂ moderately long serrated. On the long forewings the median veins rise separated afar from the lower cell-end, from which the lower radial veins rise in common, the upper one from a little below the upper cell-corner, the 4 lower subcostal veins in common, the uppermost from the cell. On the hindwings the lower median vein rises far from the lower cell-corner, which sends forth the upper one; the middle radial vein rises above it, the lower one is absent; the uppermost radial and the subcostal vein rise from the upper cell-corner. — Type: *P. forficula* Draudt.

forficula. **P. forficula** spec. nov. (20 f). The only species of this most peculiar genus in its exterior resembles on the whole the larger *Poliopastea*-species, though it differs greatly by the veins. The body is black; a stripe behind the eyes, a spot on the prothorax and on the shoulders, as well as the hips and inner parts of the hind femora are white, a spot at the sides of the prothorax more yellowish. The abdomen shows above broad, metallic bluish-green transverse bands, the naked angular indentations are yellowish. The first segment exhibits a dorsal white spot, the 4 first segments lateral ones; the venter is white. The slender, bent, unsymmetrical clasping-organs of about 5 mm length are lustrous black, on the inside thinly haired and in the middle with a tooth-like projection. The legs are black, outside with a metallic bluish-green lustre. Palpi and antennae black. All the wings above blackish-brown with a bronze lustre; at the articulation of the forewing there is a white spot, two more, smaller ones at the base above the subcostal and below the median; the basal third of the costal space is yellowish hyaline; the submedian space as far as the lower radial is sparsely strewn with brass-coloured scales. The hindwings are of a purer blackish and exhibit, in the inner-marginal area, a large, round, whitish hyaline spot; the costal part above in the basal half white. Beneath the forewings exhibit a metallic green lustre in the disc as far as the submedian fold, in the hindwing in the costal area. — Described according to a ♂ from West Colombia (Rio Aguaca Valley, 2000 m). Type in the Coll. FASSL.

92. Genus: **Eriphioides** Kirby.

This genus and the 3 following ones are very closely allied to each other in the exterior. The abdomen shows at the end lateral hair-tufts, in contrast with the others. The palpi are porrect. The costal margin of the hindwing is bent very much convex and on the forewing it covers the under surface of the proximal margin being covered with silk-like scaly hair.

tractipennis. **E. tractipennis** Btlr. (26 m) differs from the following, similar species by the white base of the palpi, the carmine hindhead and carmine spots on the shoulders. Forewings dark red-brown with black veins. Like in the following species, the rounded costal-marginal part of the hindwing above and the proximal margin of the forewing beneath, covering it, are whitish. Common from Honduras as far as Brazil.

viridis. **E. viridis** Lathy is immediately discernible from the other species by the metallic coppery green basal half of the forewing and the sublateral rows of white spots along the whole abdomen. The hindhead does not exhibit any red spots. Ecuador.

ecuadoriensis. **E. ecuadoriensis** spec. nov. (20 f) is greatly distinguished by the metallic blue colour of the wings and by the abdomen being very much white-spotted. Head, palpi and antennae black, the forehead metallic green, neck red; collar and shoulders white, of a greenish golden iridescence; shoulder-covers and mesothorax striped in a brassy colour; hips white, legs black, with a bluish-green lustre. The abdomen is metallic bluish-

green, above with a golden coppery lustre; the first segment exhibits above in the middle a large, square, white spot of a turquoise-blue iridescence, the lateral tubercles are white; the second ring is all white with a more or less intense brassy lustre; the 4 first rings are ventrally white. The forewings exhibit a blue lustre in the basal halves, distally more green; hindwings in the costal halves brownish-grey, otherwise black, with a bluish-green lustre. Beneath all the wings are bluish-green. Described according to 3 ♂♂ from Ecuador. Type in the Coll. SEITZ.

E. surinamensis Möschl. (= *tractipennis* Druce) (20 f) has unicolorously brown forewings. The abdomen shows dorsal and subdorsal series of copper-coloured spots with a metallic bluish-green lustre. Neck and prothorax spotted carmine. Forehips spotted white. The first 4 abdominal rings show sublateral white spots. Mexico; Panama; Colombia; Surinam. *surinamensis*.

E. phaeoptera Dogn. is allied to the preceding. Black; collar with 2 large, green spots; a similar spot near the base of the forewing; thorax metallic green, abdomen with 3 rows of green spots, beneath blackish-green with 2 white sublateral spots on the two first segments and a white dot on the 4th segment. Hips white. Wings above black with a bottle-green tint. Expanse of wings: 41 mm. Colombia (Cañon del Tolima, 1700 m). *phaeoptera*.

E. rosenbergi Rothsch. greatly resembles *surinamensis*, but it is of much brighter colours, chestnut-brown; the spots on the abdomen are of a coppery green, not bluish-green lustre. It forms about the intermediary between the preceding and *ustulata*. Colombia. *rosenbergi*.

E. ustulata Fldr. (20 f) differs from the preceding by the abdomen being also laterally and underneath metallic green with a coppery lustre, the sides of the second segment exhibiting a white spot and the 3 first rings broad, white sublateral stripes, whilst the 4th ring remains green; the antennae are of a deep metallic blue, on the shoulders there is a carmine spot. The forewings are yellowish-brown with darker veins, towards the margins darkened; the costal part of the black hindwings is whitish. On the under surface the disc of the forewing and the costal part of the hindwing are metallic green. Colombia. *ustulata*.

E. albipunctata Lathy (20 g) differs from all the other species by two very small, oblong hyaline spots of the forewing, one being near the lower cell-end, the other just below it between the median veins; there is often yet a third below the 3rd radial; for the rest the black wings are metallic green at the costal margin and in the submedian area, the hindwings are brownish-white in the costal area. The black body is spotted white on the collar, shoulders and thorax; the bronze-green abdomen exhibits large white lateral spots on the two first rings, white sublateral spots on the 5 first segments. Ecuador. *albipunctata*.

93. Genus: **Ceramidia** Btlr.

Chiefly distinguished from the preceding genus by the absence of the lateral hair-tufts at the anus and the shorter, somewhat erect palpi. Besides the ♂ exhibits scent-scales on the undersurface of the costal margin, the costa of the hindwing being strongly bent here also covers hair-tufts of the forewing. Of late a great number of new species has been described, all of which are very similar, so that it is not easy to discern them.

C. mathani Rothsch. Head and thorax of a bright coppery green, the forehead and thorax yellowish white, the antennae blackish-blue; legs coppery green; neck spotted carmine, shoulder-covers broadly bordered with black. The abdomen is above coppery green, beneath white. Forewings oily deep olive-brown, at the base and the basal third of the costa with a green lustre. Hindwing in the costal half light grey, otherwise brownish-black. Length of forewings: 20 mm. Amazon (Teffé). *mathani*.

C. obscura Btlr. (20 g) is well marked by an entirely white ventral side of the abdomen except the last, black segment. Neck spotted red, basal joints of the palpi and hips white; in the ♂ almost the whole palpi and the forehead are white. The wings are dark-brown with a coppery lustre. On the under surface the inner-marginal area of the fore- and hindwings of the ♂ are white. Amazon. *obscura*.

C. butleri Möschl. (= *eriphia* Druce) (20 g) is white on the ventral side of the 3 first abdominal segments, otherwise copper-coloured. In the neck there is laterally a carmine spot. The black forewings with a slight coppery lustre are metallic green in the basal halves. The greyish-black hindwings have a whitish costal-marginal area. Guatemala, Panama, Ecuador, Surinam, Pará. — **viridis** Druce (20 g) is probably only to be considered as a form of the preceding with a much more intense and more extensive green metallic lustre, more yellowish-red spots in the neck, and mostly of a larger size. From Panama. *butleri*.

- caurensis*. **C. caurensis** Klages (20 g) greatly approximates the preceding, and the 3 first ventral segments are likewise white. The red spots in the neck are indistinct, the green metallic colour of the body is much darker and more subdued, the basal part of the forewing is hardly noticeably greener than the other part of the wing. On the hindwings, beside the white costal area also the median vein is of a white colour. The antennae are metallie dark blue. Forehead and palpi are all black. Venezuela, French Guiana.
- cyanopasta*. **C. cyanopasta** Dogn. is black on the body and wings, with a metallic bluish-green lustre; in the neck 2 red spots. Hips and anterior ventral half in the ♀ spotted white, in the ♂ all white. In the ♂ there are besides white dots on the forehead, shoulders, and subdorsally on the 1st abdominal ring. Expanse of wings: 37—39 mm. Venezuela.
- painei*. **C. painei** Rothsch. Head black, collar snow-white; the thorax and abdomen coppery green; legs and antennae brown; shoulder-covers black. The abdomen exhibits on the 2nd and 3rd rings lateral white spots. The forewing is in the larger proximal half golden green, in the marginal area blackish-green. Hindwings black with a dark grey costal area. Length of forewings: 24 mm. Cauca Valley.
- caca*. **C. caca** Hbn. (20 h) is distinguished by sublateral white spots only on the first abdominal segment in the ♂, on the 3 first segments in the ♀; it differs from the following by the wings being metallie green, not blue, the palpi and forehips exhibiting small white spots; the second abdominal segment is also laterally spotted white. South Brazil and Argentina.
- ornata*. **C. ornata** Druce (20 h) is one of the largest species distinguished from the preceding by the peacock-blue forewings, as well as by the entirely black palpi and hips, though it is otherwise very much allied to it. The golden green abdomen exhibits white spots subdorsally on the second segment and also sublaterally from the second to fourth segments. Colombia, Ecuador, Bolivia.
- scintillo-collaris*. **C. scintillo-collaris** Rothsch. Vertex and collar are lustrous steel-green, forehead white, antennae steel-blue, thorax coppery, on the shoulders white spots, shoulder-covers bordered with black. The first abdominal ring is coppery, laterally white; the rest of the abdomen is brown with a coppery lustre. Forewings dark olive-green, hindwings black with a grey costal area. Length of forewings: 21 mm. Nicaragua.
- phaiodes*. **C. phaiodes** Dogn. ♂. Black; middle of forehead white, collar with two white dots, at the base of the forewing a white spot, thorax with 3 white dots; the first abdominal segment with three white spots, abdomen above yellowish-green metallie with some black dots, each segment bordered with black, the second segment with a pair of sublateral white spots, venter blackish-green, metallie, with a series of white spots; hips white. Forewings black with a green tint and some metallie green atoms and two oval hyaline spots, one of which is behind the median near the base of vein 2, the other opposite in the cell. Hindwings above blackish-green with a large, hyaline submedian spot, the anterior half of the abdominal margin being white. Fringes of the same colour. 44 mm. Colombia, Cañon del Tolima, 2000 m, in October.
- euprea*. **C. euprea** Schaus (20 h). Forewings black, in the apical part somewhat lighter, at the base a metallie green spot. Hindwings likewise black, costal margin broad, light brownish-grey, at the proximal margin two transparent, oblong spots. Forehead, antennae, collar, and a spot on the shoulder are metallie green. Mesothorax brass-coloured, like the abdomen which exhibits an intense coppery lustre particularly towards the apex. On each side of the first segment a spot being white, like the ventral valve in the ♂. Mexico (Misantla), taken in March.
- bricenoi*. **C. bricenoi** Rothsch. Head black, spotted steel-blue; antennae and legs steel-blue. Thorax black with coppery spots. Abdomen coppery with black subdorsal spots, a green dorsal spot and white lateral spots on the 1st segment. Forewing in the basal half golden green, distally deep oil-green. Hindwing brownish-black, in the costal half dark grey. Length of forewings: 25 mm. Venezuela.
- cataleuca*. **C. cataleuca** Btlr. (20 h) is recognizable by the hindwings being white beneath, only one spot at the base of the costal margin being green and one spot at the margin being brown. The green abdomen with a coppery lustre shows broad, white sublateral stripes. In the neck and at the prothorax carmine spots. Ecuador, Surinam, Amazon.
- phemonoides*. **C. phemonoides** Möschl. (= fusiformis Btlr.) (20 i) is easily distinguished by the broad and long white discal stripe on the hindwing beneath; above the wings are dark brown with a coppery lustre. Palpal base and forehead are white, neck and shoulders spotted red. The coppery green abdomen exhibits broad, sublateral, white stripes except the last segment. The legs are striped white. Venezuela, Guiana, Amazon.
- fumipennis*. **C. fumipennis** Wkr. (20 h) is a smaller, dull coppery brown species; forehead and first palpal joint spotted white, neck laterally spotted red; legs striped white. The coppery green abdomen shows white sublateral stripes except the last segment. The under surface of the hindwings differs from the similar species by a slight, white brightening in the cell-end. Amazon.

C. chalcoviridis *Hmps.* Black; palpal base spotted white; in the neck carmine spots. The body is suffused with a brownish-green. The abdomen, except the last rings, shows white sublateral stripes. Hindwing blackish-brown, in the costal area lighter. Expanse of wings: 42 mm. Brazil (Minas Geraes). *chalcoviridis.*

C. flammea *Dogn.* (20 i) has a very intense blue metallic lustre on the forewings, warming more or less into a purple violet in the basal part; at the base of the costal margin there is a small, bluish-green spot. Head and thorax are spotted light golden green like the abdomen; the first 4 segments show white sublateral stripes. Base of collar spotted red. The black underside likewise exhibits a blue lustre. Colombia, Ecuador and Bolivia. *flammea.*

C. chloroplegia *Druce* (20 i) has a black anterior body, the collar being spotted metallic green, and a metallic green abdomen, on which two subdorsal, black, longitudinal stripes are running through; the black ventral side shows sublateral, white, longitudinal stripes. The wings are black with a dark green lustre. The under surface is black except the grey inner-marginal area of the forewing; the discal area of the forewing and the costal area of the hindwing are suffused with a metallic green. Venezuela, French Guiana. *chloroplegia.*

C. affinis *Rothsch.* Head and thorax black with lustrous bluish-green spots; neck red; collar metallic bluish-green. Abdomen coppery green with black, subdorsal, and yellowish-white lateral stripes. Forewings steel-blue, in the basal third greenish. Hindwings dark brown, in the costal half grey. Length of forewings: 17 mm. Amazon (Teffé). *affinis.*

C. viridisaturata *Rothsch.* Head and antennae black with greenish-blue spots; thorax and abdomen of a brilliant coppery colour, collar metallic greenish-blue. The forewing is black in the basal fifth, in the 2 middle fifths golden green, in the distal two fifths of a deep olive-green. Hindwings black, in the larger costal half yellowish-grey. Length of forewings: 23 mm. Probably from Rio. *viridisaturata.*

C. underwoodi *Rothsch.* The head is black with a red neck and steel-blue antennae, thorax and abdomen are coppery olive, the 1st segment metallic green. Forewings deep olive-green, the disc is traversed by an indistinct metallic green band. Hindwings greenish black, the costal area chestnut-brown. Length of forewings: 20 mm. Costa Rica. *underwoodi.*

C. simplex *Rothsch.* Head and thorax are brown, with coppery spots, the neck carmine, chest white, abdomen black, with dorsal and lateral coppery bands. Forewing purple brown. Hindwing dark brown, in the costal half brownish-grey. The ♀ is a little paler and more monotonously brown. Length of forewings: 18 mm. From Ecuador and Colombia. *simplex.*

C. klagesi *Rothsch.* is of a deep olive-green on the body and forewings; neck carmine; antennae deep steel-blue; chest white. Hindwing olive-green, in the costal half silvery grey. Length of forewings: 18 mm. Surinam, taken in February. *klagesi.*

C. musicola *Cockerell* seems to be allied to *butleri* (20 g). Body like there, only with more white spots, for instance on the shoulder-covers, forehead and sides of the head. Forewings above unicolorously bluish-black, faintly metallic. The costal-marginal half of the hindwing lustrous whitish. Under surface of a more intense metallic lustre than above. Expanse of wings: 37 mm. It was found in banana shipments in Colorado, and has undoubtedly been imported from Central America. *musicola.*

94. Genus: **Amycles** *H.-Schäff.*

This genus containing but few species is very closely allied to *Ceramidia* and only differs by the course of the lowest subcostal vein on the forewing, rising here only close before the apex, and by the middle radial of the hindwing rising more from the middle of the discocellular.

A. anthracina *Wkr.* (20 i). Blackish-brown, antennae at the tips white, in the neck two red dots. The first abdominal segment shows a white spot on each side. The dark colour of the forewings turns lighter to a reddish-brown before the yellowish-white apical spot. The apex itself is narrowly dark-brown in the ♀, hyaline diaphanous in the ♂. The dark hindwing shows two hyaline stripes at the proximal margin, the costal margin being whitish. Distributed from Mexico through Central America as far as Brazil. *anthracina.*

A. adusta *Fldr.* (20 i) is on an average larger than *anthracina*, and the light, brownish apical spot of the forewing is much more broadly margined by black, so that it makes the impression of a subapical oblique band. The shape of the wings is comparatively more extended, and the small hyaline stripes at the base of the hindwing are, particularly in the ♂, narrower and shorter. Length of forewings: 21 to 22 mm. Mexico. *adusta.*

A. affinis *Rothsch.* (20 k) differs from the preceding by its smaller size and decidedly broader shape of the wings, as well as by the much more extensive hyaline spot occupying the whole apical third and being defined from the dark ground of the wings by a concave band being proximally reddish-brown, distally cream-coloured. The inner-marginal area of the hindwing is more extensively hyaline. Length of

forewings: 14 to 15 mm. This species, having been described from Venezuela and Nicaragua, is before me also from Mexico.

- tenebrosa.* **A. tenebrosa** *Rothsch.* is jet-black on the body. The forewing is of a deep blackish-brown in the basal two thirds, the apical third being light brown, somewhat more thinly scaled. Hindwings blackish-brown. Length of forewings: 17 mm. Venezuela.
- brinkleyi.* **A. brinkleyi** *Rothsch.* is unicolorously deep brownish-black, only in the apical third of the forewing somewhat lighter. Length of forewings: 17 mm. Cauca Valley.
- dolosa.* **A. dolosa** *Wkr.* (20 i) is of a dark brown ground-colour on the body and wings. Neck laterally spotted carmine. The abdomen shows dorsal and lateral coppery-green stripes and, on the 2 first rings, sublateral white spots. Brazil.
- klagesi.* **A. klagesi** *Rothsch.* is larger than the preceding and distinguished by the greater extent of the metallic colour being here more bluish-green, which is noticed not only on the abdomen but also on the head and collar. Antennae steel-blue; chest white. The ♀ is much more feebly marked green. Length of forewings: 15 to 17 mm. Venezuela.

95. Genus: **Antichloris** *Hbn.*

Like the preceding genera, but whereas there the lower median vein of the hindwing rises together with the upper one from the lower cell-corner, it here rises distinctly below it.

- quadricolor.* **A. quadricolor** *Wkr.* (20 k) greatly differs from all the species by the deep metallic blue colour, orange-yellow fringes of the forewings and a triangular carmine spot in the middle of the margin of the black hindwings with red fringes. Expanse of wings: 36 mm. Jamaica.
- puriscal.* **A. puriscal** *Schaus.* Head, collar and shaft of antennae dark green, in the neck at the sides 2 red small spots. Thorax black, shoulder-covers striped green. Abdomen black, the 1st segment above bluish-green, with green dorsal and lateral stripes, sublaterally with white lines. Forehips white. Forewing velvety black with a white apex and green stripes at the base of the subcosta and submedian. Hindwing in the costal area of a silky-lustrous greyish-white. Expanse of wings: 36 mm. Costa Rica.
- trinitatis.* **A. trinitatis** *Rothsch.* Head and collar metallic blue, tips of antennae white; thorax blackish-brown, spotted bluish-green. Abdomen coppery green, with subdorsal blackish-brown stripes. Wings sooty blackish-brown. Length of forewings: 18 mm. Trinidad.
- metallica.* **A. metallica** *Rothsch.* Head and thorax black, the latter spotted coppery; abdomen coppery golden, the 1st segment metallic green; on the underside there are white sublateral stripes. Forewing in the basal half metallic golden green, in the ♀ bluish, distally black. Hindwing blackish-brown, costal half grey. Length of forewing: 18 to 19 mm. Ecuador.
- intensa.* **A. intensa** *Rothsch.* Head and collar black, with metallic bluish-green spots, thorax blackish-brown; abdomen coppery golden, with broad black subdorsal stripes; on the chest 2 white spots; legs dark brown. The forewings are blackish chocolate-brown with an oily lustre. Hindwings blackish-brown, in the costal area grey. Length of forewings: 22 mm. Surinam.
- eriphia.* **A. eriphia** *F.* (= *alceton* *Cram.*, *phemonoe* *Hbn.*, *melanochloros* *Sepp.*, *scapularis* *H.-Schäff.*, *helus* *H.-Schäff.*) (20 k) is black with a deep green bronze lustre; in the neck two red dots. The abdomen shows somewhat lighter green dorsal and lateral stripes; on the 2nd segment laterally a white dot; sublateral white stripes. The costal-marginal area of the hindwing is light brownish-grey in the ♂. From Venezuela to Paraguay and in Trinidad.
- nigrolineata.* **A. nigrolineata** *Rothsch.* (20 k) is at once discernible from *eriphia* by its broad, jet-black subdorsal stripes on the coppery abdomen. Head and spots on the black thorax are metallic green. Length of forewings: 20 mm. Venezuela.
- scudderi.* **A. scudderi** *Btlr.* (20 k) differs from *eriphia* by its deep blue ground-colour with a purple lustre. From Pará.
- atrinervis.* **A. atrinervis** *Rothsch.* Very near to *scudderi*. Head and thorax are velvety bluish-black, with lustrous bluish-green spots; neck carmine. Abdomen black with dorsal and lateral coppery green stripes; sublaterally there are broad white bands, and the 3rd ring shows white lateral spots. The forewings are bronze-green in the basal two thirds, in the marginal third deep oily greenish-blue with black veins. Hindwing in the larger costal area grey, otherwise blackish-brown. Expanse of wings: 20 mm. Amazon (Teffé). — subsp. **steinbachi** *Rothsch.* is of a lighter and more brilliant green on the forewings, and the hindwings are of a pure black. Bolivia.
- purpurea.* **A. purpurea** *Lathy.* according to the description, seems to be allied to *Eriphioides ecuadoriensis* having been described above, which, however, according to the neurulation, is certainly no *Antichloris*, and likewise

greatly approximates *scudderi* and is easily distinguishable from it by white dorsal spots on the 2 first abdominal rings; the first 4 rings are underneath all white. The spots on the head and thorax are more metallic green. Ecuador.

A. quartzi Klages (21 a) looks very much like *eriphia* (20 k), but it differs somewhat in the veins, *quartz*i. the discocellular being more strongly flawed and the subcostal and uppermost radial vein rising from the upper cell-corner. Palpi outside white. On the collar and shoulders blue or green spots, of the same colours are stripes on the thorax and shoulder-covers. All the rest like in *eriphia*. Venezuela.

A. panacea Druce (21 a) is dull coppery-brown, on the shoulders spotted carmine. Forehips and *panacea*. abdomen above metallic blue. Hindwings in the ♂ dirty white with a blackish-brown marginal band, in the ♀ blackish-brown. Costa Rica.

96. Genus: **Methysia** Btlr.

The few little species are greatly distinguished by an extensive area of soft, silvery white scales, extending on the under surface of the forewing from the submedian fold to the proximal margin, the inner-marginal vein exhibiting besides an oblong spot of hairy scales; the corresponding costal area above on the hindwing being somewhat stunted, is covered by it and likewise scaled white. The veins of the forewings do not show any peculiarities; on the hindwings the median veins rise from the same spot below the lower cell-corner, the lower radial from the middle close before the margin, the upper one and the subcostal stand on a long pedicle. Abdomen somewhat strangulated at the 2nd segment.

M. hilda Druce. Head, abdomen and legs are black. Collar, thorax, and the first abdominal rings *hilda*. are of a brilliant scarlet. Wings semi-diaphanous blackish with black veins and margins. Expanse of wings: 26 mm. South East Peru.

M. notabilis Wkr. (21 a) has an orange-brown thorax, the rest of the body inclusive of the shoulder- *notabilis*. covers is black, the ventral side and the greater part of the legs white. The forewings are hyaline with black margins, particularly the proximal margin as far as the submedian fold are broadly black; hindwingcostal-wards from the median vein silvery white, below it black. Distributed from Guiana to the Amazon.

M. melanota Hmps. (21 a). Exactly like the preceding, but with an entirely black thorax; the white *melanota*. base of the collar and front of the palpi certainly characterize the insect as a distinct species. British and French Guiana.

97. Genus: **Pseudaclytia** Btlr.

The few, rather insignificant species, have the abdomen roughly haired at the base. On the forewings the lower radial veins rise from the lower cell-angle, the upper one from below the upper cell-corner. On the hindwing the lower radial veins stand on a long pedicle, by which the genus is easily recognized.

P. umbrica Druce (21 a). The anterior body is ochreous brownish, in the neck yellow, the abdomen *umbrica*. orange-yellow with broad, black dorsal spots, the venter whitish. Forewings brownish with darker veins. Hindwings blackish-brownish with a lighter costal area. Expanse of wings: 28 mm. Brazil.

P. flavidorsia Hmps. Head, chest, legs and abdomen as well as the distal margins of the shoulder-*flavidorsia*. covers are black, the vertex and thorax orange. Forehips spotted white. Forewings grey, with black veins and in the marginal area internerval stripes, with a broadly black-dusted proximal margin. Hindwings hyaline with black veins, margins, and a grey costal area. Expanse of wings: 16 mm. Venezuela.

P. opponens Wkr. (= *rufogularis* Möschl.) (21 b). Blackish-brown with an orange-brown neck and *opponens*. collar; forehead and palpi striped grey; forehips white; abdomen with a blue lustre, underneath greyish-white. The hindwings are hyaline with a broad black border, the inner-marginal area hyaline. Guiana to the Amazon.

P. minor Schaus (21 b) differs from *opponens* by its much smaller size and deeper black colouring; *minor*. the black collar is at the extremest base orange like the neck; the best distinguishing mark is the broad black proximal margin of the hindwing. French Guiana.

P. major Druce has a brownish black body; hindhead laterally orange. Forewings brownish-black, *major*. at the margin paler, with black veins. Hindwings hyaline, apex and distal margin dusted with black, veins black. Expanse of wings: 40 mm. Peru.

P. unimacula Schaus resembles a small *Desmotricha*. Body above black, beneath brownish, abdomen *unimacula*. striped grey. Forewings black with a broad, yellow, postcellular band from the costa to the lower median vein at the distal margin. Expanse of wings: 34 mm. French Guiana (Cayenne).

98. Genus: **Atyphopsis** Btlr.

The surest distinguishing marks are the lower radial veins rising petiolated on the fore- and hindwings. The upper radial rises on the hindwings far below the upper cell-angle. The abdomen exhibits a rough hairing at the base and lateral tubercles at the first segment.

modesta. **A. modesta** Btlr. (21 b). Head black; hindhead, collar, foremost prothorax, and the middle abdominal rings are orange; the thorax and two first segments grey, the two last ones black. Wings very thinly scaled, yellowish-grey with darker veins. Guiana to the Amazon.

roseiceps. **A. roseiceps** Druce (21 b). Like *modesta*, but the body is darker greyish-brown, and the hindhead, spots on the shoulders, and the middle abdominal rings are rosy red. Brazil (Rio de Janeiro, Santos).

obscura. **A. obscura** Hmps. (21 b) is quite unicolorously brownish, on the hindhead and anus somewhat more yellowish. Darker brownish spots are in the middle of the cell and at the transverse vein, an indistinct oblique band being interrupted on the lower radial vein is behind the cell, and one before the margin. The hindwings are very thinly scaled in the disc. From Brazil (Rio Grande do Sul).

99. Genus: **Anaphlebia** Fldr.

Only one small species which greatly reminds us of *Teucer albapex* (19 l) by the long and pointedly extended anal angle of the hindwing in the ♂. On the forewings the lower radial veins are petiolate, the upper one rises from the upper cell-corner, the 1st subcostal vein from the cell. On the hindwings the 1st median vein and the lower radial veins proceed from the same place and are thickly scaled on the under surface; the costal vein is present as a rudiment. In the ♀ the anal angle is not extended and the veins of the hindwings are quite different, the 1st median vein being absent, and the lower radial veins rising on long pedicles; the scaling of these veins on the under surface is of course likewise absent.

caudatula. **A. caudatula** Fldr. (21 c) has a black body with small white spots on the palpi, forehead, collar, shoulders and forehips. The abdomen shines faintly blue, and exhibits on the first segment subdorsal white spots, on the other rings a whitish median line. The venter of the ♀ is white. The hyaline wings have very broad black margins. The antennae are long-combed in the ♂, in the ♀ short-combed. We figure the ♀ having not been described hitherto, from Pebas; FELDER's type, a ♂, likewise originates from the Amazon.

100. Genus: **Sciopsyche** Btlr.

Only few species with the antennae being particularly in the ♂ remarkably long doubly combed, the serration being very strong, at the ends thickened to clubs and being very dense; the strong shaft of the palpi is thickly covered with scales. The obliquely erect palpi project beyond the head. The wings are long and narrow; on the hindwings the upper median vein rises with the lower radial veins from the same place of the lower cellcorner, on the forewings the upper radial vein rises from below the upper cell-corner, the subcostal vein from the cell.

tropica. **S. tropica** Wkr. (= *cinerea* Btlr.) (21 b). Black, the wings thinly scaled, the hindwings in the disc diaphanous; on the forewing, below the median at the base, there is a metallic bluish-green spot, on the hindwings the veins exhibit a metallic green lustre. The black abdomen exhibits broad, metallic green lateral stripes and white sublateral spots with a green lustre. Distributed from Mexico (Orizaba, Misantla: August to October) through Central America (Honduras, Colombia) as far as Brazil (Amazon, Pará, Espiritu Santo).

remissa. **S. remissa** Dogn. Body pale yellowish, the neck bordered with a darker yellow. Forewings isabel-coloured, veins, cell-end and margins light yellow. Hindwings white, bordered with light yellow. Expanse of wings: 29 to 32 mm. Venezuela.

auranti-cauda. **S. auranticauda** Klages. Head, thorax, legs and the 4 first abdominal rings above are black, the rest of the abdomen and lateral spots on the 4th segment are orange. Forewings very thinly scaled blackish-brown with black veins and very fine margins. Hindwings semi-diaphanous, at the border and innermarginal part more densely and irregularly scaled brownish-black. Expanse of wings: 32 mm. Venezuela. — On account of slight differences of the neurulation, it will later on perhaps be necessary to establish a special genus.

101. Genus: **Napata** Wkr.

About 30 small to medium-sized species, often decorated with very lustrous metallic colours. The smoothly scaled abdomen exhibits a slight elevation at the sides of the base. The lower cell-end of the hindwing is much longer than the upper one; on the long, narrow forewings the upper radial rises from the upper cell-

angle. The palpi are erect, the shaft of the antennae covered with scales of mostly metallic lustre. Some species greatly approximate the genus *Cyanopepla* from which they may be separated by the middle radial of the hindwing rising very close at the upper median and lower radial vein, whilst in *Cyanopepla* it always rises much higher.

N. fenestrata Druce (21 c) is a small species with hyaline spots on the olive brown forewings; the hindwings are hyaline with a black border and an ochreous-yellow haired proximal margin. The olive-brown body exhibits an orange-yellow colour in the neck, on the shoulders, at the sides of the 4th to 6th abdominal rings, and subdorsally on the 5th and 6th. The venter is orange except the last segments. Brazil. *fenestrata.*

N. walkeri Druce (21 c). This most conspicuous animal and the following similar species are quite unlike all the *Syntomidae* known, and it copies, by its marking and colouring, certain species of the *Erycinidae*-genus *Mesene* *, the *Zygaenidae*-genera *Euclimacia* and *Malthaca* **, and the Pyralid *Mapeta xanthomelas*. Orange-yellow, apex of the forewing white with black veins. Palpi, legs and venter spotted white and black. It is found in Mexico (Orizaba, Misantla: February, August to October), as well as in Costa Rica, Panama, and in Trinidad. *walkeri.*

N. atricincta Hmps. resembles the preceding from which it differs by its black costal and proximal margins, black margin of the hindwing, being expanded at the anal angle, black lateral stripes at the abdomen, the ventral side of which is all white, by the almost quite black palpi and the somewhat smaller size. From Bahia. *atricincta.*

N. flammans Dogn. Palpi white with a black terminal joint. Head and collar black with white dots. Thorax light orange, abdomen black, above with orange-yellow, beneath white rings. Forewings in the larger basal halves very pale orange-yellow, distally blackish. Hindwings orange with a marginal series of black spots, which flow together towards the apex. Fringes orange with single black hairs. Expanse of wings: 28 mm. Colombia (Quindiu, 2000 m, in October). *flammans.*

N. atalanta Druce. Head, antennae, thorax and abdomen are black, forehead white. The last abdominal rings banded white. Forewings brownish black, from the base to the middle diaphanous, at the base a small metallic blue spot. Hindwings black. Expanse of wings: 26 mm. Amazon. *atalanta.*

N. hyporhoda Dogn. Black; abdomen above with some metallic blue hairs. Hips metallic blue. Forewings above brownish black. Hindwings above and beneath black with a large subapical and subterminal red spot which, however, does not reach the costal margin. Forewings beneath black with a large postmedian red spot. Fringes black. Expanse of wings: 28 mm. Colombia (Quindiu, 2000 m). *hyporhoda.*

N. felderi Zerny (= eucyane Fldr. pr. p.) (21 c). This largest and most variegated species has black forewings, being metallic blue at the base, with a broad red band right across the middle of the wing and a shorter, narrower one behind it; the hindwings are all black with a blue base. Brazil: Santos. *felderi.*

N. splendida H.-Schäff. (= eucyane Fldr. pr. p., argentiflua Martyn) (21 c) is the easiest discernible from *felderi* by the large, red marginal spot of the hindwing; besides by the palpi and legs being anteriorly striped more intensely white, the size being generally somewhat smaller, the shape of the wings being rounder and the red spots on the forewing placed more obliquely, both of which are red beneath. The extent of the red subapical spot varies, it may extend as far as to the margin: = subsp. **eucyane** Fldr. — In *entomistis* Strand (= ab. 2 Hmps.) the red spot of the hindwing is disappearing or absent altogether. The species is common and widely distributed from Colombia, Venezuela, Guiana to Brazil and Bolivia. *splendida.* *eucyane.* *entomistis.*

N. banghaasi spec. nov. (21 d) is a difficult species which resembles *felderi* almost still more, because it has in common with it the more pointed shape of the wings and the not so oblique position of the somewhat narrower red spots of the forewings. The hindwings are of a more triangular shape owing to the longer proximal margin. On the hindwing there appears near the margin a minute red spot, being beneath larger, between the median veins. The subapical spot of the forewing is white beneath. The palpi are all black like the legs, spotted metallic blue; the white ventral stripe is reduced and leaves the last segments black. — Described according to two pure ♂♂ from Brazil (Sa. Catharina and Joinville, from BANG-HAAS). Perhaps the name *melinda* Dyar must be substituted for it. *banghaasi.*

N. lisita spec. nov. (21 d) is to be separated from the preceding by the much more slender and more stretched shape of the wings, and by the extremely intense blue metallic lustre on the whole body, on the basal half of the forewing and the whole hindwings. The latter are without a red spot; the discal oblique band of the forewing is interrupted by black on the median; the venter is broadly white, like the front of the palpi, the throat, spots on the shoulders, the hips, stripes on the legs, and a spot at the base of the antenna. Beneath the greatest part of the surface of the wings is of an intense greenish-blue, the spots red. — One ♂ from North Ecuador (Baños) from BANG-HAAS. *lisita.*

N. maranhaonis Strd. (27 a) likewise resembles *splendida*, but it is much smaller (expanse of wings: 30 mm). The forewings exhibit only a red transverse band including a yellow blurred spot between the radial veins; the blue longitudinal stripes are narrower, at greater distances from each other, and at the apex with red scales. The red spot of the hindwing is larger and the abdomen exhibits a lighter dorsal line. Described according to 1 ♀ from Brazil (Maranhão). *maranhaonis.*

*) Comp. Vol. V, t. 134—135.

**) Comp. table 9.

- unifascia.* **N. unifascia** *Schaus* (21 c) has a large, red spot in the disc of the forewing, which extends in the cell, extended taperingly, as far as near the base, the submedian area being blue as far as behind the middle. The hindwings are almost entirely blue. The body is black, on the forehead, collar, shoulder-covers, thorax and abdomen metallic blue; the venter striped white. Ecuador.
- abbreviata.* **N. abbreviata** *spec. nov.* (12 d) is probably hardly only a form of the preceding species. It differs above all by a somewhat narrower red oblique spot of the forewing, the continuation of which in the cell is absent. Behind the red spot there are also above 2 metallic greenish-blue spots between the radial veins. On the submedian there is a golden green stripe which greatly contrasts with the metallic blue colour of the inner-marginal base. The hindwings are more violettish-blue. On the under surface of the hindwings, from the base as far as near the margin, there extends below the median a white spot being bordered by a blue iridescence. Hips and outside of the posterior tibiae white. One ♂ from the Rio Songo (Bolivia; A. H. FASSL).
- iridis.* **N. iridis** *Hmps.* (21 d). Body black, with a metallic blue lustre; front of the palpi, legs and venter striped white. The forewing is in the proximal half extensively carmine, the hindwing metallic blue except the black border. Bolivia.
- castra.* **N. castra** *Hmps.* (21 c) exhibits on the blackish-brown forewings an orange-yellow stripe on vein 1 and an orange postdiscal band, which does not reach the costal margin and proximal angle; the base of the costal margin is metallic green, the fringes at the apex and proximal angle are white, on the unicolorously brownish-black hindwings all white. The body is black, with metallic bluish-green spots and stripes. Brazil (Paraná).
- jynx.* **N. jynx** *Hbn.-G.* (26 l) greatly resembles *castra*, the body is of a pure blue, not spotted green, and the orange oblique spot is larger and broader and extends from near the costa to the distal margin and has, on the proximal side, a continuation towards the base below the costa. Expanse of wings: 44 mm. Amazon (Paraná, Sa. Catharina).
- subflaves-cens.* **N. subflavescens** *Kaye.* Body blackish-brown, shoulder-covers anteriorly orange. Forewings brownish-black with a broad ochreous-yellow oblique band through the centre; costal base yellow. Hindwings above brownish-black, beneath light yellow with a broad black marginal band and small blackish stripes in and round the cell. Expanse of wings: 33 mm. British Guiana.
- metamela.* **N. metamela** *Dogn.* Body black, with a faint blue lustre. Palpi beneath yellow; vertex and neck with some yellow hairs. The forewings exhibit a broad yellow oblique band from the middle of the costa to the proximal angle. On the hindwings the end of the median is yellow. Under surface like above, bases of the wings and the veins dusted somewhat whitish. Expanse of wings: 29 mm. French Guiana.
- chalybea.* **N. chalybea** *Hbn.* (21 d) greatly approximates the following from which it differs by the wings being much more extensively suffused with a more radiant bluish-green; the vertex is also bluish-green. Cuba.
- euchloa.* **N. euchloa** *Hmps.* (= *chalybea* *Hmps.*). Body metallic bluish-green. Palpal base, vertex, the last 4 abdominal rings, and a part of the preceding ring orange. The black forewings show metallic bluish-green stripes below the costa, in and behind the cell and shorter ones at the base of the proximal margin. Hindwings metallic bluish-green, towards the margin of a pure blue. Expanse of the wings: 36 mm. Jamaica.
- albiplaga.* **N. albiplaga** *Wkr.* (= *apicalis* *H.-Schäff.*, *lelex* *Druce*) (21 e). The 4 wings are black with white apical spots and, particularly towards the proximal angle, white fringes. The forewings show a long, broad, metallic blue stripe below the median, much smaller ones at the base of the costal margin and at the cell-end. On the under surface, all the wings exhibit very intense lustrous bluish-green spots in the discocellulars with 2 dots each behind them. The front of the palpi, a spot at the antennal base, the forehips, middle and posterior tibiae are white, like the ventral side of the abdomen. Head, collar, mesothorax, shoulder-covers and legs are striped metallic blue. Abdomen with blue dorsal and lateral spots. From Mexico through the whole of Central America as far as Rio de Janeiro.
- quadristri-gata.* **N. quadristrigata** *Hmps.* (21 e) differs from the similar *albiplaga* by 4 metallic blue, small stripes on the forewing behind the cell; the abdomen is also sublaterally spotted blue. From the West Indies (Sa. Lucia; Dominica).
- superba.* **N. superba** *Druce* (21 e) is allied to the preceding species, but easily discernible by the metallic blue colour being extended upon the whole basal halves of both the wings; at the transverse vein 2 blue, small spots; apices of all the wings white. Peru.
- lelex.* **N. lelex** *Druce* (21 e). The black body is spotted metallic blue on the head, collar, shoulders, shoulder-covers, thorax, abdomen and legs, the antennae are of a deep metallic blue. The black forewings are spotted blue at the base of the costa and vein 1, the fringes being white at the apex. The hindwings show a blue lustre and a white apical spot. Distributed from Mexico through the whole of Central America as far as Colombia, Venezuela and Ecuador.

N. pseudolelex *Rothsch.* differs from *lelex* by the absence of the white fringes of the hindwings. Ecuador; *pseudolelex*. Colombia, Venezuela.

N. rhabdonota *Hmps.* (21 e). The body is black, with metallic blue spots and stripes, the palpi, basal joint of the antennae and forehips are white, the venter striped white. The forewings exhibit metallic blue stripes at the base of the costal margin and at the vein 1, the apex and proximal angle being spotted white; fringes of the hindwings at the apex white. Dominica.

N. terminalis *Wkr.* (21 f) differs from the preceding by the white fringes being present only at the extreme apex of the forewing. The ground-colour is a dull greyish-brown, the shoulders show white spots, the disc is very thinly scaled; the fringes of the hindwings are white towards the anal angle, the inner-marginal area beneath being white. Brazil (Pernambuco).

N. leucotelus *Btlr.* (21 f) is one of the smallest, insignificant species. Forewings black with a large, transparent, discal spot, the fringes being white at the apex, and a very small, metallic bluish-green spot at the base. Head, collar, mesothorax, and lateral spots on the abdomen metallic greenish-blue, the abdomen shows above a broad, greenish-brown median stripe. Underside of the palpi, legs, and centre of the venter white. Mexico, Guatemala, Honduras, Costa Rica, Venezuela, Surinam.

N. venezuelensis *Klages.* Blackish-brown. Forehead and front of the palpi white, body spotted blue, hips in the ♂ white. The abdomen shows a whitish dorsal line and lateral metallic blue spots turning more green posteriorly. Underneath the first 6 rings show a broad white middle stripe which may be absent or indistinct in the ♀. Forewings with a fine white costal stripe, at the base metallic blue, with hyaline stripes in and below the cell; fringes at the apex and proximal angle white. Hindwings black, with white fringes towards the proximal angle. Expanse of wings: 25 to 27 mm. Venezuela.

N. albimaculata *Hmps.* (21 f). The very long, narrow, blackish-brown forewings exhibit a white spot behind the cell, the hindwings are white except the margin and costal margin. The first abdominal segment shows subdorsal white spots, the 4th to 7th red spots. The ventral side is for the greatest part white. From Panama and Venezuela.

N. guatemalena *Druce* (21 f). The smallest species with black wings, the fringes being white at the apex. The black body is spotted metallic blue on the forehead, collar, sides of thorax, and legs; vertex, neck, and palpal base scarlet. The abdomen exhibits metallic blue dorsal and lateral lines, on the venter white spots. From Mexico to Guatemala.

N. munda *Wkr.* (21 f) is throughout metallic bluish-green on the body and wings. Palpal base, throat, and vertex carmine. The fringes are white at the apex and proximal angles. Known only from Hayti.

N. lena *Schaus.* Black, on the abdomen with a blue lustre. The basal joint of the palpi, hindhead, neck, and anal tuft are carmine. Sides of forehead, hips and stripes on the legs, as well as a broad ventral stripe are white. — The forewings are white at the basal half of the costal margin, at the apex and ends of the fringes. Expanse of wings: 40 mm. Peru.

N. cincticollis *Fldr.* (21 f) exhibits a square yellow spot in the cell-end of the brown forewings, and another one behind it, the black hindwings show a hyaline stripe below the cell. On the under surface the wings are suffused with a brilliant metallic blue. The anterior body is black, the forehead is laterally white; the hindhead, neck, and spots on the shoulders are carmine; forehips white. The abdomen is above metallic blue, beneath white. Colombia (Bogotá); it lies before me from the Rio Dagua (Coll. FASSL).

N. boettgeri *Druce.* The description of this species, being unknown to me in nature, coincides so completely with that of *Delphyre tetilla* *Dogn.* (= *elegans* *Lathy*) that it may possibly be the same animal; the 3 examples I was able to examine, all belong to *Delphyre*. *boettgeri* was described from Peru.

N. quadrimaculata *Möschl.* (21 f). Body blackish-brown, forehead and hips white; vertex and 1st palpal joint scarlet. Base of the shoulder-covers and of the abdomen metallic green. The black forewings with some green at the base exhibit a large, elliptic, white spot below the cell-end; apex white. Hindwings the same with a white spot below the cell-end, and a white apex, with a green-striped inner-marginal vein. Expanse of wings: 30 mm. Venezuela, Guiana.

N. sanguicincta *Hmps.* Anterior body dull black, abdomen metallic blue; palpal base and hindhead carmine; forehead, collar, thorax, and legs spotted blue. Forewings black with white fringes towards the apex. Hindwings with a blue lustre and a broad, carmine marginal band. Expanse of wings: 32 mm. Peru.

N. flaviceps *Hmps.* Black, suffused with metallic blue. Front of the palpi, forehead, borders of the shoulder-covers, chest and legs, a dorsal, lateral and ventral stripe on the abdomen are white. Femora and shoulder-spots of a brilliant orange. On the hindwings a fine subcostal stripe, a stripe below the base of the

cell, and an oblique band behind the cell with rounded ends between the upper median and lowest subcostal vein are white. Hindwings lustrous blue with a hyaline stripe in and behind the cell, the proximal margin being white. Expanse of wings: 42 mm. Panama.

broadwayi.

N. *broadwayi* *Schaus* (21 g) is distinguished by much shorter palpi not reaching the vertex. The body is black, with bluish-white spots on the forehead, collar, shoulders, and shoulder-covers. Forehips and the 1st joint of the tarsi white; anterior and middle tibiae inside spotted earmine. Metathorax, lateral and dorsal spots on the 1st abdominal ring brassy-green, as well as broad transverse bands on the other rings; underneath there is a large, white ventral spot on the first segments. Wings of a brassy-green lustre; the forewings exhibit hyaline spots in and below the middle of the cell, at the cell-end, 2 behind the cell, and a larger one below the 3rd radial. The hindwings with small hyaline spots at the base of the cell and in the upper cell-angle. Expanse of the wings: 46 mm. Trinidad.

102. Genus: **Trichromia** *Hbn.* (*Patreliura* *Hmps.*)

Distinguished from the preceding genus by long hair-tufts at the sides of the abdomen. On the forewings the upper radial rises below the upper cell-angle, the 2 uppermost subcostal veins rise separately from the cell. On the hindwings the upper median and the 3rd radial stand on a long pedicle; the middle radial rises from above the lower cell-angle.

capys.

T. *capys* *Cr.* (= *lacteinota* *Btlr.*) (21 g) has dark brown forewings with yellowish veins and a white apical spot, hyaline hindwings with greyish-blue veins and margins. The brown body exhibits orange-yellow spots on the head and neck. It flies in British Guiana, Brazil and Bolivia and copies *Episcepsis capysca* and *capysoides*, the differences of which are mentioned there.

103. Genus: **Lymire** *Wkr.*

In the veins rather near the genus *Atyphopsis*, but on the forewings the 1st median vein rises below the lower cell-angle, the upper radial from the upper cell-angle; on the hindwings the two lower radials stand on a longer pedicle; the costal vein is often rudimentarily present. The abdomen is not roughly haired at the base.

metamelas.

L. *metamelas* *Wkr.* (21 g). Body black, hindhead and thorax orange. The thinly scaled forewings are blackish, the hindwings hyaline, the margin and a broad inner-marginal area black. Guiana to the Amazon.

strigivenia.

L. *strigivenia* *Druce* (21 g). Like the preceding, but with a quite unicolorously blackish-brown thorax; forehead, chest, legs, and venter lighter greyish-brown. French Guiana.

melanocephala.

L. *melanocephala* *Wkr.* (21 g) is a large species with a dove-grey body and forewings with a white costal margin; the head is black; palpi, collar, shoulders, throat, hips, and femora yellow. The abdomen is posteriorly bluish-black; the venter and anus yellow. The hindwings are semi-diaphanous, on the veins and border pale brownish. Jamaica.

edwardsi.

L. *edwardsi* *Grote* (21 h) is smaller than the preceding, on the wings somewhat darker brownish grey, the abdomen posteriorly with a bluish-green lustre, beneath whitish; the head is greyish-brown like the other part of the body; palpi, vertex, neck and throat orange. From Florida and the Bahamas. — The grown-up larva is whitish with a red-brown head, a blackish dorsal stripe and orange-yellow subdorsal and lateral lines, with yellow bristly hairs standing on tubercles, on the 4th ring pencils of reddish-brown feathery hairs. It lives on *Ficus pedunculata* and changes in a cocoon interwoven with hair to an immobile, red-brown pupa.

albipennis.

L. *albipennis* *H.-Schäff.* (21 g) copies certain *Lithosids* from the genus *Agylla*: the forewings are white with a dark grey inner-marginal streak, the hindwings semi-diaphanous brownish-grey, at the border darker. The body is bluish-grey, parts of the palpi, collar, shoulders, base of shoulder-covers, throat and forehips orange, the posterior end of the shoulder-covers, and the venter white. Known only from Cuba.

104. Genus: **Loxozona** *Hmps.*

More stoutly built than *Lymire*, the base of the abdomen above roughly haired. In the veins of the forewings it differs by the 1st median vein rising with the lower radial veins from the same place. Veins of the hindwings not different.

lanceolata.

L. *lanceolata* *Wkr.* (21 h). Anterior body blackish-brown, abdomen with a blue lustre; the palpi are anteriorly white like the sides of the forehead and dots above the eyes, stripes at the legs, and sublateral stripes

on the venter. Shouldercovers striped grey. The blackish-brown forewing is crossed at the cell-end by a broad white band. Expanse of wings: 40 mm. Amazon (Pará).

L. acuminata *Wkr.* (= *hartmanni Schaus*). Head and thorax dark red-brown, chest orange. Abdomen *acuminata*. above blackish, beneath light-brown; orange are the last segment and lateral stripes which on each ring project into the dark dorsal colour in a triangular shape. Forewings dark red-brown, at the base purple-brown; at the cell-end there is a dark crescent, behind it a dark, strongly undulated line turning back to the cell on the upper median vein. Hindwings dark purple brown. Expanse of wings: 36 mm. Brazil.

105. Genus: **Horama** *Hbn.*

Distinguished by the very long hind legs mostly exhibiting a dense hairy fur-cover on the tibiae on two sides, so that the legs appear in the shape of oars. The shaft of the antennae is strongly thickened after the middle, ctenodont or serrate-dentate. The long, narrow wings are densely scaled, usually black or brown. On the forewings the 3 lower subcostal veins are petioled, the two upper ones rise from the cell; on the hindwings the lower median and lower radial vein rise from the lower cell-angle, the 1st median vein from the lower one close in front of the distal margin.

H. panthalon *F.* (= *tibialis Btlr.*) (21 h) differs from the following by the lighter red-brown colour *panthalon*. of the forewings, and the ochreous-yellow hindwings being bordered with blackish-brown; the head is not black. but orange. From Hayti and Venezuela.

H. texana *Grote* (21 h). Wings blackish-brown like the head and thorax. Tips of antennae, palpi, *texana*. forehead, collar, and shoulder-covers spotted or striped orange. Abdomen more bluish-black with orange-yellow margins, on the first segment a white dorsal spot. The second and third segments are ventrally banded white. Anterior and middle legs black, spotted orange; posterior tibiae and tarsi orange, in the middle black, Distributed from Texas through Mexico as far as Honduras, and common.

H. oedipus *Bsd.* (26 m). The body is black, on the forehead, antennae, neck, chest, hips and legs *oedipus*. yellow spots, the collar with white dots, the shoulder-covers, meso- and metathorax bordered with yellow. The first abdominal ring shows a broad, white transverse band, the other rings narrow, yellow ones, the venter being yellow. Wings purple-brown; the costa of the hindwings yellowish. Expanse of wings: 42 mm. Mexico; Guatemala.

H. pennipes *Grote* is one of the smallest species differing from all the others by hyaline spots on the *pennipes*. brownish-black forewings below the cell, in the cell-end and behind it between the upper median and lower radial vein. The body is black, on the forehead, collar, shouldercovers, hips, and legs spotted and striped white; shoulders and chest spotted yellow. The abdomen exhibits beneath and laterally rows of white dots, on the 2 first rings sublateral yellow spots. Venter white. Expanse of wings: 25 mm. Cuba.

H. castrensis *Jones* (21 i). Body blackish-brown, in some places with a slight metallic green lustre; *castrensis*. on each half of the collar 2 white dots; the first abdominal ring subdorsally spotted white, the 2nd and 3rd laterally, the latter also ventrally. The unicolorously blackish-brown wings show a white dot at the costal base. Brazil (Paraná).

H. plumipes *Drury* (= *punctata Guér.*, *jalapensis Neum.*) (21 h). Wings blackish-brown, a white *plumipes*. dot at the base. Head, thorax, and abdomen greenish-black or purple black, spotted or curled white. Antennae black with white tips. Anterior and posterior legs spotted black and white; on the posterior legs the bases of the tibiae and the ends of the tarsi are white, the rest black. Mexico (Jalapa, Orizaba, Misantla, Yucatan: May to November), Honduras, Guatemala, Nicaragua.

H. flavicans *Dogn.* Head, thorax, and abdomen are black; forehead, dots on the collar, hips and *flavicans*. femora beneath white; the distal margin of the shoulder-covers, sides of abdomen, ventral side, and the 3 last rings are yellow. The wings are yellow, on the forewing the costa, subcosta, the median veins, the lower radial, the distal and proximal margins are black, the same on the hindwing. Expanse of wings: 28 mm. Colombia.

H. clavipes *Bsd.* (21 i). Wings reddish-brown, broadly smoky blackish on the margins. At the base *clavipes*. of the forewing a black and metallic bluish-green spot. The black antennae have white tips. Body orange-yellow. On the forehead and collar metallic blue spots; shoulder-covers bordered with black. Abdomen with black rings, which are expanded on the dorsum and surround metallic blue spots. Hips black with blue spots, anterior and middle tibiae and tarsi black and orange; posterior tibiae orange; at the end black, tarsi orange. Mexico (Orizaba, Guerrero), Guatemala, Costa Rica, Venezuela.

H. flavata *Jones*. Head and palpi black and orange, between the antennae a yellow spot; collar *flavata*. greenish-black, bordered with white. Shoulder-covers black, striped red-brown; mesothorax black with 4 yellow-

reddish spots. Abdomen greenish-black, the posterior segmental margins brown; the 1st ring shows above 2 white, laterally large orange spots, the 2 next ones large white, the other rings orange lateral spots. Legs black and orange. Forewings greenish-black, dusted orange, at the base a white dot and 2 orange dots. Hindwing orange, at the border and apex black. Expanse of wings: 30 mm. Paraná.

fulvitarsis. **H. fulvitarsis** *Schrottky*. Head orange, on the vertex dark-brown; palpi orange, at the base dark-brown. Antennae dark-brown, at the tips lighter, above with a blue tint. Collar spotted white. Shoulder-covers dark-brown, with longitudinal orange stripes. Thorax above dark-brown, with anterior white, posterior orange-yellow spots. Abdomen brown, the 1st ring above with 2 white spots and an orange-yellow anal margin, the 2 next segments laterally and beneath with white, the others with orange-yellow spots. Legs brown and orange. Forewings dark-brown, hindwings orange, bordered with brown. Expanse of wings: 30 mm. Argentina. The description of this species having remained unknown to me greatly approximates the preceding.

tarsalis. **H. tarsalis** *Wkr.* (21 h) is easily recognizable by the bronze-green colour on the body and wings. The 1st palpal joint, the forehead, spots on the collar, chest and hips, as well as the ends of the tarsi are orange, as well as subdorsal and sublateral rows of spots on the abdomen. Expanse of wings: 40 mm. Patria unknown.

grotei. **H. grotei** *Btlr.* (21 i) is recognizable by the bare posterior tibiae, only the tarsi being above scaled. Head yellow, palpal terminal joint and a band on the forehead blackish; collar anteriorly black, posteriorly yellow. Thorax above red-brown, shoulder-covers striped yellow. Hips yellow, legs yellow and black. The 1st abdominal ring is blackish-brownish with a blue lustre, posteriorly with yellow rings, the others red-brown. Forewings red-brown, the hindwings more blackish with a yellow costa. Expanse of wings: 44 mm. Jamaica.

diffissa. **H. diffissa** *Grote* (= *pretellus* *H.-Schäff.*) has, like the following species, quite unscaled hindlegs. Head on the vertex purple brown; palpi and antennae yellow, the latter in the middle and at the tips blackish. Collar light yellow, thorax and shoulder-covers brown. Hips yellow, legs brown, tarsi more ochreous. First abdominal ring white, on the lateral tubercles spotted yellow; the 2 next rings are dark-brown, with dorsal and lateral yellow spots, the others light brown. Forewings orange-brown. Hindwings ochreous-yellow with a dark-brown border. Expanse of wings: 35 to 40 mm. Cuba.

pretus. **H. pretus** *Cr.* (= *eumolpus* *F.*, *vespina* *Harr.*) (21 i) has likewise quite unscaled hindlegs and differs from *diffissa* by the pale red-brown ground-colour, unicolorously blackish-brown hindwings, white forehips and the abdomen being black at the last ring, the 1st ring being yellow, not white, the following segments showing black and white ventral and lateral bands. Expanse of wings: 38 mm. St. Thomas; Venezuela.

106. Genus: **Empyreuma** *Hbn.*

The genus contains some very imposing species, of a more or less brilliant red colour, being particularly distributed in the West Indies. A characteristic mark is the hairy forehead, the thorax being very woolly haired, and hair-tufts at the end and at the sides of the last abdominal ring. On the long, narrow forewings the 1st median vein comes from below the lower cell-angle from which the two lower radial veins rise; the two uppermost subcostal veins come separately out of the cell. Hindwings as in *Horama*. ♂ antennae doubly combed.

mucro. **E. mucro** *Zerny* (= *lichas* *F.*, *pugione* *Hbn.*, *sanguinosa* *Martyn*, *sanguinea* *Rothsch.*) (21 k) is blackish-brown on the head and thorax, with minute white spots on the collar, shoulders, shoulder-covers, and hips. Antennae bluish black with orange tips. Abdomen metallic green, above on the 2 first rings spotted white, with white lateral spots. Forewings carmine, except the costa and base of the proximal margin dusted brown. *portoricensis.* Hindwings carmine with black fringes. Expanse of wings: 44 to 56 mm. Cuba; Hayti; Honduras. — **portoricensis** *Rothsch.* is characterized by the duller red colour and broader border of the forewing. Porto Rico.

affinis. **E. affinis** *Rothsch.* differs from *mucro* by the chocolate-brown, not scarlet forewings with a much broader, blackish-brown distal margin; the greatest part of the costa and the base of the proximal margin are carmine. Hindwings carmine with a much broader black border. Cuba. — **haitensis** *Rothsch.* differs by chestnut-red forewings and scarlet hindwings. Hayti; Domingo.

pugione. **E. pugione** *L.* (= *lichas* *Cr.*) (21 i) has a bluish-black thorax and a dull metallic blue abdomen, the latter with white subdorsal spots on the 3rd and 4th rings. Tips of antennae orange. Forewings carmine, dusted blackish, with black, lustrous-blue veins and distal margin. Hindwing carmine with a black marginal band. Expanse of wings: 50 mm. Jamaica. — The egg is light yellow, flattened at the base, finely netted pentagonally. The larva light yellowish-brown, with subdorsal, lateral and sublateral rows of small white spots bordered with blackish-brown; tubercles stellately haired; the 2nd ring shows on subdorsal tubercles long, porrect hairs, on the penultimate ring the hairs are turned backward. The larva lives on oleander.

107. Genus: **Zellatilla** Dyar.

The erect, small palpi extend as far as the middle of the forehead; it differs from the preceding genus by the absence of lateral hair-tufts on the abdomen. The ♂ is without the ventral valve. Antennae in both sexes doubly combed, shaft not thickened. The veins of the wings are almost exactly like in *Empyreuma*, but on the forewings both the lower radial veins do not rise quite from one place; on the hindwings the median veins stand on a long pedicle and rise from below the lower cell-angle, the lower radial vein from it.

Z. columbia Dyar. Body black, the thorax with a faint, the abdomen with a brighter blue lustre; at the base of the 3rd abdominal ring there is a white band being interrupted above, with a sublateral row of white spots. Tips of antennae orange. The orange-yellow forewings being broadly bordered with black are in the disc dusted in a smoky blackish, at the base black; the black distal margin is proximally sinuate. Hindwing towards the apex broadly bordered with black. Expanse of wings: ♂ 40 mm, ♀ 34 mm. Cuba; Colombia.

108. Genus: **Marecidia** Schaus.

The erect palpi are long; antennae shortly combed, at the ends serrate. The posterior tibiae exhibit a very large, glandular swelling which is above filled up with long hairs. On the long, narrow forewings the upper median vein rises with both the lower radials from the lower cell-angle, the upper radial from the upper angle. Hindwings narrow with a convex costal margin. The upper median and lower radial vein rise from the lower cell-angle, the middle radial above it, the upper one is on a short pedicle with the subcostal.

M. sanguipuncta Schaus. Head and thorax black, with metallic green spots and stripes; forehips white. Abdomen above metallic green with black, subdorsal and transverse lines, beneath green with a white basal spot. Forewings black, in the discal area subcostally and above the proximal margin suffused with greenish-blue; at the base there is a carmine spot. Hindwings black with a rosy cellular spot and a whitish inner-marginal stripe. Expanse of wings: 33 mm. Brazil (Sa. Catharina).

109. Genus: **Horamella** gen. nov.

An entirely isolated genus, exhibiting on the one hand resemblances to *Rhynchopyga*, on the other hand undoubtedly being nearer to *Horama*. The proboscis is well developed, the palpi are remarkably slender and thin, smoothly scaled, projecting beyond the forehead almost by the length of the head, and straightly porrect. The antennae, being ciliated in the ♀, combed in the ♂, are not thickened; legs very long and slender, spurs well developed. On the very long, narrow forewing the lower median vein rises far from the lower cell-angle, the upper one likewise a little before it, the lower radial veins on a short pedicle from it, the upper one from the upper cell-angle, the 1st subcostal vein from the cell. On the hindwing the lower median and lower radial vein rise on a long pedicle from the lower cell-angle, the 1st median vein is absent; the middle radial is rather feeble but rises distinctly below the middle of the transverse vein, being at the base rather strongly bent upwards; the 1st radial rises with the subcostal vein pedicellatedly from the upper cell-angle. The veins of the hindwings show the greatest resemblance to those of *Leucopleura*, but the forewings are entirely different. — Type: *H. fassli* Drt.

H. fassli spec. nov. (21 i). This peculiar, small species is undoubtedly one of the most interesting discoveries of the extremely successful explorer. Head and upperside of the thorax black with large, metallic green spots on the vertex and collar. The whole rest of the body is above and beneath of a Pompeian red, of the same colour are the inner margin of the shoulder-covers and a spot on the metathorax. The first abdominal ring shows above a longish-square, white transverse spot being bordered with black; the following rings exhibit triangular, white, small spots growing smaller posteriorly, with a bluish-green iridescence. The unicolorously brown forewings have a white apical spot; the hindwings are brown, in the disc thinly scaled. Antennae and palpi black, legs brown, hips red. Described according to a couple from East Colombia. Type in the Coll. FASSL.

110. Genus: **Leucopleura** Hmps.

The third palpal joint porrect. On the forewings the upper median vein rises before the lower cell-angle, which sends forth both the lower radial veins. The two uppermost subcostals rise on a joint pedicle from the 3 lower ones which are pedicellated. Cell of the hindwing rather short, the lower median and the lower radial vein pedicelled, the 1st median vein being absent; the middle radial from the lower cell-angle, the upper one and the subcostal vein on a short pedicle from the upper cell-angle.

cucadma. **L. cucadma** Druce (21 a) resembles *Cacostatia ossa* (22 c): bluish-black, the body spotted and striped white. Wings at the bases striped metallic blue; the forewings exhibit a hyaline spot below the cell and a post-discal band consisting of 4 spots, the hindwings two narrow hyaline spots below and behind the cell. Panama.

111. Genus: **Loxomima** gen. nov.

Exteriorly looking like a *Loxophlebia* (comp. p. 61 to 64). Palpi rising upwards so long that the middle joint already projects beyond the forehead. Antennae in the ♂ short-combed, in the terminal third serrate. Large ventral valve present. On the forewings the upper median vein rises before the lower cell-angle, the lower radial vein from it, and the middle one separated from it above it; the upper radial vein from below the upper cell-angle. The hindwings similar as in *Leucopleura*. The transverse vein extremely oblique, and the lower half of the cell, therefore, very narrow and short; the middle radial vein, being only feebly developed, rises rather close above the lower cell-angle; the lower one stands on a long pedicle with the lower median vein, from which the upper one rises close before the margin; the upper radial vein and the subcostal come from the upper cell-angle. Only one species.

imitans. **L. imitans** spec. nov. looks almost like *Heliura sanguipalpia* (24 g), but it differs far from it. Body above unicolorously black, posteriorly with a slight blue lustre. Large spots on the sides of the collar and the hair of the anal segment carmine. The hips and the 3 first ventral segments are white. Wings hyaline; veins, margins, apical and inner-angular spots black. Expanse of wings: 22 mm. Sa. Catharina (Joinville). Type in Coll. DRAUDT.

112. Genus: **Pseudosphenoptera** Bltr.

The abdomen is somewhat thinner towards the base, but not strangulated, and shows a feeble cover of hair on the sides of the last segments. The forewings are long and narrow in the ♀, the 1st median vein rises from the lower cell-angle, the lower radial veins from it, the uppermost subcostal from the cell; on the hindwings the lower median vein rises far from the lower cell-angle, the upper one from it shortly before the margin; both the lower radials from the cell-corner, the upper one and the subcostal being pedicelled. We include here *chimaera*, *cocho* and *pitthea* having been described as *Gymnelia*, since Dr. STAUDINGER received *P. basalis* and *pitthea* in copula from different collectors, so that, therefore, the latter probably represents the ♂ of *basalis* of which only ♀♀ are known. In the ♂♂, accordingly, the hindwings would be stunted to a small, triangular rudiment, the veins of which cannot be quite accurately ascertained, owing to this stunted growth.

basalis. **P. basalis** Wkr. (= lanceolatus Bltr.) (22 a) ♀: has a black body, being intermixed with white hair on the forehead, vertex and thorax, and spotted metallic blue on the collar, metathorax, sides of the thorax and legs; the abdomen exhibits on the first segment two white spots and dorsal and subdorsal streaks of metallic blue. The wings are suffused with metallic blue and exhibit at the base a series of hyaline stripes. — *pitthea* Druce (22 a) ♂: has white forehips, the body being otherwise similar. The forewings are hyaline with a black border, the very rudimentary hindwings being black, on the under surface with metallic blue spots. Peru, Amazon.

cocho. **P. cocho** Schaus (22 a) of which only ♂♂ are known, differs from *pitthea* chiefly by black forehips being laterally spotted blue, the hindhips being spotted white and yellow; collar and shoulder-covers are spotted white. The species varies greatly in the extent of the hyaline spots on the forewing: the wings may, like in the figured specimen, be entirely hyaline except the black border, they may also turn more or less black towards the margin, so that there only remain small hyaline spots at the base; in the latter case there appear metallic blue spots on the wing (= *chimaera*?). The hindwings are likewise stunted to a black rudiment. Peru; São Paulo.

chimaera. **G. chimaera** Rothsch. (22 a) is described according to a single ♂ from Peru and has a black body with metallic bluish-green spots, the forehead being grey. The black, distally brownish forewings are spotted metallic blue and exhibit small hyaline spots in and below the base of the cell. The hindwings are reduced to a hair-tuft of about 2 mm length.

113. Genus: **Pseudopompilia** Hmps.

Only one ichneumonid-like species. The first palpal joint is long-haired like a beard. Abdomen at the base somewhat strangulated, at the first segment with lateral tubercles, posteriorly tapering off with scant lateral hair. On the forewings the lower radial veins stand on a long pedicle, on the hindwings the lower radial vein is absent; the upper median vein and the middle radial rise from the lower cell-angle, the upper radial and the subcostal vein are unpetioled.

P. mimica *Druce* (22 k) strikingly copies *Phaeosphecia opaca* (10 c). Posterior tibiae and tarsi striped ochreous-yellow, forehips spotted white. On the bluish-black forewings there is at the base a green silvery spot; below the base of the cell a red-brown stripe in the prolongation of which there is a green silvery, blurred spot. The hindwings are hyaline below the base of the cell. — The species was described from the Amazon, it is before me also from French Guiana (Nouveau Chantier) and East Colombia (Villavicencio), thus apparently widely distributed.

114. Genus: **Xanthopleura** *Hmps.*

The genus contains rather large species mostly resembling *Calonotus*. On the forewings the upper median vein rises near the cell-angle from which the lower radial veins rise. Cell of the hindwing long, the lower median vein far from its lower angle, from which the 1st median vein and the lower radial rise; the middle radial rises rudimentarily from the middle of the transverse vein, the upper one and the subcostal vein on a short pedicle from the upper cell-angle; the costal vein is short and rudimentary.

N. perspicua *Wkr.* (= sandion *Druce*) (21 k) entirely resembles the following species and differs only by the light greenish-yellow colour of the abdominal stripe and a minute hyaline spot above the rise of the 2nd median vein of the forewing. Colombia; Ecuador; Peru (Pachitea); Amazon (Pará).

N. troetschi *Druce* (21 k) is perhaps only a northern race of the preceding; it merely differs by the orange-yellow colour of the abdominal stripes; of the small hyaline spot above the 2nd median of the forewing which is said to be absent, there are anyhow traces noticeable in one specimen before me. Only from Panama (Chiriqui).

N. flavocincta *Guér.* Black, antennae at the base of the shaft striped white; spots on the collar, as well as narrow dorsal and broad lateral stripes on the abdomen are metallic green. Shoulders, chest and legs spotted white. The 1st abdominal ring and the anal tuft are yellow. Some lateral spots on the abdomen are white. Wings hyaline with broad black borders and median band. Expanse of wings: 45 mm. Cayenne.

115. Genus: **Chlorostola** *Hmps.*

Only 2 large species coloured black and golden green, with hyaline spots, erect palpi and doubly combed antennae. Thorax long-haired. On the hindwings the lower median vein rises before the cell-angle, the upper one and the lower radial on a common pedicle, the middle radial being absent. The abdomen shows on the posterior rings lateral, short hair-tufts and on the last segment longer ones.

Ch. interrupta *Wkr.* (22 b) differs from the following species by the abdomen exhibiting metallic green transverse bands above the second and third segments and green subdorsal spots on the other rings, lateral and sublateral rows of white spots. On the forewings the 2 small hyaline spots in the middle of the cell are absent. Mexico.

Ch. corydon *Druce* (22 b). Black, forewings in some places suffused with metallic green, with 2 small hyaline spots in the middle of the cell and one below them, 2 at the cell-end and one below it and 4 behind the cell; hindwings with 3 small hyaline spots at the base and 2 behind the cell. Antennae black, before the tips white. White spots on the collar and shoulders. The abdomen exhibits bluish-white subdorsal spots. Mexico: Jalapa, Orizaba (March to July); Guatemala: Vera Paz.

116. Genus: **Ixylasia** *Btlr.*

It differs from the preceding genus merely by the thorax not being woolly haired and by the absence of hair-tufts on the last rings. On the hindwings the middle radial is imperceptibly represented. Some species show lateral hair-tufts at the base of the abdomen.

I. trogonoides *Wkr.* (22 b). Black; tips of the antennae and palpal base white. Hindhead, collar, shoulders, shoulder-covers, and hips with white dots. The hair-tufts at the abdominal base are brown. Lateral bands on the abdomen and long stripes in the basal half of the black forewing are metallic green. Lateral spots on the 2nd abdominal ring and sublateral rows on the others are white. Hindwings hyaline with black veins and marginal band. Expanse of wings: 56 mm. Brazil.

I. pyroproctis *Druce* (= *kelleri Klages*) has a black body; palpal base and dots behind the eyes are white. Collar, shoulders, shoulder-covers, and thorax spotted white and metallic blue. Forehips spotted white. Hair-tufts at the abdominal base of the ♂ brown and white. The abdomen exhibits on the 1st ring a dorsal bluish-white dot; the last segment and a band at the penultimate ring are above scarlet; laterally and sublaterally there are rows of white spots, the lower ones being longer; the 2 last rings are beneath spotted orange. Wings

hyaline with black veins, margins, discal and apical spots; at the base of the proximal margin of the forewing there is in the ♂ a metallic green stripe. In the ♀ the forehead is white, the body without any blue and white spots. Expanse of wings: 44 to 48 mm. Venezuela.

schausi. **I. schausi** Druce is black; hindhead, collar, shoulders, shoulder-covers, and thorax with bluish-white dots. Hips and a dorsal dot on the 1st abdominal ring are white; moreover, the abdomen shows subdorsal rows of metallic green spots, white lateral spots on the 2nd and 3rd rings and a sublateral row. Forewings black, in the discal area and at the proximal angle metallic green, with minute hyaline spots in the cell-end and below the middle of the cell, a dot at the rise of the lower median vein, and behind the cell between the 1st median and 5th subcostal vein larger spots. Hindwings with a large hyaline spot in the proximal half and a smaller one behind the cell. Expanse of wings: 42 mm. Mexico (Orizaba).

semivitreata. **I. semivitreata** Hmps. (= almon Hmps.) (11 e) looks very much like *Autochloris almon*. Black; small spots on the collar, broad subdorsal abdominal stripes, and the base of the proximal margin on the forewing metallic green. Wings hyaline with black veins, margins and discal spots. Expanse of wings: 54 mm. Brazil (Rio de Janeiro; Blumenau).

117. Genus: **Xantharete** gen. nov.

Proboscis well developed. The obliquely rising palpi project beyond the forehead and are smoothly scaled. Antennae filiform, in the ♀ ciliated, of $\frac{3}{4}$ of the length of the costal margin. On the forewings the lower median vein rises somewhat behind the middle of the median, the upper one before the lower cell-angle, from which the lower radial veins rise, the upper one comes from the upper cell-angle, the 1st subcostal vein from the cell. Hindwings with a broad inner-marginal area the cell short, the lower median vein rises close before the lower cell-angle, the upper one and the 3rd radial on a very long pedicle from it; the middle radial is absent; the upper radial and the subcostal vein stand on a very long pedicle, the costal vein is rudimentarily present, but does not reach the costal margin.

stellans. **X. stellans** spec. nov. (22 b). Head, thorax and legs are blackish-brown, on the collar and shoulder-covers a faint greenish lustre. Abdomen unicolorously orange-yellow. The hyaline forewings show a bright iridescence, the veins are broadly covered with rough blackish-brown scales; the proximal margin being broad blackish-brown as far as to the submedian fold has, in the neighbourhood of vein 1, the shape of a large longitudinal spot intermixed with intensely iridescent, amethyst-coloured scales; the blackish-brown distal margin expands towards the apex; the costal margin and discal spot likewise blackish-brown. The hyaline hindwings have blackish-brown veins and a very broad border, the whole inner-marginal area is blackish-grey. Described according to a ♀ from the Coll. Serritz: East Colombia. Rio Negro, 500 m.

118. Genus: **Phaenarete** Druce.

Head, thorax, and base of abdomen are roughly scaled, at the end of the abdomen feeble lateral hair-tufts. The long-extended forewings do not show any difference in the veins from the usual course; on the hindwings the upper median and the lower radial vein rise pediculate from the cell-angle, the middle radial rudimentarily from the middle of the transverse vein, the upper one and the subcostal vein from the upper cell-angle. — Only one species.

diana. **Ph. diana** Druce (22 b). The body is brown with small white spots at the palpal base, behind the eyes, on the collar, shoulder-covers, and metathorax, hips and tibiae. The abdomen shows subdorsal and lateral white spots. The forewings are hyaline with a broad brown base, discal and apical spot, veins and margins. The hyaline hindwings exhibit a narrower brown distal margin. Panama.

119. Genus: **Cacostatia** Hmps.

Few species of a deep blue reflection, with hyaline spots on the broad wings. Palpi erect, antennae doubly combed. Cell of the hindwing large; the upper median vein rises with the lower radial on a common pedicle from the lower cell-angle, the lower median vein far below it.

sapphira. **C. sapphira** Stgr. (22 c). Black with a deep ultramarine blue, magnificent lustre. At the base of the forewing a large hyaline spot extending yet somewhat into the lower part of the discocellular, a second, oblique, oblong, transparent band is behind the cell and extends from the lower median vein to near the costal margin. Hindwings transparent, with a blackish-blue margin and white inner-angular fringes. Venter and stripes on the legs white. Occurring from Mexico as far as Panama.

ossa. **C. ossa** Druce (22 c) differs from *sapphira* by another hyaline spot between the median veins, the longitudinal spot in the cell is longer extended. Panama, Colombia, Guiana.

flaviventralis. **C. flaviventralis** Dogn. (22 c) has hyaline spots similar to the preceding species, but the ventral side is of a fiery orange-yellow except the black terminal segment. The blue colour is more radiant, brighter. Colombia.

C. discalis *Wkr.* (22 a) has no hyaline spot in the cell and only a very minute spot below the rise of *discalis*. the 2nd median vein. The blue abdomen exhibits white stripes subdorsally, laterally and on the venter. The hyaline hindwings have a rather narrow, bluish-black border. — **assuta** *form. nov.*: the small hyaline spot is *assuta*. larger and extends above beyond the median, and as far as below the rise from the lower median vein; also below the base of the cell there appears another small hyaline spot. Amazon.

C. umbraticola *Klages* is smaller than *discalis* which it otherwise greatly resembles in all parts, but *umbraticola*. with a large, triangular hyaline spot expanding in and below the cell, as well as between the median veins. The proximal margin of the hindwing is black as far as the base; fringes at the proximal angle white. Expanse of wings: 30 to 32 mm. Venezuela.

120. Genus: **Schasiura** *Btlr.*

Distinguished from *Ixylasia* by the unpetioled rise of the upper median and lower radial vein of the hindwing; the middle radial vein is absent.

Sch. mimica *Btlr.* (22c) looks very much like *Ixylasia pyroproctis*. Body black. Forehead and palpal *mimica*. base white, as well as spots on the shoulders, shoulder-covers, thorax and hips, above and at the sides of the 1st abdominal ring. The last ring and a spot on the penultimate are carmine. Wings hyaline with black veins, margins and discal spots. Expanse of wings: 50 mm. Amazon.

Sch. gymnelioides *Zerny* has broader, shorter wings and a stouter shape of the body than *mimica*, *gymnelioides*. and much rather resembles a *Gymnelia* in the habitus. Body black, posteriorly and on the venter with a blue lustre. Anterior body spotted and striped orange. The 2nd to 7th abdominal rings are above narrowly, ventrally broadly bordered with orange. Wings faintly yellowish hyaline; the costal margin of the forewing of an intenser yellow. Veins, the narrow apices of the wings, and an orange-striped inner-marginal longitudinal band black. Hindwings with a broad black proximal margin. Expanse of wings: 35 mm. South America (?).

121. Genus: **Eupyra** *H. Schöff.*

A small group of species greatly reminding us of the genus *Chrysocale* by their exterior: the structure of the body and hairiness, the scheme of colouring and marking are the same. On the forewings the lower radial veins rise in common from the lower cell-angle; on the hindwings, with a comparatively long cell, the lower median vein rises far before the lower cell-angle, the upper one shortly before it, the middle radial, being well developed, rises above it.

E. distincta *Rothsch.* Body black; the chest, a dot on each side behind the eyes, the basal half of *distincta*. the shoulder-covers, and a dot at their apex white. The 3 penultimate abdominal rings with a cream-coloured transverse band. Forewings black, at the base and between the median and lower radial veins dusted with green, 2 hyaline spots in the cell, one below it, one behind it, and on each side of the lower radial vein one. Hindwings black with a purple lustre, a hyaline spot in the cell and one below it; costal margin, median, and proximal angle are of a brilliant metallic blue. Length of forewings: 21 mm. Venezuela.

E. disticta *Hmps.* (22 d). Body black, forehead, collar, shoulders and shoulder-covers, metathorax, hips *disticta*. and ends of the posterior tibiae spotted bluish-white; abdomen with metallic green subdorsal spots, the middle segments on the ventral side white. The forewings, being for the greater part suffused with metallic green, show, in the cell-end, a square hyaline spot and a round one above the middle of the lower median vein; the hindwings are bluish-black, with white spots above and below the lower median vein. Bolivia.

E. imperialis *H.-Schöff.* (= *florella* *Btlr.*) (22 d) has black wings suffused with metallic green, and *imperialis*. with a coppery lustre, which changes into red-violet in the submedian area; black are only the margins and the cell-end; in the latter a square hyaline spot; the hindwings, being dusted with green, have likewise a large hyaline spot in the cell-end. The body is black, the abdomen with a green lustre. Spots on the collar and sub-lateral stripes on the abdomen white. Colombia (Bogotá), Venezuela, Peru. — In **ducalis** *Maass.* the hindwing *ducalis*. exhibits no hyaline spot, whereas the one on the forewing is larger; the green dusting is more extensive. Found in Colombia.

E. affinis *Rothsch.* differs from *imperialis* by the shorter but broader wings, the coppery green, not *affinis*. red colour of the forewings, the green, not black costal margin, the green, not black proximal margin with a black middle spot, and the disc of the hindwing, being green in the ♂, black in the ♀. Peru and Ecuador.

E. sages *Druce* (22 d) differs from the following species by white dorsal spots on the abdomen; the *sages*. forewing, being dusted with green, shows a large, elliptic hyaline spot below the middle of the cell, round hyaline spots in the cell-end and above the 1st median and upper radial vein, between the two latter veins small hyaline dots. The hindwings show long hyaline spots below the cell and at the proximal margin, one in the cell-end, and two small ones behind it. Bolivia. — **reducta** *form. nov.* (22 d) lying before me from Colombia, to a certain *reducta*.

degree forms a transition to the following species: the white dorsal spots are smaller, all the hyaline spots on the wings likewise smaller, on the forewings the spots below the upper radial are absent altogether.

sarama. **E. sarama** Dogn. (22 d) resembles the preceding, but the abdomen does not exhibit any white dorsal spots. The hyaline spots of the forewings are smaller, and there are only three: below the middle of the cell, in the cell-end, and above the upper radial, the latter occasionally with a punctiform spot below it; the hyaline spots on the forewings, being likewise much smaller, are situated below the cell, and a very small one at the proximal margin, one behind the cell. Venezuela.

dorata. **E. dorata** Dogn. has a black body. Between the eyes and on the collar white dots. Spots on the thorax, one dorsal and on each side a double lateral row of spots on the abdomen are golden; underside white. Forewings bronze-golden, at the costal base a white dot; between the median veins is a round, white spot. Hindwings dull black with an oblong coiled and 2 connected small hyaline spots. Expanse of wings: 49 mm. Ecuador (Loja).

consors. **E. consors** Schaus (22 e). Body black; forehead, collar, shoulders, shoulder-covers, and posterior femora with white dots, hips white. Abdomen with broad, golden green lateral stripes, and dorsal and subdorsal rows of white spots. Forewings golden green with black veins and a broad black distal margin; in the upper cell-end a small hyaline spot and a small dot behind it above the upper radial vein. Hindwings black, in the cell and towards the apex with a green lustre, below the cell with some small hyaline stripes which may be reduced to a single one (= ab. 1. *Hmps.*). Expanse of wings: 50 mm. Peru, Bolivia.

psittacus. **E. psittacus** Schaus (22 c) has unmarked wings being dusted quite unicolorously with green. The body is black, on the forehead, collar, shoulders, metathorax, and femora white spots. The abdomen is laterally striped green and shows dorsal and sublateral rows of white spots; the posterior margins of the last segments are yellowish-white. Peru and Bolivia.

122. Genus: **Diaxanthia** *Hmps.*

The anterior body is rather hairy, the palpi are haired above. The forewings exhibit the usual neuration; on the hindwings the lower median vein rises before the lower cell-angle, the upper one from it; the lower radial vein is absent; the middle radial vein strongly bent from below the middle of the cell. Only one species:

lucinia. **D. lucinia** Druce (22 e) has a black body with metallic blue spots. The black forewings exhibit an orange-yellow oblique band extending perhaps from the middle of the innermarginal vein to the middle radial towards the margin; the costal base is orange, too. The hindwings are orange with a black marginal band. Occurring from Costa Rica (Irazu) as far as Panama (Chiriqui).

123. Genus: **Tipulodes** *Bsd.*

Only two small species with long, narrow wings, being characterized by the upper median and lower radial vein of the hindwing rising on a joint, long pedicle from the lower cell-angle; the 2nd median vein rises below it, the middle radial above it; on the forewings the 1st median and the 1st radial vein rise from below the corresponding cell-angles.

ima. **T. ima** Bsd. (22 e). The easily recognizable, small, black and red animal is widely distributed in Brazil, as well as in Paraguay.

rubriceps. **T. rubriceps** Dogn. (22 e) from Colombia is smaller, it has an entirely red head and collar, and the red longitudinal band of the forewing is narrower and ends more pointedly.

124. Genus: **Callopepla** *Hmps.*

Separated from the following, very similar genus by the uppermost subcostal vein of the forewing, rising on a common pedicle with the other subcostal veins. On the hindwings both the lower radial veins come from above the lower cell-angle.

inachia. **C. inachia** Schaus (= *katima* Schaus) (22 e). Black, on the anterior body and legs spotted metallic blue; abdomen of a brilliant blue, the forehips in the ♂ white. Forewings black, at the proximal margin, vein 1 and above it fine orange stripes with an oblique orange band behind the cell. Hindwings black, in the basal half metallic blue. In the ♀♀ the orange oblique spot is united with spots in the cell to a large, triangular discal spot. Expanse of wings: 38 mm. Brazil, Paraguay.

grandis. **C. grandis** Rothschild. Head with antennae and thorax greyish-black. The abdomen is above light metallic blue, beneath brownish-black. Forewings black, in the cell with spot-like orange scales, the proximal

margin, inner-marginal vein and a stripe above it orange as well as a broad, postdiscal oblique band extending from the subcosta to the lower median vein at the margin. Hindwings black, at the base and proximal margin metallic blue. Expanse of wings: 42 mm. Rio Grande do Sul.

C. emarginata *Wkr.* (22 f) shows on the black forewings a large, orange transverse spot, the upper, *emarginata*, proximal corner of which projects towards the base with a long tooth, the basal lower cell-end, however, remains black. Distributed in Brazil.

C. flammula *Hbn.-G.* (22 f) is larger than the preceding and differs from it by the much larger orange *flammula*, spot entirely filling up the cell of the forewing and the upper half of the submedian area. Brazil (Rio de Janeiro; Espiritu Santo).

C. similis *Heyl.* is easily distinguishable from the two preceding by 3 long teeth the orange oblique *similis*, spot sends forth towards the margin below the costa, on the 3rd radial, and below the upper median vein: its proximal border is rounded. Forehead and vertex are spotted metallic blue, thorax and abdomen striped blue. Fringes of the forewings white at the apex, those of the hindwings in the middle white. On the under surface the veins are suffused with blue. Expanse of wings: ♂ 36, ♀ 40 mm. Brazil (São Paulo).

125. Genus: **Cyanopepla** *Clem.*

This genus, with many widely distributed species in Tropical America, contains the most magnificently coloured representatives of the *Syntomidae*. Beside red and yellow spots, intensely lustrous blue and green metal-colours are spread over the wings. The wings are broad, the cell of the hindwing large, the lower median vein rises considerably before the lower cell-angle, from which the upper one and 3rd radial vein rise either separated or on a short pedicle. The middle radial vein rises above it. On the forewing the 1st subcostal vein rises from the cell.

C. scintillans *Btlr.* (22 f) has carmine fringes on both wings, the forewing exhibits a carmine transverse *scintillans*, band, and the base is covered with metallic blue, as well as the body being otherwise black. Costa Rica and Panama.

C. panamensis *Druce* (22 e) entirely resembles the preceding, but the spots and fringes are red-yellow *panamensis*, instead of carmine. Panama (Chiriqui).

C. quadricolor *Fldr.* (22 f). Head and thorax black, suffused with metallic green. Hips white. Abdomen *quadricolor*, of a brilliant metallic green with black angular lines and double, black spots on the last rings; the venter exhibits a white median stripe. Forewings blackish-brown, the base spotted green; below the base of the median there is a short red stripe, fringes purely white, on the ends of the veins yellowish. Hindwings black, in the disc blue, at the margin a carmine, dentate spot. Expanse of wings: 42 mm. Colombia.

C. lystra *Druce* (22 f) has much broader wings than the following, and no orange-yellow costal margin. *lystra*. The fringes are yellowish white at the apex, and the base of the forewing is spotted metallic blue. Colombia.

C. cinctipennis *Wkr.* (= *azetas* *Druce*) (22 g) has entirely black forewings except a very fine, red, small *cinctipennis*, stripe at the base; the costal margin and fringes are orange-yellow; the hindwings are intensely lustrous blue at the base and disc, exhibiting a carmine spot at the margin, and orange-yellow fringes. The abdomen is spotted metallic bluish-green. Colombia, Venezuela, Ecuador. — The typical form exhibits a large red spot on the under surface of the forewing. In **obsolescens** *form. nov.* (= subsp. 1. *Hmps.*) occurring more frequently in *obsolescens*, Ecuador, this spot disappears more or less, all the other red and yellow colours being also greatly reduced.

C. micans *H.-Schäff.* (22 g). The forewings are black at the base, at the proximal margin metallic *micans*, bluish-green, with an orange-yellow spot below the base of the cell, and two smaller ones behind the cell. — ♂-f. **luxurians** *form. nov.*: occasionally there is a streak-like spot in the lower cell-angle also in the ♂, being always *luxurians*, exhibited by the ♀. The deep blue hindwings, with yellow fringes, have a large, orange spot at the distal margin. — In f. **fulgens** *H.-Schäff.* (22 g) the orange-yellow spots are carmine. Both forms are found in Colombia and *fulgens*, Venezuela.

C. fastuosa *Wkr.* (= *fulgida* *H.-Schäff.*) (22 g). The blackish-brown forewings, being metallic blue *fastuosa*, at the base, exhibit below the base of the cell, and in the cell-end, one red spot each, the hindwings, with a blue lustre, show a large red spot at the distal margin. On the under surface of the forewing there is also a small red spot behind the lower cell-angle, appearing sometimes also above. From Venezuela to Brazil, occurring also in Jamaica.

C. alonzo *Btlr.* (= *imogena* *Btlr.*) (22 g). Like *fastuosa*, but besides with a red oblique band behind *alonzo*, the cell. Common in Colombia, Bolivia, Venezuela, Ecuador, and Peru.

C. arrogans *Wkr.* (22 a). The black forewings, being metallic bluish-green at the base, exhibit 3 dark *arrogans*, orange-red spots: an oblong one below the cell, a small square one at the cell-end, and a large, oblique subapical

- band. The black hindwings, being likewise blue at the base, exhibit at the border a large, irregular, scarlet spot. Body metallic bluish-green with an extraordinarily intense lustre. Forehips white. On the under surface of the wings the metallic bluish-green is much more extensive than above. Distributed from Mexico (Orizaba, Vera Cruz, Cordoba) through Honduras, Guatemala, Costa Rica, Panama as far as Venezuela. — ab. **costaricensis** Druce (22 h) occurring in Costa Rica and Panama (Chiriqui), has a yellowish-red, not scarlet marginal spot of the hindwing.
- xenodice.* **C. xenodice** Druce (22 h). Blackish-brown; anterior body and legs spotted metallic green, abdomen finely curled green. Forewing at the costal base with a green dot; behind the cell there is a large, orange spot.
- pallascens.* Hindwings suffused with blue, with a triangular orange spot behind the cell. Costa Rica. — In ab. **pallascens** ab. nov. (= ab. 1. *Hmps.*) the orange spots are much lighter.
- submacula.* **C. submacula** Wkr. (22 h) is distinguished by yellow spots being more or less tinted orange-red at the margins: a stripe below the cell and a transverse band behind the cell. On the black hindwings suffused with blue, behind and below the cell, one small red spot each shines through, being beneath large and distinct. Venezuela. — Whereas the name-type has the costal margin carmine in the basal half, in Central American
- borealis.* specimens: — subsp. **borealis** Rothsch. this costal margin is generally blackish-brown; the red submedian band is much broader, the hindwings are not spotted red, and the body is much more extensively suffused with a bluish-green silvery colour. Mexico, Guatemala, Honduras, Panama.
- melinda.* **C. melinda** Dyar. Black; on the thorax and abdomen suffused with bluish-green, also on head, palpi and legs; hips, tibiae, tarsi and venter dusted with white. Forewings with a metallic blue dot at the costal base and a similar stripe in the submedian area; from the cell-end, a carmine band runs to the proximal angle, and a smaller oblique spot is situate towards the apex between the middle radial and the lowest subcostal vein. Hindwing in the basal two thirds of a bluish-green lustre with a round, red spot before the margin between the lower median and lower radial vein, being intersected in black by the upper median vein. Expanse of wings: 41 mm. Brazil (Petropolis). The description runs very similarly to that of *Napata banghaasi* (21 d) described by me, which, however, is surely a *Napata*, so that the name *Melinda* must perhaps be placed there.
- jucunda.* **C. jucunda** Wkr. (= *fastuosa* Mén.) (22 h) is much smaller than the preceding, on the forewings the same markings, but the spots are unicolorously carmine. The hindwings are of a more intense blue lustre and do not exhibit any red spots at all. Distributed from Brazil to Paraguay, Uruguay and Argentina.
- griseldis.* **C. griseldis** Druce (22 k) differs greatly from all the other species by almost entirely red forewings and entirely black hindwings. Fringes at the apices of the wings white. Mexico.
- bella.* **C. bella** Guér. (= *cruenta* Clem., *haematodes* Bsd.). The nomenclatural type is a rare form with orange-yellow spots on the forewings; a long spot extends through the cell, one part being also yet situate below the median, another oval spot is behind the cell; in the type these spots are connected, and as often as not separated. On vein 1 and at the proximal margin there extends one metallic blue stripe each. The hindwings are entirely black, at the base suffused with metallic bluish-green. The whole body and the under surface are of a magnificent
- gloriosa.* metallic blue. In the ♀ the blue is very much less extensive. — **gloriosa** Wkr. (22 i) is the most common form,
- bivulnerata.* in which the spots of the forewings are scarlet and separated. — In **bivulnerata** Grote a. Rob. the cellular spot
- eximia.* is much broader; — and in **eximia** Bsd. the two red spots are combined to one. — The species and its forms fly in Mexico, British Honduras, and Guatemala.
- julia.* **C. julia** Druce (22 i), on the black wings, being striped metallic blue towards the base, shows a broad, carmine, oblique postdiscal band; the blue hindwings are bordered with black, the fringes at the apex white. From Peru, Brazil, and Paraguay.
- orbana.* **C. orbana** Druce (22 i). Black. Head, thorax and legs spotted metallic blue; abdomen dorsally and laterally striped blue, beneath white. On the forewings the costal base is striped blue; behind the cell is a broad, orange oblique band from the subcosta to the margin above the lower median vein. Expanse of wings: 44 mm. Sa. Catharina; Argentina.
- imperialis.* **C. imperialis** Druce (22 i). Body black with a brilliant blue lustre. Forewings blackish-brown; bluish-green are: a dot at the costal base, a stripe above the inner-marginal vein, and a shorter one at the base of the proximal margin; a large, carmine oblique spot extends from the subcosta behind the cell to the proximal angle. Hindwings of a brilliant blue with a black apex. Expanse of wings: 38 mm. Ecuador.
- beata.* **C. beata** Rothsch. is distinguished by very narrow wings. The body is lustrous metallic blue. Forewings black with a blue subcostal stripe; a long, carmine, cuneiform spot extends from the base to the margin between the inner-marginal vein and the median. Hindwings black with a carmine apical spot. Expanse of wings: 28 to 32 mm. Panama (Chiriqui).
- phoenicia.* **C. phoenicia** Hmps. (22 k). This pretty species, being on both wings marked with one very large, red spot each, is unmistakable. It seems only to fly in Brazil.

C. samarca *Schaus* (22 k) bears an extraordinary resemblance to the preceding, but it is smaller *samarca*. and of a much more graceful structure. Palpi above black, beneath white. Body above of a brilliant blue, abdomen with subdorsal and lateral white stripes, below which there is a black sublateral band, the underside being white; forehips white. Wings almost exactly coloured and marked as in the preceding. Expanse of wings: 25 mm. Bolivia.

C. amata *Druce* (22 i) is very much like *phoenicia*, but the red spot of the forewing is smaller and *amata*. does not extend as far as the base; on the hindwings the red is confined to an oval antemarginal spot, the inner-marginal area being broad and extensively metallic blue, and on the forewing the blue basal spot is considerably larger, too; the ♂ shows almost no red at all on the hindwings above. The species is besides considerably larger. Colombia; Peru (Chanchamayo).

C. baroni *Rothsch.* Head and collar metallic green, abdomen above metallic blue, the underside is *baroni*. yellow. Forewings chocolate-brown, costa, and base of the inner margin orange, below the base of the cell a short scarlet stripe. Hindwings dark brown, fringes yellow and orange. A large, cuneiform discal spot, being metallic blue in the proximal half, distally red, extends from the base to the margin. Ecuador.

C. hurama *Bltr.* (22 k) has the forewings marked similarly as in *alonzo*, but the streak in the cell- *hurama*. end is longer. The hindwings are entirely black, with a blue tinge at the base, and broad, yellowish-white fringes. Ecuador, Bolivia, Amazon. — In *subgloriosa* *Stgr.* (22 a) there appear bluish-green, silvery, postdiscal stripes *subgloriosa*. in the cell-spaces.

C. pretiosa *Burm.* Blackish-brown, suffused with metallic blue. Forehips, femora and tibiae inside *pretiosa*. white. Forewings at the base with blue spots; in and below the base of the cell, as well as behind the lower cell-angle there are carmine spots. Hindwings blue. Fringes of both wings white. Expanse of wings: 24 mm. Argentina.

C. perilla *Druce* (23 a). Head and thorax blackish-brown, with bluish-green spots, the abdomen *perilla*. with narrow, metallic green segmental lines. The brown forewings exhibit a bluish-green spot at the base of the costal margin, below the base of the cell, and behind the cell, small red spots. The hindwings are, in the ♀, red in the larger costal halves. Known only from Ecuador.

C. basimacula *Hmps.* (23 a) is distinguished by deep-blue hindwings being bordered with black, *basimacula*. without any red above, whilst it is so beneath; the brown forewings are spotted bluish-green, at the base with a small carmine spot below the base of the cell, beneath extensively blue with a large, red, post-discal spot. The abdomen is of an extremely intensely metallic lustrous light bluish-green, with a white ventral stripe. Fringes of the hindwings white. Amazon, Ecuador.

C. berthia *Druce* (22 k). The body is blackish-brown, with green spots on the head, thorax and legs, *berthia*. the abdomen finely curled in a metallic green. Forewings dark brown, with green stripes at the costal base, carmine stripes below the cell-base. Hindwings suffused with blue, with a carmine spot behind the cell, turning round the lower cell-angle. Expanse of wings: 40 mm. Ecuador.

C. obscura *Druce* (22 k) extremely resembles *chloë*, but the fringes of the forewings are brown, those *obscura*. of the hindwings whitish. The underside is extensively metallic blue, without any red spots. Peru.

C. buckleyi *Druce* (23 a) is one of the largest species, greatly resembling *berthia* above, though *buckleyi*. it is very much distinguished by quite orange-yellow fringes. The abdomen, being blackish-brown above, with silvery green ring-indentations, is beneath entirely golden green. The hindwings exhibit a large red spot behind the cell and 2 sharply defined ones below it. Ecuador and Bolivia.

C. chloe *Druce* (23 a) is much smaller than the preceding, the hindwings exhibit only a small red *chloe*. spot behind the cell at the costal margin. The forewings are beneath not spotted red behind the cell, as is the case in *buckleyi*. Ecuador.

C. agyrtidia *Hmps.* (23 b) is one of the smallest species resembling *Agyrta*, with a large, cuneiform *agyrtidia*. hyaline spot below the cell, and a postdiscal spot being composed of 3 spots, the hindwings being extensively hyaline, with a black border and white proximal margin. Forehead, collar and shoulder-covers spotted white, legs striped white; the abdomen is suffused with blue, and beneath white. Peru (Pachitea); Bolivia.

C. chelidon *Druce* (23 b) is very easily recognizable by the large, postdiscal hyaline spot being *chelidon*. bordered with smalt; the forewings, being otherwise black, exhibit metallic light blue stripes subcostally and on vein 1. The hindwings exhibit a narrow hyaline stripe bordered with blue in, below and behind the cell. The fringes at the apex of the forewing are white. Distributed from Colombia to the Amazon.

C. glaucopoides *Wkr.* (23 b) is smaller than the preceding, the postdiscal hyaline spot of the forewing *glaucopoides*. is not bordered with blue, on the whole somewhat smaller and narrower; the metallic greenish-blue stripes on the innermarginal vein and the subcostal are much narrower. Peru, Venezuela, Amazon.

C. dognini *Rothsch.* Head, antennae, and terminal joint of the palpi black, the rest of the palpi *dognini*. and chest orange-yellow, thorax sooty blackish-brown. Abdomen black, suffused with purple blue, with an

orange anal tuft. Forewings blackish-brown with grey veins. A large, cream-coloured spot behind the cell and a small indistinct one between the median veins; fringes at the apex white, otherwise grey. Hindwings black, suffused with purple blue, fringes white. Length of forewings: 18 mm. Paraná; Paraguay.

girardi. **C. girardi** Dogn. differs from *dognini* by its somewhat smaller size, black palpi being anteriorly white-haired, yellow spots on the shoulders and mesothorax, the abdomen being more bluish-green with white dorsal and lateral dots, and the anal tuft being only beneath white, not orange; collar black, with white dots, laterally white. The spots on the forewings are white. Expanse of wings: 20 mm. Argentina.

perspicua. **C. perspicua** Schaus. Head black, neck red. Thorax and abdomen above dark blue, the latter subdorsally whitish. Shoulder-covers brown, striped white and bordered with blue. Underside white. Legs blue and white with brown tarsi. Forewings black, with a large hyaline area in and below the cell, below and above the lower median vein; behind the cell an oblique hyaline band from the subcosta to the distal margin; above the submedian a lavender-grey stripe. Hindwings hyaline with dark blue veins and margins. Expanse of wings: 35 mm. Bolivia.

hyaloptera. **C. hyaloptera** Dogn. is larger than the preceding, the body very similar, palpal base dark red; thorax and abdomen dorsally striped white. The wings are much more extensively hyaline, of a bluish milky iridescence; there only remain black: uniformly narrow margins and an oblique band at the cell-end extending from the costa to the distal margin between the median veins, as well as the veins with a deep blue lustre. Expanse of wings: 42 to 44 mm. Colombia.

ribbei. **C. ribbei** Druce (23 b) is a larger, broad-winged species, with a black body of an intense blue lustre, and an orange-yellow first palpal joint, hindhead and neck; sides of the forehead, hips and venter white. The intensely lustrous blue forewings exhibit a hyaline band behind the cell, the hindwings show insignificant, small hyaline stripes near the border between the median and radial veins. Panama.

masia. **C. masia** Dogn. (23 b). Black with a blue lustre. The 1st palpal joint, neck and collar carmine; sides of forehead white. Abdomen dorsally white. On the broad forewings there is a hyaline band behind the cell, extending from the lowest subcostal vein to below the lower median vein and turning beneath somewhat round the lower cell-end; the veins traversing it are scaled blue and white. On the hindwings there are traces of small hyaline spots. Between the upper median and middle radial vein the ends of the fringes are white. Expanse of wings: 46 mm. Ecuador.

126. Genus: **Desmotricha** Hmps.

Base of abdomen roughly haired. On the forewings the uppermost radial rises below the upper cell-angle. The cell of the hindwing is long, from the lower cell-angle there rise the 1st median and 3rd radial veins, the middle radial above it. The under surface in the ♂ is covered with rough scent-scales or hair. More than a dozen of mostly brown species marked with yellow transverse spots.

ursula. **D. ursula** Cr. (23 c) is one of the larger species, distinguished by the yellow oblique band of the forewing, extending from the costal margin to the proximal angle; the veins in the basal half are indistinctly striped yellow. The underside of the body is yellow. The under surface of the hindwings is bluish-grey in the inner-marginal half. Widely distributed from Costa Rica through Colombia and Guiana, the Amazon down as far as Sa. Catharina.

trita. **D. trita** Dogn. is much smaller than the preceding, distinguished by the entire black collar and shoulder-covers, the abdomen being lustrous blue above, blackish-brown beneath. On the forewings the veins are not marked yellow; the hindwings exhibit a club-shaped spot between the 2nd median and 3rd radial vein. Expanse of wings: 30 to 31 mm. Colombia; Ecuador.

metapolia. **D. metapolia** Dogn. is allied to *trita*. Thorax and forewings dull black with a somewhat greenish tint; abdomen and hindwings more lustrous blue. The underside of the abdomen is whitish, so is the inner-marginal half of the hindwing beneath. Forewing with a broad, yellow transverse band behind the cell, not touching the costa. Hindwings unmarked. Expanse of wings: 30 mm. Colombia.

nitens. **D. nitens** Rothsch. is distinguished by an intense purple lustre on the thorax and abdomen, the latter being sublaterally striped white. The chest, the inside of the brown legs, the front of the palpi, and 2 small spots on the black head are white. The blackish-brown forewings show a broad, vermilion-reddish oblique band behind the cell from the costal margin to the proximal angle; hindwings with a very intense purple lustre. Length of forewings: 20 mm. Venezuela.

similis. **D. similis** Rothsch. is much larger and has broader wings than *nitens*. The body and the forewings are of a purer black, the veins of the forewings marked lighter, the oblique band is orange-reddish. The hindwings are black in the costal halves, towards the proximal margin sooty grey. Length of forewings: 22 mm. Amazon.

D. imitata Druce (23 b). The blackish-brown body shows a purple blue lustre on the forehead. hips *imitata*. and abdomen. The forewings exhibit a round, orange spot in the cell-end and a square one behind it. On the hindwing there is in the costal half a large, orange spot, in which there is a brown discal streak cohering with the costal margin. Expanse of wings: 40 mm. Ecuador.

D. obliqua Schaus (23 e) exhibits, on the forewing, a yellow oblique band crossing the cell, and *obliqua*. orange-yellow hindwings being very broadly bordered with blackish-brown. Front of palpi white, so is the lower part of the forehead, the upper part being orange, as well as spots on the collar and shoulders, and the posterior margins of the abdominal rings. Venter white. Brazil (São Paulo, Rio de Janeiro).

D. albicincta Hmps. is smaller than the preceding which it greatly resembles, distinguished by *albicincta*. the yellowish-white forehead and equally striped shoulder-covers, and white-curved abdomen; the veins, costa, and submedian fold are striped lighter; the hindwings are more extensively blackish-brown, in and below the cell dusted yellow, with a yellow oblique spot behind the cell. Beneath the bases of the wings are strewn with white. Expanse of wings: 30 mm. Venezuela.

D. klagesi Rothsch. Head orange-reddish, antennae brown. Collar olive; thorax brown, the shoulder- *klagesi*. covers striped and bordered with olive. The abdomen is above blackish-brown, beneath white. Forewings dark brown, subeostally, on the median, submedian fold and inner-marginal vein striped greyish-yellow; behind the cell is a broad, orange-reddish oblique band extending from the costa to the proximal angle. On the hindwings in the ♂ the proximal two thirds are semidiaphanous blackish-grey, the distal third brownish-black; in the ♀ the hindwings are quite brownish-black, in the basal part only slightly diaphanous. Length of forewings: 18 mm. Amazon; Venezuela.

D. perplexa Rothsch. differs from *klagesi* by much broader forewings with a much smaller oblique *perplexa*. band, the hindwings being unicolorously blackish-brown, and the venter brown, not white. Amazon.

D. hoffmannsi Rothsch. differs from *perplexa* by narrower wings. The hindwings above exhibit a *hoffmannsi*. broad, reddish orange-yellow, longitudinal band in the middle, extending from the base to the margin; beneath they are equally marked, with a broad, greyish-white proximal margin. Peru and Bolivia.

D. oecola Dyar, which is known to me only from the description, seems to be allied to *klagesi oecola*. and its allies. Head and thorax brownish black; along the inner margin of the shoulder-covers runs a yellow line across the collar as far as the base of the antennae. Abdomen above bluish-black, beneath more greyish-black. Forewings blackish-brown, the veins towards the base with yellowish stripes, with the usual ochreous-yellow oblique band from the costal margin to the proximal angle. Hindwings bluish-black, beneath at the margin grey. Expanse of wings: 38 mm. Mexico (Orizaba).

D. aurimacula Schaus (23 c). Body blackish-brown, forehead and underside as well as the posterior *aurimacula*. margins of the abdominal rings white; collar and shoulders spotted yellow. The brown forewing exhibits a yellow oblique band behind the cell; the black hindwing a white longitudinal spot in the centre. From Colombia, Venezuela, and French Guiana (Nouveau Chantier).

D. parva Rothsch. (23 c) is the smallest species with narrow brown wings, and a yellow, oval, oblique *parva*. spot on the forewing, partly penetrating into the cell. The under surface is whitish. Venezuela, French Guiana.

D. uniformis Hmps. (23 e) differs from all the other species by the uniformly light yellowish-brown *uniformis*. colour on the body and wings, only the palpal base, forehead, basal joint of the antennae, and throat being carmine like the anal hairing and the posterior margins of the ventral segments; the upperside of the abdomen is somewhat darker brown. From Rio de Janeiro.

127. Genus: **Coreura** Wkr.

A small group of large, magnificently coloured species, rather unlike the *Syntomidae*, and resembling certain *Hypsiidae*. The long palpi are straightly porrect; head and thorax covered with woolly hair. On the forewing the 1st median vein rises from the lower cell-angle, the lower radial above it, the upper radial vein from below the upper cell-angle. On the hindwing the upper median and lower radial vein rise from the lower cell-angle, the middle radial vein above it; the lowest subcostal vein rises before the upper cell-angle. Very peculiar are the secondary sexual marks of the ♂ of some species, consisting of bare, unscaled patches on the under surface of the forewings and being accompanied by peculiar fusions of veins.

Sect. I. ♂ on the under surface of the forewings with bare stripes above and below the 2nd radial, both the upper radial veins being fused in the middle of their course. In the ♀ the 2nd radial is rudimentary.

C. euchromioides Wkr. (23 e). The red collar makes the species well recognizable; the hindwings *euchromioides*. in the ♂ are above quite blue, only beneath provided with a series of small, red, triangular, marginal spots, in

the ♀ the red band of the forewing is broader and extends at the costal margin for some distance towards the base; the hindwings exhibit also above a red marginal band. Colombia; Venezuela.

lysima- **C. lysimachides** Druce (23 d) differs from the preceding by the black collar, white forehips, and the
des. margin of the hindwing being red also in the ♂. Ecuador; Peru.

adamsi. **C. adamsi** Lathy differs from *lysimachides* by the black head, being somewhat red only in the neck, and by the absence of the red marginal band on the hindwings above; only the fringes are carmine. On the forewings the red oblique band at the proximal angle is strongly narrowed and dusted with orange. Fringes at the apex white. Ecuador.

eion. **C. eion** Druce (26 i) is black, on the body suffused with metallic blue; forehips in the ♂ white. Forewings at the base and in the cell striped blue; a broad, orange-yellow band extends from the costal middle to the proximal angle. The hindwings are of a brilliant blue in the basal halves, at the border there is an orange band, not reaching the apex and proximal angle and being expanded to a spot between the median veins. Expanse of wings: 42 mm. Costa Rica, Panama.

Sect. II. ♂ forewings with normal veins, but with 2 bare stripes on the under surface of the forewings.

interposita. **C. interposita** Hmps. Black, with a blue lustre. Palpal base, prothorax, and neck orange, forehead bluish-white. Shoulder-covers, thorax, abdomen, and legs striped white. The forewings are striped white on the submedian fold; behind the cell, between the lowest subcostal and lower median vein, there is a white oblique band. Hindwings of a brilliant metallic blue, fringes white. Expanse of wings: 40 mm. Venezuela.

albicosta. **C. albicosta** spec. nov. (23 d) is recognizable by the snow-white costal margin of the ♂ forewing, which, however, seems to be soon worn off by flying. The head is quite scarlet, also the palpi, except the black terminal joint; forehead, hips and shoulders white. The forewings exhibit a narrow, red oblique band, in which the veins do not appear white; the distal margin of the hindwing is narrow red. Beneath the red bands are somewhat broader than above. In the ♂, the forehead, forehips, shoulders, and costal margin are black. Obtained in numbers of both sexes from Mexico (Presidio, Vera Cruz).

Sect. III. ♂ forewings normal, without any bare stripes.

fida. **C. fida** Hbn. (= *atavia* Hmps.) (23 d). Black with a deep blue lustre; the 2 first palpal joints, vertex and throat carmine. A broad, carmine oblique band behind the cell of the forewing extends from the costa to the proximal angle, growing a little narrower from the lower median vein towards the proximal margin and being traversed by whitish-dusted veins. The hindwing exhibits a broad, carmine marginal band with an undulated, proximal bordering. Expanse of wings: 50 mm. Widely distributed in Brazil. The statement „Mexico“ refers perhaps to *albicosta*.

engelkei. **C. engelkei** Rothsch. differs from *fida* by its smaller size, quite red palpi, red margins of the collar, white chest, and unicolorously brilliant lustrous blue hindwings with red fringes. Length of forewings: 21 mm. North Colombia (Sa. Marta).

hampsoni. **C. hampsoni** Dogn. is distinguished by quite unicolorously black forewings with white fringes at the apex. Hindwings metallic blue, with a fine scarlet marginal line and red fringes. Beneath the forewing shows a broad, red oblique band, the hindwing a broader marginal band. Head black, on the forehead white and bluish, the hindhead a little red. Thorax black; abdomen above deep blue, beneath with a metallic lustre. Palpal terminal joint black, the two first ones black mixed with red. Expanse of wings: 46 mm. Ecuador.

alcedo. **C. alcedo** spec. nov. (23 d) somewhat resembles *Ctenucha virginica* and has a black body being suffused with a bright metallic greenish-blue. The palpi, except the black terminal joint, a stripe between the antennae, the throat, forehips, and neck are orange; of the same colour are beneath the 4 last abdominal rings, the anal hairing, and dorsal spots growing larger posteriorly on the 3 last rings above. The forewings are black, at the base of a bright bluish-green; in the marginal half between the veins with a dull bluish-green lustre. The black hindwings exhibit a very intense, peacock-blue lustre on being exposed obliquely to the light. Fringes of the forewings white, of the hindwings blackish-grey. Under surface like above. Described according to a ♂ without the patria being stated (BANG-HAAS).

128. Genus: **Aclytia** Hbn.

This genus contains a number of mostly dark coloured species with a metallic abdomen which is covered with long hair at the base. The ♂ exhibits a distensible hair-tuft in a fold on the anterior tibiae. On the hindwing the lower cell-angle is very much produced, the discocellular forms an acute angle. The lower median vein rises far from the lower cell-angle, the upper one and the 3rd radial from it on a long pedicle, and the middle radial vein above it.

A. mariamne *Druce* (23 d). Body black, with a blue lustre. Palpal base, hips, and a middle stripe *mariamne* on the venter white. The wings are black, in the basal halves metallie blue, on the hindwing more extensive. The hindwings exhibit an orange oblique band from the costal centre to the proximal angle. Expanse of wings; 38 mm. Colombia.

A. flavicaput *Rothsch.* Head and neck orange, vertex black. Thorax sooty black, shoulder-covers *flavicaput* striped yellowish-grey. Chest and underside of abdomen orange. Abdomen above lustrous greenish-blue with a broad, sooty black dorsal band on the 4 first rings. Forewings brownish-black with lighter veins. Hindwings bluish-black with a white, transparent discal area. Length of forewings: 16 mm. Colombia; Venezuela; Guiana.

A. flavigutta *Wkr.* (= *simulatrix* *Wkr.*) (23 e). Blackish-brown; the front of the palpi, hips, and *flavigutta* a median stripe on the venter are white. The hindhead, collar and shoulders are spotted orange. Abdomen with broad, metallic blue lateral stripes. Forewings blackish-brown with yellowish veins and, in the ♂, round orange discal spot, in the ♀, an oblique band. Hindwings black with hyaline stripes in the disc. Expanse of wings: 34 mm. São Paulo.

A. punctata *Btlr.* (= *heber* *Wkr.*) (23 e) is recognizable by the base of the palpi, forehips and ventral *punctata* side being white. The abdomen is only laterally striped bluish-green, the dorsum remains blackish-brown. The veins of the basal half of the forewing are striped yellowish-grey. The nomenclatural type shows a yellow, small spot at the transverse vein, which is entirely absent in **astigma** *Strand*, whilst it grows to a large, yellow, *astigma* round spot in — **megastigma** *Strand*. Distributed from British Honduras through Guatemala, Costa Rica *megastigma* as far as Pará.

A. petra *Schaus.* Blackish-brown; palpi, sides of the forehead, and hindhead spotted and striped *petra* white. Forehead and lateral spots on the abdomen metallic blue, venter white. Forewings blackish-brown with darker veins. Hindwings hyaline with black veins and margins. Expanse of wings: 34 mm. Peru.

A. klagesi *Rothsch.* (23 e) is immediately recognizable by the subdorsal, black abdominal stripes on *klagesi* the 4 first rings, which are united to a dorsal stripe beginning from the 5th ring. Hips and venter isabel-coloured, forehead metallie blue. The forewings are unicolorously brown. Distinguished from *terra* by the yellowish-white underside. From Venezuela and Bolivia.

A. affinis *Rothsch.* differs from *klagesi* by its purely white chest and underside of the abdomen, *affinis* smaller size, only one black dorsal band on the abdomen, and with a reduced white, only very little transparent disc of the hindwing. Length of forewings: 15 mm. Venezuela.

A. coeruleonitens *Rothsch.* Head and thorax blackish-brown; palpal base and small spots on the *coeruleo-* collar orange; chest and venter white. Abdomen lustrous greenish-blue, the 1st ring above spotted sooty black. *nitens* Forewings brownish-black, hindwings bluish-black with a white, transparent disc. Length of forewings: 16 mm. East Bolivia.

A. hoffmannsi *Rothsch.* (23 e) is recognizable by the orange-yellow basal joint of the palpi, the underside *hoffmannsi* being white. The collar shows laterally a small, orange-yellow spot which may also be absent. Shoulder-covers striped grey; abdomen above blue. The forewings are brown, the veins in the basal half striped yellowish-grey, at the cell-end a round, orange-yellow spot to which, in some specimens, a yellow streak is attached below, which in its further development may grow into a yellow oblique band: **taeniata** *form. nov.* (23 e). — Numerous *taeniata* specimens of every possible transitions from Peru, and also from Cuyaba (Matto Grosso).

A. jonesi *Rothsch.* Head blackish-brown, thorax more greyish-brown, on the shoulder-covers striped *jonesi* yellowish-grey. Neck, distal half of the collar, and a spot at the base of the forewing orange. Chest and venter white. Abdomen sooty black, with lustrous bluish-green lateral spots. Forewings velvety brown with greyish-yellow veins, at the cell-end there is a brilliant orange-yellow spot. Hindwings bluish-black, in the disc hyaline white. Length of forewings: 19 mm. São Paulo; Paraná.

A. reducta *Rothsch.* Head and antennae black; thorax blackish-brown with 2 white, small discal *reducta* spots. Abdomen above lustrous bluish-green with a broad, black dorsal band, beneath white, like the chest. Forewings brownish-black with an orange spot at the cell-end. Hindwings black with a strongly reduced, hyaline white disc. Length of forewings: 16,5 mm. Venezuela.

A. albistriga *Schaus.* Head and thorax black; forehead and shoulder-covers striped white; 1st palpal *albistriga* joint, spots on the hindhead and on the sides of the collar ochreous-yellow. Abdomen above blue, beneath white, like the hips. Forewings black, veins at the base grey; across the cell-end runs a white oblique stripe from the subcosta to the proximal angle. Hindwings blackish-blue with a broad hyaline stripe below the cell; shorter, small hyaline spots are in the cell-end, between the median veins and at the base of the proximal margin. Expanse of wings: 31 mm. Costa Rica.

A. gynamorpha *Hmps.* (= *flavigutta* *Btlr.*) (23 e). Deep blackish-brown, palpal base, forehead, vertex, *gyna-* collar, and hips spotted orange. Abdomen suffused with blue, beneath on the first 6 rings orange-yellow. The *morpha* blackish-brown forewings also in the ♂ exhibit a broad, orange-yellow transverse band, the black hindwings with a blue lustre are hyaline in the disc. French Guiana, Amazon.

- heber.* **A. heber** Cr. (= *halys* Cr., *flaviventris* Möschl.) (23 f), from Mexico to Brazil, differs from *ventralis* by the presence of a round, yolk-coloured discal spot in the ♂, whereas the ♀ has a broad, oblique, yellow band. Besides, the palpal base, 2 spots on the forehead and on the vertex orange; the hips are orange-yellow in both sexes. Of this extremely common insect there are 8 specimens of both sexes before me from Mexico (Orizaba, *insignata*. Misantla), which I denominate — **insignata** ab. nov. (23 f). It has above no traces whatever of the yellow spots; beneath they are usually slightly indicated at the costal margin. The animal thereby greatly resembles *ventralis* and *terra*.
- ventralis.* **A. ventralis** Guér. (= *conspicua* Druce, *lucania* Schaus) (23 f), from Mexico and Central America as far as Panama, has dark blackish-brown forewings, transparent, hyaline hindwings with a greyish-black, irregular border. Vertex, as well as dorsal and lateral spots on the abdomen metallic blue. Collar and shoulders with small red spots. Venter yolk-coloured. In the ♂ the hips are orange-yellow.
- terra.* **A. terra** Schaus (23 f) entirely resembles *ventralis*, but it has no orange-red spots on the collar and shoulders. The subdorsal black colour of the abdomen is united to a broad dorsal stripe on the posterior rings. The ♀ is without the orange colouring of the hips and ventral side. *klagesi* is similar, but its underside is isabel-coloured. From Brazil and Paraguay.
- bractea.* **A. bractea** Möschl. (23 f). Anterior body and wings blackish-brown. Palpal base, sides of forehead, hindhead, shoulders, throat, and hips white. Abdomen above golden green, 1st ring and last ring, as well as dorsal spots black; the venter exhibits a white median stripe. Hindwings with a blue lustre and hyaline stripe in, below and behind the cell. Expanse of wings: 36 mm. Surinam.
- signatura.* **A. signatura** Wkr. (23 g) differs from all the species known by the orange abdomen. Thorax and wings are uniformly brown, the hindwing transparent in the disc. Palpal base, vertex, collar, and forehips spotted orange. West Indies (?).
- pydna.* **A. pydna** Druce. Anterior body dark brown, forehead and hips white; on the head, on each side a small, yellow spot. The abdomen is above brilliant metallic blue, laterally brown, underneath white. Forewings dark brown, the veins of the base yellowish; a broad, yellow oblique band crosses the forewing behind the middle from the costal margin to the proximal angle. Hindwings black with a hyaline stripe in the disc. Expanse of wings: 32 mm. Ecuador.

129. Genus: **Procalypta** Btlr.

Thorax and base of abdomen with thick, woolly hair. Veins on the forewings without any peculiarities; the costal margin of the hindwing is bent strongly convex before the middle; the cell is very long, the upper median and lower radial vein rise from the lower cell-angle, the middle radial above it. Only one beautiful, large species.

- subcyanea.* **P. subcyanea** Wkr. (23 g). The anterior body is black with white spots, the abdomen lustrous metallic blue, the two last segments above, the 4 last ones beneath deep carmine. The black forewings exhibit large, white, diaphanous spots in the cell-end and below the middle of the cell, and 2 below and above the upper radial. The hindwings being suffused with blue show hyaline spots in, below and behind the cell; the latter are absent in — subsp. **victorina** Druce (23 g) from Costa Rica and Panama. The nomenclatural type occurs in Mexico.

131. Genus: **Uraga** Wkr.

Siphon well-developed; 2nd palpal joint obliquely rising, the 3rd long and straightly porrect. Tibiae with short spurs. On the forewings, the upper radial rises far behind the upper cell-angle; the 3 lower subcostal veins are long-pedicelled, the 2nd subcostal vein from the upper cell-angle, the 1st freely from the cell. The cell of the hindwing is very long, the lower median vein comes about from the middle of the median, the upper one from below the lower cell-angle, from which both the lower radial veins rise.

- haemorrhoea.* **U. haemorrhoea** Wkr. (23 g). The head and the underside of the 3 last abdominal rings are carmine; thorax dark brown, the abdomen metallic blue. Forewings with a narrow, white, postdiseal oblique band bordered with yellow. Hindwings grey with a metallic blue lustre, in the disc transparent. Expanse of wings: 42 mm. Jamaica.
- rubricollis.* **U. rubricollis** Hmps. The body is brownish-black, on the abdomen above lustrous blue; palpal base and neck scarlet. Sides of forehead, hips and venter whitish. On the forewing, a white oblique band runs across the cell-end from the subcostal to the lower median vein. Hindwings suffused with metallic blue. Expanse of wings: 40 mm. Colombia.
- trifida.* **U. trifida** Dogn. Head and thorax brownish-black. Palpal base and border of the shoulder-covers scarlet; the front of the palpi, sides of the forehead, a central spot on the vertex, a dorsal line on the thorax

and the hips are white. The borders of the shoulders-covers, dorsal and lateral lines on the abdomen, as well as the venter are yellowish-white. Abdomen above with a blue lustre. Forewing in the basal half brownish-grey with darker veins, in and below the cell intermixed with orange scales, in the distal half brownish-black with 3 longish, light subapical spots between the upper radial and lowest subcostal vein. Hindwing in the costal half white, otherwise bluish-black. Expanse of wings: 32 mm. Peru.

131. Genus: **Gangamela** Wkr.

Distinguished from the preceding genus by the shorter, rising palpi, the abdomen being at the base above provided with rough hair, and lateral tubercles. On the forewings, the upper radial rises from the upper cell-angle, only the 1st subcostal vein comes freely from the cell. On the hindwings, the middle radial vein rises from above the lower cell-angle.

G. saturata Wkr. (23 g). Body black, front of the palpi, forehead, spots on the collar and shoulders, *saturata*, as well as stripes on the shoulder-covers and legs are white; narrow lateral lines and broad subdorsal stripes on the abdomen are likewise white. The basal half of the black forewing and an oblique spot behind the cell are yellow; the same is the case on the costal half of the hindwing; the proximal half, the distal margin and apex are black. Expanse of wings: 36 mm. Brazil.

G. ira Druce (26 i) has a black body, being spotted metallic blue on the head and thorax, with *ira*, metallic blue bands on the abdomen. Anterior femora striped white. Forewings black, with blue spots at the base of the proximal margin; in the submedian area, from the base to the margin, there extends a earmine longitudinal band bending down distally to the proximal angle. Hindwings with a red apical spot. Expanse of wings: 34 mm. Panama (Chiriqui).

132. Genus: **Euagra** Wkr.

Medium-sized species of a magnificent blue lustre, with hyaline spots on the wings, characterized by the lower radial veins rising on a long pedicle from the long, narrow cell of the hindwing; the upper radial of the forewing rises from the upper cell-angle.

E. caelestina Cr. (= *interclusa* Wkr.) (23 g). The large hyaline spot extends still beyond the upper *caelestina*, median vein, so that it is thus intersected by the vein. The first palpal joint, vertex and neck red. French Guiana, Amazon.

E. cerymica Druce (23 h) is recognizable by the earmine head. By the lower median vein rising *cerymica*, before the middle of the cell, the lower base of the large hyaline spot, lying on the said vein, almost becomes parallel to the proximal margin. Ecuador, Panama.

E. angelica Btlr. (23 h) greatly resembles *cerymica*, but has a black head, spotted metallic blue; *angelica*, the sides of the forehead are white. The ventral side of the abdomen is white. From Colombia and Ecuador.

E. delectans Schaus greatly approximates the preceding; is somewhat larger and different by the *delectans*, red palpal base, the forehead being isabel-coloured, the vertex and neck carmine; the abdomen is above of a deeper bluish-black. Expanse of wings: 34 mm. Costa Rica.

E. chica Hmps. (23 h). In this species the lower median vein of the forewing rises almost at the base, *chica*, whereby the hyaline spot grows extremely long, its lower side exactly parallel to the proximal margin. The head is black except the white forehead. Shoulder-covers and abdomen with white stripes. Peru and Bolivia.

E. haemanthus Wkr. (23 h). In this species and the two following ones, by the lower median vein *haemanthus*, only rising behind the middle of the cell, the hyaline spot is removed more towards the margin and is placed more obliquely; discernible from *azurea* by the carmine head and first palpal joint, the forehead being red, too. The fringes are dark. A common species, from Mexico, Guatemala, Costa Rica as far as Panama.

E. azurea Wkr. (23 h) has orange-yellow spots behind the eyes and in the neck, as well as on the *azurea*, palpi. The lower median vein rises behind the middle of the cell, the hyaline spot is, therefore, small. On vein 1 there is a white streak, as well as on the middle of the dorsum of the abdomen. Brazil (Santos).

E. klagesi Rothsch. The head is white, the vertex black; neck and the 2 first palpal joints carmine, *klagesi*, the terminal joint black. Thorax black with a blue lustre, abdomen of a brilliant deep blue, a dorsal line and the sides of the 1st ring lavender-grey; chest and venter white. Forewings black with a deep blue lustre. Subcostal area in the first fifth striped lavender-grey; in the cell there is a transparent bluish-white spot, a larger one between the median veins, and a smaller one above the upper median vein; fringes at the apex white. Hindwings like in *azurea*. Length of forewings: ♂ 21 mm, ♀ 17 mm. Surinam.

- caerulea.* **E. caerulea** Dogn. (23 i) is on the head quite black and blue without any red or orange. Forewings blackish-brown with a small, triangular, diaphanous spot above the base of the lower median vein. Hindwings with a metallic blue lustre and a hyaline stripe below the cell and above the base of the lower median vein. The body is unicolorously black, suffused with blue, the venter not white. Forehips whitish. Expanse of wings: 32 mm. Ecuador.
- splendida.* **E. splendida** Btlr. (23 h) exhibits, like most of the *Agyrta*-species, beside the hyaline spot of the basal half, yet a subapical hyaline spot between the radial veins. The first palpal joint, vertex and neck are red, the forehips and venter white. Brazil (Sa. Catharina).
- intercisa.* **E. intercisa** Btlr. (= auxo Wkr.) (23 i) differs from the following by the white venter and forehips. The hyaline spot in the lower part of the cell of the hindwing is absent.
- fenestra.* **E. fenestra** Wkr. (23 i) greatly resembles *intercisa*, and the hyaline spots on the forewings are the same. It is discernible by the black venter and hips; besides, the hyaline spot of the hindwing is much more extensive by another one being situate also in the lower part of the cell. Brazil.
- latera.* **E. latera** Druce (23 i) is the largest and most beautiful species, greatly deviating from the general type by only one large, oblique hyaline spot situate behind the middle, just cutting yet a piece off from the cell-apex. The forewings exhibit radiantly blue stripes at the costal margin and above vein 1. The hindwings are black with a blue lustre, without any hyaline spots. From Colombia, Ecuador, and Brazil.

133. Genus: **Mydromera** Btlr.

Only one, rather large species. The long cell of the hindwing sends forth the lower median vein long before the lower cell-angle, also the upper one rises before it, whereas the lower radial veins stand only on a short, common pedicle and rise from the corner. On the forewings, the upper radial vein rises from below the upper cell-angle.

- isthmia.* **M. isthmia** Fldr. (= notochloris Bsd., nolkeni Stgr.) (23 i). This beautiful, large species, being distributed from Mexico to the Amazon, is of a deep velvety black. The forewings exhibit distally an oblique hyaline spot and a metallic blue stripe above vein 1, the hindwings a narrow hyaline stripe below the cell as far as near the border. Fringes at the apex of the forewing and at the anal angle of the hindwing white. Palpi, forehead, vertex, collar, shoulder-covers and legs spotted metallic greenish-blue; abdomen with blue dorsal and lateral stripes, underneath white.

134. Genus: **Micragra** Hmps.

Distinguished from the preceding genus by the shorter palpi, broader and shorter forewings, on which the lower radial veins rise on a short pedicle; the upper one comes from the upper cell-angle or also from beneath (*ochrea*). On the forewings, the upper median vein comes from the same place with the two lower radials.

- sanguiceps.* **M. sanguiceps** Hmps. (23 i). Blackish-brown; 1st palpal joint, vertex and neck carmine, forehead blue, margined with white. Collar, shoulder-covers, metathorax, chest, and legs spotted metallic bluish-green, abdomen above suffused with bluish-green. Forewing at the base of the inner-marginal vein bluish-green. Between the median veins is a cream-coloured spot extending yet for some distance below the lower median vein; fringes at the apex white. Hindwings blackish-brown. Expanse of wings: 28 mm. Brazil (Lake Iguarazu).
- borealis.* **M. borealis** Rothsch. greatly resembles the preceding and differs at once by the entirely white underside of the body. Thorax lustrous green, only the terminal halves of the shoulder-covers are blackish-brown. The abdomen is above lustrous green with a broad, blackish-brown dorsal band except the entirely green 1st segment. On the forewings the creamy white spot extends to the proximal angle. The blackish-brown hindwings exhibit in the lower half of the wing an oval white spot, the inner-marginal vein is metallic-green. Length of forewings: 14 mm. Venezuela.
- ochrea.* **M. ochrea** Hmps. (23 k). Body ochreous-brownish, neck orange, anal tuft yellow. Forewings with darker-striped veins; in the middle of the cell and on the transverse vein dark dots, being connected by a streak on the discal fold; from the lower cell-angle an oblique, indistinct line runs to the proximal margin; behind an oblique, curved postmedian, in the marginal area, there are dark streaks in the cell-spaces. The thinly scaled hindwings are whitish, at the border blackish-brown. Expanse of wings: 30 mm. Brazil (Rio Grande). The species greatly resembles *Atyphopsis obscura* (21 b).

135. Genus: **Mevania** Wkr.

Distinguished from the preceding by the lower radial veins of the forewing rising unpetioled, whereas the upper one comes from far below the upper cell-angle; on the hindwings, the upper median vein comes from below the lower cell-angle which sends forth both the lower radial veins. Female antennae doubly short-combed.

M. quadricolor Wkr. (23 k). Blackish-brown; palpal base and neck orange; head and thorax spotted *quadricolor*. metallic blue. Abdomen with blue transverse bands, beneath whitish. The forewings are metallic green at the base; the centre is crossed by a broad, yellow transverse band. Hindwing with a yellow oblique spot from the costal centre to behind the lower cell-angle; base of the median blue. Expanse of wings: 36 mm. Venezuela; Ecuador.

136. Genus: **Paramevania** gen. nov.

It forms the transition between *Mevania* and *Parastatia*, to the latter of which it is closely allied in the veins. Siphon well developed. Palpi slender, erect, projecting beyond the vertex. Antennae doubly combed with rather short dents; tibiae with rather long spurs, base of abdomen roughly haired. On the forewings, the lower median vein rises from behind the middle of the median, the upper one before the lower cell-angle, from which the 2 lower radial veins proceed on very short pedicle. The upper radial vein comes from far below the upper cell-angle, the 1st subcostal freely from the cell. Cell of the hindwing rather long, the 1st median vein from below the lower cell-angle, the middle radial vein, being proximally strongly curved, above it. The subcostal vein rises before the upper cell-angle.

P. inconspicua spec. nov. (23 k) is a unicolorously dull greyish-brown insect. Neck, throat and *inconspicua*. base of palpi orange-yellow. The first abdominal rings above with a slight slate-blue lustre. At the cell-end, an entirely faded, darker median band crosses the forewing from the costa to the proximal margin. The hindwings are of a somewhat greyer tinge with a very feeble purple lustre. Expanse of wings: 29 mm. A ♂ from BANG-HAAS, the patria not being stated.

137. Genus: **Microgiton** Fldr.

Very near to *Mevania*; palpi longer and more slender, more porrect; tibiae with very short spurs. Female antennae doubly serrate-dentate. On the forewings, the upper median vein and the 2 lower radial veins are all separated. On the hindwings, the 1st median and the 3rd radial veins rise on a joint pedicle from the lower cell-angle, the middle radial vein proceeds above it.

M. submacula Wkr. (= *selene* Fldr.) (13 k). Blackish-brown; hips and venter whitish. Veins of the *submacula*. forewings striped yellowish. Hindwings light yellow, the distal and proximal margins broadly black. Expanse of wings: 30 mm. Venezuela; Colombia; Amazon.

138 Genus: **Hyparphara** Hmps.

Differs from the preceding merely by the uppermost radial vein of the forewing rising from the upper cell-angle. Male antennae doubly combed.

H. junctura Wkr. (= *cingulosus* Fldr.) (23 k). Body blackish-brown, anteriorly with single, light *junctura*. yellow hairs; forehead spotted white. The abdomen exhibits square, light yellow, small subdorsal spot; the venter is banded white. At the cell-end the forewing exhibits a yellow oblique spot. Hindwings with yellow stripe-shaped spots at the costa, in the cell and at the proximal margin. Expanse of wings: 34 mm. Colombia.

139. Genus: **Parastatia** Hmps.

Siphon well developed; the erect palpi reach the vertex; antennae doubly combed. Abdomen on the last segments laterally and at the end with hair-tufts. On the forewings, the 1st median vein and the two lower radials rise all separated. The upper radial comes from below the upper cell-angle; all the subcostal veins rise on a joint pedicle. On the hindwings, all the veins rise separated; the subcostal vein proceeds far before the upper cell-angle.

P. parnassia Möschl. (23 k) has a black body with a deep blue lustre. Front of the palpi, sides of *parnassia*. the forehead, throat and spots on the shoulders, chest, hips and legs white. The abdomen is spotted white above, laterally and sublaterally; the anal tuft carmine. Forewings hyaline with broad black margins, apical spot and discal band being fused with an inner-angular spot; in the broadly blackish-blue base of the proximal margin there is a whitish-blue spot. Hindwings hyaline with black veins, a black spot in the base of the cell, and a brightly lustrous blue border. Expanse of wings: 40 mm. Surinam.

140. Genus: **Agyrta** Hbn.

The species look like the *Euagra*-species and are discernible by the unpetioled course of the two lower radial veins of the hindwing. On the forewing, the lower radials do not rise from the same place, but separately, the upper one from below the upper cell-angle, the 3rd subcostal vein rising nearer to the margin than the 5th.

- dux.* **A. dux** Wkr. (= *aestiva* Blr., *phylla* Druce) (24 a) is one of the largest species, black with a deep blue lustre and large hyaline spots, one of which on the forewing extends from the base almost to the proximal angle. Palpal base and sides of the neck are carmine. Honduras, Guatemala, Panama, Venezuela, and Sa. Lucia, also from Santos. — In *superba* Druce the hyaline spot of the hindwing is narrower, the part in the cell being absent altogether.
- micilia.* **A. micilia** Cr. (24 a) is smaller than the preceding and the proximal hyaline spot is shortened, does not extend as far as the base, but only to a little behind the rise of the lower median vein; the subapical hyaline spot only extends down as far as the 3rd radial. Widely distributed, from Panama; Guiana; Brazil, Ecuador.
- chena.* **A. chena** Druce (23 k) has a black head; palpal base and vertex are carmine. The inner-marginal area of the forewing is blue, on vein 1 striped white. The hyaline spot comprises the lower cell-end, a narrow, small stripe below the lower median vein and a larger spot above it; a subapical hyaline spot is between the radial veins. From the Amazon. — The Bolivian form: **garleppi** Rothsch. (= ab. 1. *Hmps.*) is distinguished by somewhat larger hyaline spots, particularly the submedian spot extending to the base of the forewing, the light blue stripe on the inner-marginal vein being longer and broader, too.
- flavitineta.* **A. flavitineta** Hmps. (24 a), by the arrangement of the spots of the forewing, entirely resembles *chena garleppi*, but the spots are tinged yellow, the whole animal being larger and the hindwings of a more radiant light blue. Bolivia.
- auxo.* **A. auxo** L. (24 a). Black, suffused with blue. The 1st palpal joint and the vertex carmine; forehead white. Thorax and legs striped white. Abdomen with dorsal and lateral white stripes and with a white underside. Forewings black, below the base of the cell blue, the inner-marginal vein striped white. From the middle of the cell above the lower median vein to near the distal margin there extends a cuneiform, hyaline oblique spot; above it is an elliptic, white oblique spot. Hindwings at the proximal margin whitish with a hyaline stripe below the cell almost as far as the border. Expanse of wings: 36 mm. Venezuela; Surinam; Pará.
- bifasciata.* **A. bifasciata** Rothsch. Head blackish-brown, laterally white, vertex and neck scarlet. Thorax and abdomen blackish-brown, suffused with a lilac-blue, and with white median and lateral lines. Forewings sooty blackish-brown; the proximal half of the inner-marginal vein striped lavender-grey. The middle of the cell is crossed by an oblique hyaline band from the subcosta to two thirds of the length of the lower median vein; a similar band is behind the cell between the radial veins. Hindwings brownish-black, suffused with blue, with a median hyaline band. Length of forewings: 19 mm. British Guiana.
- klagesi.* **A. klagesi** Rothsch. Head blue, vertex and antennae black. Thorax velvety, on the collar and shoulder-covers lustrous bluish-green spots. Chest snow-white. Abdomen black, dorsally bluish-grey, laterally spotted bluish-green. Forewings velvety black, on the subcosta and inner-marginal vein towards the base striped bluish-green; at the cell-end there is a white, diaphanous, oblique spot extending from the subcosta to $\frac{3}{4}$ of the length of the lower median vein; at the apex a white spot. The ♀ has shorter and more obtuse wings. Length of forewings: ♂ 19 mm, ♀ 17.5 mm. Venezuela.
- abdominalis.* **A. abdominalis** Rothsch. Head and thorax black with white dots, abdomen suffused with blue, with greyish-white subdorsal lines, beneath white. Forewings black with a broad, lustrous blue longitudinal band above the inner-marginal vein, a hyaline spot in the cell and a larger one below the median; behind the cell is a hyaline oblique spot extending from the subcosta to the border on the 1st median vein. Hindwings black with a lustrous blue proximal margin and hyaline discal band. Length of forewings: ♂ 15 mm, ♀ 17 mm. Guiana; Venezuela.
- ockendeni.* **A. ockendeni** Rothsch. looks very much like *abdominalis* on the wings. The whole body, however, is above unicolorously lustrous blue; beneath the chest is sooty black, the venter white with a dark median band. The basal part of the forewing is more extensively radiant blue, the hindwings, beside the brilliantly metallic blue inner-marginal area, all over covered with blue. Length of forewings: 17 mm. Peru.
- semihyalina.* **A. semihyalina** Rothsch. Body sooty black, on the forehead and vertex, collar and shoulder-covers spotted white; abdomen with dorsal and sublateral white stripes. Forewings sooty black with a broad, semi-diaphanous white band above the inner-marginal vein to $\frac{3}{5}$ of its length, and an oblique, semi-diaphanous postdiscal spot extending from the subcosta to the upper median vein at the border. Hindwing black with a very broad, semi-diaphanous, white median band. Length of forewings: 16 mm. Amazon.
- monoplaga.* **A. monoplaga** Druce (24 a) is easily recognizable by the very large hyaline spot of the hindwing, filling up the distal two thirds of the cell and expanding above and below the lower median vein; there is no subapical hyaline spot. The hindwings are blue without any hyaline spots. Palpal base, throat, and vertex carmine. Ecuador.

A. pandemia Druce (24 b) resembles *monoplaga*, but it has a considerably smaller hyaline spot being *pandemia*. placed more towards the margin. The hindwing exhibits a discal hyaline spot. The head is black and white, not red. Amazon (Pará).

A. rubroanalis Rothsch. Body sooty black, suffused with blue; the last abdominal ring carmine with *rubroanalis*. a black anal tuft. The forewing is in the basal half hyaline with a lustrous blue costa and proximal margin; behind the cell there is a very large, hyaline oblique spot from the subcosta to the border as far as the upper median vein. Hindwings are not mentioned in the description of this species having remained unknown to me. Length of forewings: 17 mm. West Ecuador.

A. mathani Rothsch., unknown to me, according to the description, most exactly resembles *Cyanopepla mathani*. *chelidon* Druce. (23 b). Described from Colombia and Ecuador.

A. porphyria Cr. (= *cryptolenca* Wkr.) (24 a) is a large species with preponderantly black forewings *porphyria*. and a greenish-blue stripe being usually broadly interrupted by black in the middle, in the submedian fold. The hyaline spot outside on the 3rd radial is divided in two parts by the black ground-colour entering it in a tooth-like fashion. The entirely black hindwings are lustrous blue on the median and its veins; between the median veins there are indistinct, whitish, blurred spots. From Venezuela, Guiana, Brazil, Bolivia. — **rothschildi** *rothschildi*. *subsp. nov.* (24 b) is distinguished by the green submedian stripe being very broad and extending as far as the margin; on the hindwings there appear distinct hyaline spots below the median. Before me from Peru (Tarapoto).

A. conspicua Schaus. Head earmine, as well as the palpi with a black terminal joint. Body above *conspicua*. dark blue; above, on the abdomen, a whitish dorsal line, the venter dusted with whitish. Forehips white, wings bluish-black, at the costa and proximal margin of a brilliant metallic blue. Forewing with a large hyaline area in and below the cell, extending near the distal margin. Hindwing with a long hyaline stripe from the base above and below the median as far as near the distal margin. Expanse of wings: 45 mm. Costa Rica.

A. birchi Rothsch. Head white, on the vertex black. Thorax brownish-black; abdomen blue with *birchi*. an obsolete, interrupted, white median line. Forewing velvety black with a white oblique stripe through the middle from the subcosta towards the proximal margin as far as the middle between the median and inner-marginal vein. Fringes at the apex white. Hindwing velvety black with white fringes at the apex and a broad, drab proximal margin. Length of forewings: 14 mm. Minas Geraes. — **borealis** Rothsch. is larger, and the *borealis*. proximal margin of the hindwing is white. Length of forewings: 16 mm. Venezuela. — **pumila** Rothsch. from *pumila*. the Rio Madeira is smaller, with narrower and more pointed wings, the proximal margin of the hindwing being likewise white. Length of forewings: 12 mm.

A. pseudodelphire Rothsch. Head and thorax blackish-brown, shoulder-covers striped white. Abdomen *pseudo-* above brown, suffused with blue, beneath with sublateral white stripes. Chest yellow-reddish. The forewings *delphire*. are purple brown, on the subcosta towards the base striped white, with a white, postcellular oblique band from the subcosta to the proximal angle. Hindwings black with a blue lustre and a white discal band from the base as far as half the length of the lower median vein. The ♀ has shorter and much broader wings, a white forehead and inner-marginal vein of the forewing. Length of forewings: ♂ 20 mm, ♀ 18 mm. Venezuela.

A. buchwaldi Rothsch. This species having remained unknown to me, according to the description *buchwaldi*. exactly resembles *Cacostatia flaviventralis* (23 c), only a little smaller. Described from Colombia, Ecuador, Bolivia.

A. acutipennis Rothsch. greatly resembles *nitens*, but the apex of the forewing is extended into a *acutipennis*. sharp point. Head, thorax, and abdomen are above purple blue; chest sooty black, venter white. Wings marked as in the preceding, but the postdiscal hyaline spot extends farther down as far as the lower median vein. Length of forewings: 21 mm. Colombia (Bogotá).

A. nitens Rothsch. Body of a brilliant deep blue; a spot on the forehead, the chest and venter are *nitens*. white. Forewing of a brilliant deep blue, at the base above the inner-marginal vein and below the subcostal hyaline, a hyaline oblique spot extends from the subcosta at the cell-end as far as the border. Hindwings hyaline with a broad distal margin and veins of a brilliant blue colour. The ♀ is blacker on the dark places of the wings, suffused with blue. Length of forewings: ♂ 20 mm, ♀ 19 mm. Colombia; Ecuador and Peru.

A. germana Rothsch., at first sight greatly resembles *nitens*, but the dark margin of the hindwing *germana*. extends at the proximal margin farther towards the base and is broader on the median. The species is smaller, with narrower wings and may immediately be distinguished by white spots on the collar and base of the shoulder-covers, as well as by subdorsal and sublateral, lavender-grey lines on the abdomen. From Surinam and Venezuela.

A. pulchiformis Rothsch. Head black, forehead spotted white; thorax and abdomen blue; shoulder- *pulchri-* covers light bluish-grey; chest and venter greyish-white. Forewings black with a blue lustre; above the inner- *formis*. marginal vein a large hyaline spot extends as far as $\frac{4}{5}$ of its length; behind the cell there is a hyaline oblique spot from the subcosta to the margin on the lower radial. Hindwings hyaline with a black margin suffused with blue, being very much broader at the proximal margin and apex. Length of forewings: 14 mm. Peru.

- vitrea*. **A. vitrea** *Schaus* (24 b) on the forewing has two extremely large hyaline spots, so that only the margins, an apical spot and an oblique band from the costal margin across the cell-end and along the upper median vein as far as the margin remain black; the hindwings are entirely hyaline with black veins and margins with a blue lustre. The first palpal joint and the neck are carmine. The blue abdomen is dorsally striped white, underneath entirely white like the hips. Described from Costa Rica, a couple is before me also from Peru (Marcapata), thus apparently widely distributed.
- albisparsa*. **A. albisparsa** *Hmps.* (24 b) is distinguished by a particularly narrow shape of the wings and by the black forewings being peculiarly densely strewn with white scales; in some places these scales are strewn more densely, so that there appear 3 indistinct transverse lines. The hyaline spot is strewn with brownish. The neck is orange. Sa. Catharina.
- varuna*. **A. varuna** *Druce*. Head and thorax black, neck and palpi carmine, shaft of antennae white, the teeth of the comb black. Collar black, bordered with white. Abdomen above metallic blue, beneath white; across the thorax and abdomen extends a white dorsal stripe. Forewing black with a semi-diaphanous, white band from the base as far as the cell-end; near the apex a white spot. Hindwings yellowish, at the apex and distal margin black, with a brilliant blue lustre. Expanse of wings: 40 mm. Peru.
- lacteicolor*. **A. lacteicolor** *Rothsch.*, according to the description, greatly resembles *varuna*. Head black, laterally white; palpal base and neck carmine. Antennae white with black serrations. Thorax sooty brown, abdomen blue, both with a white median band. Underside white. Forewings black; a small, semi-diaphanous, longitudinal spot in the cell, a larger one at the basal half of the lower median vein are cream-coloured; on each side of the middle radial a semi-diaphanous, white spot. The wings are in the basal halves reddish cream-coloured, distally black, suffused with blue. Length of forewings: 23 mm. Peru.

141. Genus: **Phara** *Wkr.*

Few smaller species being above all distinguished by long, straightly porrect palpi with the terminal joint turned downward. On the forewings, the upper median vein rises close at the lower cell-angle, the lower radial veins from it, the 1st radial from the upper cell-angle, the 1st subcostal vein from the cell. On the hindwings, the long cell sends forth the upper median vein and the lower radial veins from its lower cell-angle, the 1st radial and the subcostal vein from the upper one.

- flavicosta*. **Ph. flavicosta** *H.-Schäff.* (24 b) has a black body with orange-yellow shoulder-covers and spots at the penultimate abdominal ring; $\frac{3}{4}$ of the costal margin of the brown forewings are orange-yellow, too. The transparent hindwings are broadly bordered with black; the proximal margin exhibits a tuft of long, light brown hair. Brazil (São Paulo; Rio Grande do Sul). — **missionum** *Jørgensen* from Argentina has the two penultimate abdominal rings entirely whitish-yellow. Taken in September on blossoming Eupatorium, in day-time.
- sanguipalpis*. **Ph. sanguipalpis** *Dogn.* Vertex, neck and palpi scarlet except the black terminal joint; forehead black, with metallic green spots. The other part of the body is black, suffused with a lustrous bluish-green on the abdomen, hips and femora. Forewings brownish-black, hindwings bluish-black. Expanse of wings: 27 mm. Peru.
- trivittata*. **Ph. trivittata** *Wkr.* (24 c) is blackish-brown on the anterior body and forewings; palpal base and hindhead carmine. Abdomen lustrous blue with a white dorsal stripe like on the metathorax; beginning from the 4th ring with white lateral stripes, and the 3 last rings underneath white. On the forewing, in the cell-end, there is a small, square, white spot, and below the cell between the lower radial veins a larger, longish one. Costal and proximal margin towards the base white. Hindwings black, with a bright blue lustre with a large, diaphanous white discal spot extending as far as the base. Expanse of wings: 40 mm. Patria unknown.
- nycthemeroides*. **Ph. nycthemeroides** *Wkr.* (24 c) greatly resembles the preceding; distinguished by the underside of the hindwings, the costal margin of which is white from the base to the middle. Patria unknown. The original example lacks the abdomen.

142. Genus: **Ptychotrichus** *Schaus.*

Only 2 large species of a robust structure with long, narrow forewings with a very oblique distal margin and small, triangular hindwings. Base of abdomen roughly haired. Proboscis well-developed; the erect palpi extend beyond the vertex. The male antennae doubly short-combed. On the forewings, both the lower radial veins are petioled; all the subcostal veins are on a joint pedicle. On the hindwings, the lowest radial vein is absent; the 1st median vein and the middle radial come from the same place from the lower cell-angle. In the ♂ the proximal angle is pointed, an inner-marginal fold contains a tuft of long hair.

P. zeus *Schaus* (24 c). Head and thorax blackish-brown with an orange-yellow neck; forehips white; *zeus*. on the metathorax an orange dot. Abdomen black with blue subdorsal spots and single orange ring-indentations. The 3rd and 4th rings are underneath banded white, the 2 next ones sublaterally spotted. Forewings blackish-brown with lighter veins, dull olive-yellow dentate lines before the middle and before the margin with very long, sharp teeth; in the middle of the cell there is a triangular, at the cell-end a square, olive-grey spot; behind the cell 2 similar ones above and below the 1st radial. Hindwings diaphanous white with black veins and a deep bluish-black, broad border. The inner-marginal hair-tufts are ochreous-yellow. Expanse of wings: 54 mm. Venezuela.

P. elongata *Schaus*. Anterior body brown, shoulder-covers striped orange; a reddish olive-yellow *elongata*. stripe extends from the base of the antennae to the shoulders. Abdomen orange, with black bands, the last ring all black; the first 4 rings exhibit above a broad, brown dorsal band narrowed on the others to an interrupted dorsal line; underside white. Forewings light grey; costa, apex and proximal margin dark brownish-grey, the veins light reddish-brown. In the middle, in and below the cell there is a large, round, dark brownish-grey spot bordered with whitish-grey; at the cell-end there is a similar, irregular spot; a similar line extends from the subcosta towards the 1st median vein and borders on the darker apex. Before the margin a dentate line above the middle radial; in the marginal area between the veins there are darker streaks being bordered with an isabel-colour below R². Hindwings hyaline, veins and margins black. Expanse of wings: 43 mm. Brazil (Rio de Janeiro).

143. Genus: **Delphyre** *Wkr.*

Rather large, mostly dark coloured species. Cell of the hindwing very long, the lower median vein rises from below the cell-angle sending forth the upper median vein and the middle radial, whereas the upper radial is absent. A costal vein may occasionally be present, though only traceably so.

D. hebes *Wkr.* (*tristis* *Schaus*). Pale fawn-coloured; hindwings blackish with a light brick-coloured *hebes*. costal margin; the species is rather small. Described from Honduras.

D. brunnea *Druce* (24 c) is dark red-brown on the body and forewings; palpi in front and chest grey. *brunnea*. The forewings show traces of darker, undulate, transverse lines before and behind the middle and a discal luna. Hindwings blackish-brown, in the disc hyaline. Expanse of wings: 30 mm. Brazil (Espiritu Santo).

D. rubricincta *Hmps.* (24 c) has whitish, in some places brownish forewings, with black spots; the *rubricincta*. hindwings, being hyaline in the disc, are bordered with black. Anterior body greyish-brown; spotted black, hindhead with 2 orange spots. Abdomen above blackish-brown, curled carmine, venter with whitish bands. Panama.

D. minuta *Möschl.* (24 d). Head and thorax grey, spotted black, the neck and abdomen above carmine, *minuta*. underneath white; the last ring black. Forewings grey, quite similarly arranged as in the preceding, spotted black. Hindwings hyaline with black veins and margins. Expanse of wings: 26 mm. Venezuela; Surinam. — *Subsp. nov. extensa* (= subsp. I. *Hmps.*) from Bolivia (Rio Songo) has much more extensively black-spotted *extensa*. forewings.

D. maculosa *Hmps.* (24 c). Head grey, palpi, antennae and a spot on the vertex are black, the hindhead *maculosa*. orange. Thorax black, collar and shoulder-covers grey. Legs grey and black with yellow hips. The abdomen is yellow, on the first 4 rings with large, coherent, black dorsal spots, and on the 2 next ones with smaller ones; the 2 last rings are black with a grey anal tuft. Forewings greyish-brown with black spots arranged similarly as in *rubricincta*. Hindwings brownish-black, at the base whitish. Expanse of wings: 40 mm. Amazon (Pará).

D. roseiceps *Dogn.* (24 c) has whitish wings, slightly tinged brownish at the margins, with slightly *roseiceps*. brownish veins and numerous black spots; head and thorax pale grey, spotted black, the neck and base of the collar rosy-carmine. Abdomen carmine with a black lateral line and black anal apex, on the dorsum of the two first segments yellowish; underneath, inclusive of the hips, pale rosy. French Guiana.

D. pusilla *Btlr.* (? *dares* *Cr.*) (24 d) looks very much like *roseiceps* on the wings, but it is considerably *pusilla*. smaller and its abdomen is above entirely blackish-brown, only beneath rosy. The neck shows two carmine spots. Anal hairing in the ♂ white. — In **flaviventris** *form. nov.* (24 d) the ventral side as well as the spots on *flaviventris*. the neck are yellow. Distributed from Guiana to the Amazon.

D. discalis *Druce* is on the body above unicolorously black, the collar spotted red at the base, *discalis*. underneath white. Forewings blackish diaphanous, the veins, a large spot at the cell-end, the apex, distal and proximal margin black; hindwings hyaline, broadly bordered with black. Expanse of wings: 40 mm. Venezuela.

D. albiventus *Druce* (24 e) is easily recognizable by the brown forewings with a white, transparent *albiventus*. oblique spot at the cell-end; fringes at the apex white. The brown hindwings are semi-diaphanous whitish towards the proximal margin. The abdomen, being above blue, is white on the ventral side. Brazil (Amazon; Minas Geraes; Rio de Janeiro).

- aelytioides*. **D. aelytioides** *Hmps.* Blackish-brown; palpal base, forehead, sides of the forehips and transverse bands on the ventral side are yellow. The last abdominal rings above with metallie blue bands. Forewings with lighter veins and an orange spot behind the costal centre, from which a yellowish oblique band runs to the proximal angle. Expanse of wings: 36 mm. Cayenne.
- varians*. **D. varians** *Hmps.* (24 e) is larger than the preceding, on the body quite unicolorously blackish-brown, only the posterior abdominal segments blue, on the others lateral and sublateral spots. Forewings marked as in *aelytioides*, but without any lighter veins. Hindwing at the base diaphanous. The ♂ has very broad forewings and small hindwings, the latter with a strongly arehed costal margin covering an unsealed patch on the under surface of the forewings. Expanse of wings: 40 mm. Amazon. — *ab. nov. reducta* (= *ab. 1. Hmps.*) exhibits only a small orange spot at the upper cell-angle.
- rufiventris*. **D. rufiventris** *Schaus* (24 d) is above brown, the hindhead and collar spotted earmine, the 5th to 7th abdominal rings narrowly bordered with red; the venter is all red, so are the forehips and base of the palpi. The hindwings are of a blackish colour with a blue lustre, in the disc semi-diaphanous. From Mexico (Misantla, Jalapa). — *subsp. hampsoni* *Rothsch.* from Peru has a drab ground-colour, the red being more brick-red; the veins of the forewings are prominently darker, and some of the cell-spaces in the basal half and behind the cell *orientalis*. are more thinly scaled. — f. **orientalis** *Rothsch.* from the Rio Madeira is smaller, of a more brownish-grey colour, *meridensis*. and f. **meridensis** *Rothsch.* from Venezuela is distinguished by a large, yellowish-grey, reniform discal spot; the hindwings are not lustrous blue, and the abdomen is sooty black.
- pyroperas*. **D. pyroperas** *Hmps.* (24 d). Head and thorax light red-brown, on the hindhead and shoulders spotted earmine; palpal base and hips rosy. Abdomen above blackish-brown, the 4 last rings earmine, bordered with black, beneath all red. Forewings light red-brown with darker veins, cellular and submedian folds; the discal spot and apex faded darker. Hindwings blackish-brown, in the disc hyaline. Expanse of wings: 42 mm. Occurring from Brazil (São Paulo, Rio Grande do Sul) as far as Paraguay.
- pyrozona*. **D. pyrozona** *Druce* is coloured black on the body above; the abdomen is yellow at the base, on the 4th to 6th rings of a brilliant red; the underside is rosy. Forewings blackish brown with yellowish veins; a spot in the cell and 4 near the apex greyish-white of varying distinctness. Hindwings hyaline with a broad black margin. Expanse of wings: 32 mm. Venezuela.
- dizona*. **D. dizona** *Druce* (24 d) is blackish-brown on the body and wings; the first palpal joint and two spots on the hindhead are carmine; hips and ventral side white. The forewing shows oblique, transparent spots, one before the cell-end, one behind it. The hyaline hindwings exhibit a black margin. French Guiana. — Occurs *aurantiiceps*. also with an orange-yellow neck and palpal base: **aurantiiceps** *form. nov.*
- suffusa*. **D. suffusa** *Lathy* (24 e) looks rather like *dizona* above, but it is larger and easily discernible by metallie blue subdorsal spots on the abdomen and earmine forehips. Distributed from French Guiana as far as Santos.
- macella*. **D. macella** *Dogn.* (24 e) is a smaller species which is easily recognized by the peculiar hindwings: the very broad inner-marginal area being semi-diaphanous whitish with a black border and a black stripe along vein 1 as far as the base. The costal part is hyaline, of an intense iridescence. The brown forewings with lighter veins and indistinct transverse lines exhibit hyaline spots in the cell and behind it. The anterior body is brown, in the neck spotted orange. The abdomen is above light carmine, on the 2 first segments dorsally yellowish-white, the two last ones black with a rosy spot on the last ring. Venter and hips white. French Guiana.
- lemoulti*. **D. lemoulti** *spec. nov.* (24 f). Body blackish-brown, abdomen posteriorly with a faint greenish-blue lustre, neck, throat, palpal base, hips and 2 spots on the metathorax light ochreous-yellow; venter somewhat lighter olive-grey. The dark-brown forewings are similarly marked as in *macella*: veins and a spotted ante-marginal line indistinctly lighter yellowish-grey, a minute spot in the cell, 4 similar ones behind the cell, the two lower ones of which are situate more towards the margin, and a blurred spot in the submedian space diaphanous. The hindwings are hyaline in the basal part, in the marginal half blackish-brown. One ♂ from French Guiana (Nouveau Chantier). Type in the Coll. DRAUDT.
- subapicalis*. **D. subapicalis** *Jones*. Smoky black; palpi at the base, head and chest orange, collar tinted orange, shoulder-covers bordered with a light brown. Ventral side yellowish-white. Forewings smoky-blackish with somewhat lighter veins; near the apex there is a large white spot, extending from the costa as far as below the 3rd radial. Hindwings black, in the disc diaphanous. Expanse of wings: 39 mm. Paraná.
- atava*. **D. atava** *Druce* (24 f). A large species with dark brown forewings; the hindwings are hyaline with a black margin. Thorax dark brown; forehips red, as well as two spots on the hindhead. Abdomen black, with subdorsal blue spots. Panama.
- nigra*. **D. nigra** *Schaus* is black on the body, the hindhead spotted blue; abdomen with yellow transverse bands, growing particularly conspicuous on the sides, as they are above covered by long black hairy scales.

Forewings black, at the base a blue dot. Hindwings black, towards the base thinly sealed, whitish. Expanse of wings: 38 mm. Chiriqui. The following species may possibly belong to it as a subspecies.

D. spreta *spec. nov.* (24 e) greatly reminds us of certain *Opharus*-species, particularly *procroides* Wkr.: *spretu*. the forewings are brown, towards the base of a somewhat more olive-yellowish tinge with darker veins and a diffuse darkening at the cell-end; the blackish hindwings are diaphanous in and below the cell. The anterior body is blackish brown, on the vertex and at the bases of the wings spotted silvery blue; the metathorax exhibits a white spot. The abdomen is above black, beginning from the second segment with lateral, orange-yellow bands, from the 4th ring these spots are united to complete belts across the dorsum. Described according to 3 ♂♂ from Colombia (January 1910 Cañon del Tolima; May 09 San Antonio — captured by the light of a lamp — and from the Upper Rio Negro: FASSL).

D. flaviventralis *Hmps.* Brownish-black; the palpal base, 2 small spots in the neck and a broad median stripe on the venter orange. The forewings show a whitish oblique band across the cell-end from the subcosta to the submedian fold, another one behind it between the lowest subcostal vein and the upper median vein. Hindwings black with a hyaline disc. Expanse of wings: 45 mm. Venezuela. *flaviventralis*.

D. monotona *Dyar* greatly approximates *flaviceps*, but it is smaller, much less distinctly marked, and the border of the hindwing is considerably narrower; the forehead is greyish-brown. Mexico (Santa Rosa). *monotona*.

D. testacea *Druce* (24 f) has brown forewings with a lighter spot being very faintly indicated by a thinner scaling in and below the cell and a similar oblique band behind the cell which is beneath much more distinct. Hindwings diaphanous with a broad, black margin. The body is greyish-brown, the first palpal joint and vertex olive-yellow; forehips and venter orange. Guatemala and Panama. *testacea*.

D. klagesi *Rothsch.* greatly resembles *testacea*, but it is darker and more distinctly marked. The body is brownish-grey with a blue lustre. The basal palpal joint and the vertex orange, not olive-yellow. Forewings dark brownish-grey; the proximal spot is only situate below the median. Hindwings bluish-black, in the disc hyaline. The ♀ has an entirely orange-yellow head and lighter, yellowish grey-brown forewings. Length of forewings: 22 mm. Guiana; Venezuela. *klagesi*.

D. infraalba *Rothsch.* Anterior body above blackish brown, in the neck and minute spots on the collar carmine. Abdomen above sooty black with a dark blue lustre. The underside is white. Forewings blackish-brown, in the basal half subcostally with hyaline stripes; an indistinct, postdiscal transverse band whitish diaphanous. Hindwings black with a hyaline discal band. The ♀ is similar, but more sooty brownish-grey. Length of forewings: 19 mm. Venezuela; Cayenne. *infraalba*.

D. rhodocrypta *Druce.* The anterior body is above greyish-brown; spots on the collar and the upperside of the abdomen are black, as well as the legs. The whole underside is yellowish-white. Forewings dark brown, in the cell and near the apex spotted greyish white. Hindwings hyaline, broadly bordered with black. Expanse of wings: 32 mm. Venezuela. *rhodocrypta*.

D. tetilla *Dogn.* (= *elegans* *Lathy*, *bimaculata* *Rothsch.*) (24 e) is a pretty, very deviating species: *tetilla*. The deep brownish-black forewings exhibit a hyaline spot in the cell, another one behind it; the hyaline hindwings, being traversed by lustrous blue veins, are bordered with black; underneath with an intense blue lustre. Head black, spotted white, neck carmine; thorax blackish-brown, hips white. Abdomen above metallic blue, underneath white. Colombia; Ecuador; Peru (Macrapata). Probably also (*Napata*) *boettgeri* *Druce* belongs to it as a synonym (vide p. 141).

144. Genus: **Heliura** *Btlr.*

Extremely near to the next genus, distinguished chiefly by the middle radial of the hindwing rising from above the lower cell-angle, and by the absence of the hairing on the abdominal base and sides. The upper median vein of the forewing always rises distinctly below the cell-angle, the lower radial veins from it or also on a short pedicle, the upper radial distinctly from below the upper cell-angle. The cell of the hindwing is long, the upper median vein with the lower radial come from the lower cell-angle always distinctly petioled, the 1st radial and the subcostal vein rise unpetioled from the upper cell-angle. The species partly greatly resemble *Eucereon*-species, a small part of them, however, looks most remarkably different.

H. rhodophila *Wkr.* (= *tetragramma* var. *Wkr.*, *pyrrhosoma* *Btlr.*, *solicauda* *Btlr.*) (24 f). Head and thorax brown, with brick-red spots and stripes; the red abdomen exhibits black lateral lines, the first and last segment are black. The brownish forewings with brick-red veins are spotted black and exhibit hyaline *rhodophila*.

spots in and below the cell, as well as 4 behind it, the two lower ones of which are placed more towards the margin. The hyaline hindwings are bordered with black, the anal-angular appendage being black. Hips and femora are ochreous-yellow, the legs black. Honduras; Costa Rica; Guiana; Pará.

tetra-
gramma. **H. tetragramma** *Wkr.* (24 f) greatly resembles the preceding, and is distinguished by its brick-red chest, hips, femora and ventral side, and similarly spotted legs; the postdiscal hyaline spots exhibit blackish-brown dots. Amazon.

assimilis. **H. assimilis** *Rothsch.* greatly approximates *tetragramma*, and differs by the white ventral side and hips, by black, not orange-red veins on the forewings; the red colour of the abdomen is more brilliant carmine, in the basal half blackish-brown. Described from Peru.

fulvipicta. **H. fulvipicta** *Kaye* is distinguished by the very long, narrow shape of the wings. The head is black, behind the eyes spotted yellow; thorax and shoulder-covers blackish-brown. Abdomen black with a yellow basal spot; on the ventral side of the 3rd and 4th rings there are large, white spots. Forewings brownish with blackish-brown veins and transverse bands in the disc and at the apex, the basal area being black with a golden yellow spot. Hindwings hyaline with a broad black border. Expanse of wing: 35 mm. British-Guiana.

elongata. **H. elongata** *Rothsch.* is unknown to me and may perhaps be synonymous with the preceding. The description is almost the same, but there are yet some yellow olive-grey spots mentioned on the thorax, and the posterior transverse band of the forewing is not denoted as apical, but as „postmedian“. Described from Venezuela.

umbrimacula. **H. umbrimacula** *Schaus* perhaps also belongs to the preceding. Body black, neck orange-red; on the metathorax there is a yellow spot; the forehips and a spot in the middle of the venter are white. The forewings are reddish olive-yellow with black veins; behind the middle, from the costal margin near to the proximal angle, there runs a broad, black nebulous stripe. The apex is broadly black, at the border with small spots of the darkened ground-colour in it; the costal base is spotted orange. The hindwings are white in the basal halves with black veins, distally black. Expanse of wings: 31 mm. French Guiana.

dolens. **H. dolens** *Schaus* is black on the body, with a blue lustre on the shoulder-covers and abdomen, in the neck orange-haired; the forehips and the first ventral rings are yellow-reddish. The forewings are dull black with velvety black nebulous stripes before and in the middle, subapically and antemarginally between the lower median and middle radial vein. Hindwings hyaline with a broad black margin. Expanse of wings: 27 mm. Venezuela.

postflavida. **H. postflavida** *Rothsch.* is larger than *dolens*, and the 2 last abdominal rings are orange, not black. The forewings are comparatively somewhat broader, otherwise similarly coloured and marked. Venezuela.

fumata. **H. fumata** *Rothsch.* This species has been established according to 2 much flown ♂♂ from Ecuador and Peru. The body is sooty brownish-black, posteriorly with a blue lustre, on the collar carmine spots. The abdomen exhibits beneath two white bands. Forewings sooty brown, the hindwings sooty black, with 2 whitish longitudinal spots in the inner-marginal area. Length of forewings: 20 mm.

fuliginosa. **H. fuliginosa** *Rothsch.* is sooty black on the whole body above and underneath. The forewings are more grey, in the discal area between the veins thinly scaled. Hindwings hyaline with a black margin, being spottedly expanded at the proximal angle. Length of forewings: 16 mm. Peru.

hecale. **H. hecale** *Schaus* is blackish-brown on the body, at the sides of the abdomen with metallic blue spots; 2 spots in the neck, and the hips are carmine. Forewings blackish-brown, in the disc in the cellular spaces thinly scaled, so that a hyaline, round, discal spot is produced. Hindwings hyaline, veins and margins broadly black. Expanse of wings: 42 mm. Peru.

caeruleocephala. **H. caeruleocephala** *Rothsch.* Head lustrous blue; thorax metallic blue and yellowish. On the collar there is a carmine spot; the shoulder-covers are brown with lighter stripes. Abdomen of a brilliant metallic blue, on the 3 first rings above with long black hair. The forewings are of a wooden brown with dark brown veins, the hindwings black with a blue lustre, the cellular spaces in the disc diaphanous grey. Length of forewings: 20 mm. Peru.

emerentia. **H. emerentia** *Dogn.* (24 g) resembles *Delphyre tetilla*, but the hyaline spots are differently distributed: the proximal one is situated below the middle of the cell; the head is all black, so is the neck, and not red, otherwise all is the same. Described from Ecuador (Loja), before me also from Colombia from the Upper Rio Negro, 800 m.

lemoulti. **H. lemoulti** *Rothsch.* greatly resembles *Delphyre suffusa*, but the forewings are not marked so speckled. The body is blackish-brown; chest and base of hips, as well as 2 small spots in the neck are carmine-rosy. The abdomen is laterally spotted or striped bluish-green. The forewings are blackish-brown with an indistinct

brownish-grey spot in the cell and a similar one behind it. Hindwings diaphanous greyish-white with an irregular, broad, black margin. Length of forewings: 20 mm. Cayenne.

H. viridicingulata Rothsch. Head and antennae are black, with white dots; thorax brownish-black, on the collar a white dot. Abdomen black with metallic green rings interrupted above. Forewings brownish-black, below the median a hyaline stripe, and behind the cell a broad, hyaline oblique band extending from the subcosta to the uppermost median vein. Hindwings hyaline, veins and distal margin black in an irregular extent. Length of forewings: 15 mm. Rio Toro. *viridicingulata*.

H. phaeosoma Druce (24 g) looks on the wings exactly like *rhodophila*, but the abdomen is above one-coloured black, below white, and the hindwings also in the ♂ have the normal shape without the anal angle being produced; hindhead and neck reddish-brown. Venezuela; French Guiana (Nouveau Chantier). *phaeosoma*.

H. klagesi Rothsch. resembles the preceding, but the underside is not white, but yellowish-rosy, the veins of the forewings are not red, but olive-brown, and the transparent basal part of the hindwing is not so distinctly defined towards the black distal margin. Venezuela. — *subsp. meridionalis* Rothsch. is a much larger and darker form from Suriman to Peru. *klagesi*. *meridionalis*.

H. distincta Rothsch. is on the head and thorax above olive-brownish, beneath yellow and rosy. The first two thirds of the abdomen are black, at the base above with a minute orange spot, the rest is sooty grey. The forewings are olive-brown with yellowish-grey veins, some small costal spots, and a double row of small, antemarginal sagittal spots. An indistinct, antemedian transverse band and a distinctly postmedian one from the costa to the upper median vein are whitish olive, with a rosy hue. Hindwings velvety black with a blue lustre, in the middle of the basal area with a large, white, semi-hyaline spot. Length of forewings: 19 mm. San Antonio (Rio Madeira). *distincta*.

H. thysbe Möschl. (24f) is blackish-brown on the body; the vertex and tips of the shoulder-covers are white. The 3 last abdominal rings exhibit large, carmine, dorsal spots with black pupils. Forewings white with numerous black spots. Hindwings in the basal halves white, veins and distal halves blackish. Expanse of wings: 36 mm. Surinam. *thysbe*.

H. ockendeni Rothsch. The head is black, on the vertex yellowish-grey, in the neck golden-yellow; collar black, anteriorly yellowish-grey, thorax yellowish-grey, striped and margined with black. The 4 first abdominal rings are above black, the 3 next ones orange, the last again black with a yellow-reddish, small spot; beneath the whole body is yellow-reddish. Forewings white, at the margins and veins yellow-reddish; from a subbasal, black transverse band there proceed short, black streaks along the costa and veins; behind it black spots subcostally and in the cell; an irregular, sooty black discal band extends from the costal margin to the proximal margin, a similar, postmedian one from the costa to the lower radial vein; before the margin a series of spots. Hindwings diaphanous greyish-white, the margin broad black, at the proximal margin drab. Length of forewings: 17 mm. Peru. *ockendeni*.

H. rubrocincta Rothsch. Head and antennae brown; thorax yellowish olive-brown, with brownish-black spots and stripes. Abdomen above sooty black, the 4th to 6th rings scarlet; the whole underside is yellowish rosy. Forewings, yellowish olive-grey with a number of sooty-brown stripes and spots being more or less confluent in the median area. Hindwings in the basal third diaphanous white, distally velvety black. Length of forewings: 17 mm. Venezuela. *rubrocincta*.

H. rufipes Rothsch. Head yellowish brownish-grey, with black spots, in the neck carmine-rosy; thorax olive-grey with dull brown spots, the shoulder-covers with yellow stripes. Abdomen light carmine-rosy, curled black, beneath unicolorously pale rosy. Legs rosy. Forewings grey with yellow veins, in the basal third with a number of black, yellow-ringed spots; the disc is traversed by an irregular, broad, sooty brownish-black transverse band, behind it a similar band from the costa to the middle radial; an antemarginal series of blackish-brown spots. Hindwings sooty black, in the disc diaphanous white. Length of forewings: 21 mm. Peru. *rufipes*.

H. balia Hmps. (24 g) has a greyish-brownish, darker spotted head and thorax; neck orange. Abdomen red with a black anal apex. Forewings white with blackish-brown spots, hindwings semi-diaphanous white with a greyish-brownish, narrow border. Honduras; Costa Rica (San Carlos). *balia*.

H. griseipuncta Rothsch. is smaller than *balium* and differs otherwise by its carmine neck and light reddish-yellow ventral side, the chest being scarlet-rosy. Length of forewings: 13 mm. British Guiana. *griseipuncta*.

H. zonata Druce (24 f) approximates *griseipuncta*. The spots of the forewing are compressed to 3 transverse bands: a basal one, one crossing the cell-apex, and an apical one being irregularly defined and with lighter, yellowish patches. Veins distinct and fine black. All the rest as in *balium*. Colombia (Rio Negro), Venezuela, Guiana. *zonata*.

H. hoffmannsi Rothsch. differs from the preceding by the orange abdomen being yellow-reddish beneath; the vertex and neck are more extensively orange. The forewings are more greyish-white, of a less

yellowish tinge with darker veins and a marking very much like *zonata*. Venezuela and North Colombia.

- pierus*. **H. pierus** Cr. (= *lucis* Btlr.) (24 g). This species and the two next ones, being often mixed up with each other, form a group of very similar animals. Head and thorax olive-grey, with blackish-brown spots and stripes, 2 spots in the neck and hips are carmine. The abdomen is brownish-black with traces of carmine segmental lines. Forewings greyish, towards the base with an olive-yellow tinge; at the base short, black stripes, the lowest of which is bent and extends as far as the middle of the proximal margin; a round spot in the cell, above it a small stripe at the costa; at the cell-end a transverse stripe and 3 irregular spots below it; behind the cell there is a row of spots, containing longer spots between the upper median and middle radial vein. An antemarginal macular band extends from the costa to the middle radial, and at the margin itself a row of small spots. Hindwings blackish-brown, in the disc diaphanous. Expanse of wings: 34 mm. Amazon (Rio Jutahi).
- picroides*. **H. pieroides** Rothsch. is somewhat larger and differs besides by a more yellow neck, the thorax being of a purer drab colour; the whole underside and a basal spot above on the 3 first abdominal rings are yellow-reddish; there are not any red segmental lines. The forewings are more whitish-grey with olive-grey veins. Amazon (Fonte Boa).
- stolli*. **H. stolli** Rothsch. is beneath of a deeper rosy colour; above the vertex and neck are more extensively carmine; thorax and abdomen are dark drab, the base of the collar and shoulder-covers more yellowish-grey. Hindwings dark sooty-grey without being discally lighter. The forewings are olive-yellow in the larger basal parts, sooty-grey in the apical parts with a lighter transverse line in the middle. The spots at the margin are obsolete. In the ♂ the basal part is of a greyer tint, not so yellow. Amazon (Fonte Boa; Teffé). —
- meridionalis*. subsp. **meridionalis** Rothsch. from San Antonio (Rio Madeira) has a black abdomen, grey thorax, and the forewings of a beautiful pearl-grey with bluish-grey veins and spots.
- sanguipalpia*. **H. sanguipalpia** Hmps. (24 g) is entirely unlike all the other species and looks, owing to the hyaline wings, something like a *Loxophlebia*. The body is black, the palpi, a spot between the antennae, spots on the thorax, and the underside of the anal tuft are carmine. The lower half of the forehead, the hips and the ventral side are white. Wings hyaline with fine black veins, margins and apical spots. Expanse of wings: 26 mm. Brazil (Blumenau).
- germana*. **H. germana** Rothsch. The description runs: „similar to *sericea*, but the abdomen above velvety black“, but it is not said which *sericea* it is. Described from Surinam.

145. Genus: **Eucereum** Hbn.

Beside *Cosmosoma*, this is the most diversified Syntomid genus containing species ranging from small sizes to the largest, the wings being mostly brown or grey with various markings, yellow or black spots, streaks, dentate lines etc. The abdomen is mostly red or yellow, but also brown. The genus already greatly approximates the Aretiids by the presence of a fragment of the costal on the hindwing— The rise of the uppermost subcostal vein on the forewing from the cell separates the genus from *Hyaleucerea*. The middle radial vein of the hindwing rises close at the lower and upper median veins or together with them.

- archias*. **E. archias** Stoll (24 g) is not to be mistaken by the long, yellow hair-tufts at the sides of the first abdominal ring, and by the lobularly widened, yellow proximal margin of the hindwing in the ♂. The hindwings are otherwise blackish-brown, the forewings greyish-brownish, with dark brown-spots. Forehips, spots on the neck, and abdomen carmine, the anal end black, the venter yellow. Guiana. — The larva is light yellow with long white hair-tufts on the anterior and posterior segments, and black dorsal spots on the same segments. It lives on Citrus and changes into a grey cocoon.
- albitorna*. **E. albitorna** Dogn. is much smaller than *minutum*, the anal angle of the hindwing being still more extended. It differs besides by its orange-yellow neck, sometimes also vertex, and brown abdomen on which only the anal tuft is ochreous-yellow. The hindwings are entirely black, with a broad whitish proximal angle and white fringes. Expanse of wings: 21 mm. East Colombia (Medina: 500 m).
- minutum*. **E. minutum** Druce (= *drucei* Kirby) (24 g) has a reddish-brown body, the 3 last abdominal rings are above orange-yellow. Forewings light brownish-grey with darker brown veins and spots; before the middle there is an indefinite undulate line; in the middle of the cell and at the end one small dark spot each; traces of an oblique, dark discal line; an antemarginal, irregular, dentate line and on the border short, small sagittal spots. Hindwings light yellowish-brown; the whitish proximal angle is pointedly produced, the proximal margin turned over and in this fold roughly sealed. Expanse of wings: 26 mm. Panama.

E. metalobum *Hmps.* differs from *minutum* (24 g) by the lobularly extended, but not turned over *metalobum*. and roughly haired proximal angle and anal angle of the ♂. The body is blackish-brown, mixed with grey; neck yellow. Palpal base, forehips and spots on the legs are whitish. Abdomen blackish-brown with yellow lateral spots on the last rings, beneath white. Forewings similarly marked as in *minutum*, greyish-white with brown veins, spots and dentate lines. Hindwings diaphanous grey, towards the margin tinted brownish-black. Expanse of wings: 30 mm. Peru.

E. phaeophlebium *Hmps.* The ♂ hindwing exhibits a cover of yellow hair in a fold on the under *phaeophlebium*. surface at the proximal margin. Head and thorax yellowish-brown, the abdomen more blackish-brown. Palpal base, hips and ventral side light rosy red. Forewings yellowish-brown with darker veins, the hindwings blackish-brown. Expanse of wings: 30 mm. Argentina.

E. integrum *Rothsch.* resembles the following species, but the border of the hindwing is convex, *integrum*. not concave. Head and thorax grey, with darker spots and stripes; palpi and legs are of a deep black. The abdomen is carmine, above at the base spotted yellow, with a black anal apex. Forewings yellowish drab, with black spots being similarly arranged as in *excavatum*. Hindwings dark grey, above the cell lighter diaphanous. Length of forewings: 19 mm. Amazon (Fonte Boa).

E. excavatum *Dogn.* and the following species are very characteristic by the peculiar shape of the *excavatum*. wings: both pair of wings are very broad, the hindwings between the greatly produced anterior and posterior angles concavely indented. The species before us has white forewings with black spots, the hindwings are whitish diaphanous in the basal halves, at the margins broadly black. The abdomen is carmine, at the base black, at the apex black and white.

E. flavum *Dogn.* (24 h) is apparently not a form of *excavatum*, but rather a good species distinguish- *flavum*. ed by its larger size, the abdomen being above and beneath yellow, and by the peculiarly blurred, dull not distinctly black spots of the forewings, French Guiana (St. Laurent du Maroni, Nouveau Chantier).

E. perexcavatum *Rothsch.* is somewhat larger than *excavatum*, with a unicolorously slate-grey abdomen, *perexcavatum*. a sooty-black, not rosy-red underside, a unicolorously grey thorax, olive-yellow, not whitish-grey ground-colour of the basal $\frac{4}{5}$ of the forewing, dark grey hindwings with a still more deeply concave border and a longer pointed proximal angle, Length of forewings: 19 mm. Amazon (Fonte Boa).

E. kennedyi *Rothsch.* Head and thorax sooty-grey, marked lighter, neck orange. The abdomen is *kennedyi*. black, the 3 last rings above carmine-rosy; the whole underside is light carmine rosy. Forewings orange-yellowish, with a rosy tint, in the basal two fifths with a number of grey spots; in the disc there is a broad, irregular band composed of similar spots, behind the cell a dark-grey spot from the costa to the middle radial, and an antemarginal series of spots. Hindwings dark grey, towards the base extensively diaphanous lighter. Length of forewings: 16 mm. South Brazil (Minas Geraes).

E. cinctum *Schaus.* Very much like the two following species, as large as *metoidesis*. Forewings *cinctum*. and thorax greyish-brown with black markings. Abdomen black, above from the 5th to 7th segments red, beneath yellow-reddish. Described from Trinidad.

E. rubroanale *Rothsch.* is very near to *cinctum* (24 g) and differs by the sooty black, not yellow- *rubroanale*. reddish or whitish colour of the ventral side, much darker thorax and blackish-brown forewings on which the light markings are confined to a small spot in the cell and a very fine, undulate, postmedian transverse line. The hindwings are darker and more uniform by the much less diaphanous basal half. The present species is besides much smaller. Length of forewings: 12 mm. Venezuela, Bolivia.

E. metoidesis *Hmps.* (= *cinctum* *Hmps.*, *latifascia* *Btlr.*) (24 h) is easily recognized by the costal *metoidesis*. margin of the hindwing being very concave at the base. Head and thorax brown, spotted black with two carmine spots in the neck. The black abdomen is carmine from the fifth to half of the 7th segment. The grey forewings, being more brownish at the margins, are spotted black, the semi-diaphanous whitish hindwings at the border black. Distributed from French Guiana as far as the Amazon.

E. obscurum *Möschl.* (= *stellifera* *Btlr.*) (24 g) is a small species with narrow wings, easily recog- *obscurum*. nizable by the bronze-lustrous black colour into which bluish-white scales, being partly in the shape of dentate transverse lines, are interspersed. The black abdomen has posteriorly a metallic blue lustre. Distributed from Mexico through Central America as far as the Amazon.

E. lemoulti *Schaus.* The body is black, on the collar and thorax with a leaden lustre, in the neck *lemoulti*. orange. Forewings bluish-grey, with black veins and base of the proximal margin. Hindwings black, in the disc diaphanous. Expanse of wings: 29 mm. French Guiana (Maroni River).

E. meruloides *Schaus.* Head, thorax and forewings dark leaden grey, the veins velvety black; a *meruloides*. black postmedian shade. The abdomen is black. Hindwings bluish-black, in the disc diaphanous. Expanse of wings: 39 mm. Peru.

- merula.* **E. merula** Dogn. (24 h). Head and thorax are bluish-grey, with blackish-brown spots and stripes. The abdomen is bluish-black, above at the base with brownish hair, the penultimate segment brown. Forewings bluish-grey with black veins, a faded black discal shade and spot at the cell-end; also an antemarginal, dark shade. Hindwings hyaline, the margin being irregularly clouded grey and black. Expanse of wings: 24 mm. Ecuador.
- fanum.* **E. fanum** Druce. Anterior body black, head and base of collar spotted white; abdomen bluish-black with a series of white lateral spots, chest yellow, the black legs underneath white. Forewings black with a large grey spot round the cell-end, the costal and proximal margin striped grey. Hindwings black, in the disc whitish diaphanous with black veins. Expanse of wings: 52 mm. Venezuela. It seems to be doubtful whether this peculiar animal, being known to me only from the description, belongs to the genus.
- maricum.* **E. maricum** Cr. (= *grylloides* Wkr., *thalassica* Fldr., *virescens* Möschl.) (24 i) has a blackish-brown body; in the neck two red dots; the thorax is marked orange-yellow. The forewings are bluish-white, veins and spots at the proximal margin and costa yellow, with numerous blackish-brown spots, which are more like streaks in the inner-marginal area and at the base; in the middle of the cell an isolated, small, round spot. The hindwings are bluish-white with a very broad, black border. Brazil, Bolivia. — subsp. **amazonicum** Rothsch. has the spots of the forewings more blurred, the postdiscal band being of a more yellow tinge, and the margin of the hindwing not so deep black and more irregularly defined. From the Amazon. —
- postcoeruleum.* **postcoeruleum** Rothsch. (24 i) differs from *amazonicum* by the very narrow black border of the hindwing, only an apical spot being more extensively black. Distributed from British Guiana through Venezuela as far as Bolivia.
- appunctatum.* **E. appunctatum** Dogn. (24 i) is similarly marked as *casca* and *albinotum*, but the abdomen is above carmine, the 2 first rings brown. Head and thorax likewise blackish-brown, in the neck a carmine ring. The blackish-brown forewings are veined light yellowish. Below the base of the cell is a small, white spot, in the cell-end a square, behind the cell a large, reniform, white spot between the 2nd subcostal vein and the middle radial. An antemarginal, indistinct, curved row of whitish dots. The hindwings are blackish-brown, towards the base whitish. Expanse of wings: 34 mm. Ecuador (Loja).
- rosa.* **E. rosa** Wkr. (24 h) has dark brown forewings with somewhat lighter yellowish veins with pale brownish markings, 2 antemedian small spots, a square one in the cell, an irregular, distal transverse line and an indistinct marginal dentate line. Hindwings blackish-grey. 2 spots on the vertex, and the neck are carmine. Thorax and first abdominal ring dark brown. Abdomen otherwise carmine, with a dark brown lateral line. Venter yellow. Mexico, Honduras, Paraná.
- rosadora.* **E. rosadora** Dyar (24 h) from Mexico is smaller, darker and much more indistinctly marked. —
- xanthodora.* In *xanthodora* Dyar the red colour turns yellow.
- rosina.* **E. rosina** Wkr. (= *rhodophila* Druce) (24 i). Head and thorax light grey, on the vertex a blackish spot, neck carmine, collar with a black spot, shoulder-covers margined with black. Abdomen light carmine, at the anus whitish, laterally more or less developed black spots. Forewings whitish, mixed with grey; the veins in the discal area yellowish. Blackish basal spots bordered with yellow, a series of 6 antemedian spots, the one above vein 1 longish, connected with the proximal margin by a yellow line running towards the base, median and submarginal, irregular rows of spots, as well as some marginal streak-shaped spots. Hindwings diaphanous white, at the border narrowly dark. Mexico, Venezuela, Trinidad, Brazil. — f. **imprimatum** Wkr. is distinguished by the yellow colour being greatly increased round the spots, so that the basal spots turn almost entirely yellow; the dark border of the hindwings is confined.
- hoegei.* **E. hoegei** Druce (24 i) has whitish forewings with quite pale, reddish-grey spots and transverse bands; on the transverse vein there is a somewhat larger spot, and below it a streak more towards the base, crossing vein 2. The anterior body is whitish, with faint brownish markings, the neck and abdomen pale carmine rosy, the latter with a white anal end. The red colour may be changed into yellow: **lutescens** form. nov. — From Mexico.
- arenosum.* **E. arenosum** Btlr. (24 i) has a pale grey-brownish head and thorax, the vertex and collar with small black spots. Abdomen light carmine, at the end blackish-brown, the anal tuft whitish; black lateral spots; venter yellowish white. Forewing whitish-grey, in the basal half mixed with a darker colour. Some dark basal and 5 antemedian spots are bordered light; a straight median and an irregular distal transverse row of darker spots touch each other in the disc by the large spots near the cell-end; a submarginal row of smaller spots is parallel to the border; at the base of the fringes there is another row of blackish marginal dots. Hindwings brownish-grey. — Mexico, Guatemala, Panama, Amazon, Espiritu Santo.
- trinita.* **E. trinita** Schaus. Head and thorax grey with small black spots. Abdomen above rosy with a black anus, beneath yellow-reddish with a black lateral stripe. Forehips rosy, legs otherwise grey. Forewings grey

with black small spots being arranged similarly as in *arenosum*. Fringes speckled black. Hindwings black, towards the base more grey. Expanse of wings: 25 mm. Trinidad.

E. rufidorsale *Rothsch.* is dark grey on the head and thorax, in the neck orange. The abdomen *rufidorsale* is unicolorously scarlet, with a grey anal apex. The underside is yellowish light rosy. The forewings are in the basal half of a pure white, at the base there is a black spot with a grey one below it, before the middle a transverse line, behind it one being broken up into grey spots. The distal half of the wing is white with yellow veins; across the cell-end runs a broad band, being composed of irregular, grey, confluent spots, extending from the costa to the proximal angle; before the apex we notice a dark grey band from the costa to the middle radial; the apex and a series of spots in front of the margin are likewise dark grey. Hindwings diaphanous drab. Length of forewings: 17 mm. Ecuador.

E. formosum *Dogn.* Head and thorax white with black dots, collar anteriorly somewhat bordered *formosum* with rosy. Abdomen rosy with one dorsal, 2 lateral and one ventral, black macular stripe, the last ring all black. Legs black, white and rosy. Forewings milky white with small black spots round which the white is somewhat brownish: 5 at the costal margin at equal distances, one in the middle of the cell, and one more towards the base, 2 each before and behind the transverse vein; behind them 4 more, then 6 before the margin and 3 more at the proximal margin. Fringes white. Hindwings somewhat smoke-coloured. Expanse of wings: 44 mm. South East Peru. — **dognini** *Rothsch.* from Mexico and Costa Rica has a dirty yellowish grey- *dognini* white ground-colour of the forewings and more brownish-grey hindwings.

E. ruficollis *Lathy* differs from *Hel. balia* (24 g) by its carmine neck and orange-yellow ventral *ruficollis* side. Venezuela.

E. leria *Druce* (24 k) has white forewings with very irregular, blackish-brown spots bordered with *leria* yellow, with grey dusting between them; hindwings light grey, at the border somewhat darker. Head and thorax white, spotted grey and black, neck red. Abdomen with black lateral spots and a blackish-brown anal apex. Ventral side yellowish, the segments margined with red. Palpi and legs spotted black and white, forehips inside red. — Mexico, Panama, Ecuador and Bolivia. — Occurs also with a yellow abdomen and neck: *lerioides* *Schaus.*

E. dilutius *Rothsch.* differs from *leria* (24 k) by its somewhat larger size, the spots on the forewings *dilutius* being much larger, though not so confluent and partly obsolete; besides the veins and margins of the spots are much more extensively orange-yellow. Length of forewings: 21 mm. Minas Geraes; Sa. Marta.

E. tarona *Hmps.* (24 k) is considerably larger than the preceding species, but otherwise it greatly *tarona* resembles them; it differs by the vertex being almost entirely black and the colours on the forewing being more clearly distributed; the black spots are more brightly bordered with orange. Mexico (Misantla), Panama, Brazil (São Paulo).

E. conspicuum *Rothsch.* is a very beautiful, large species from Costa Rica and Ecuador, being allied *conspicuum* to the following. The head and palpi are quite yellow, the thorax velvety black with a large yellow spot on the metathorax and a yellow proximal half of the collar. The abdomen is in the ♂ carmine like the whole underside, in the ♂ golden orange, the 1st and last segment and series of dorsal spots dark sooty grey. Forewings in the ♂ yellowish olive-grey, in the ♀ of a purer yellow. The veins, a spot near the base with an undulate line behind it, a spot at the costa and in the cell, a very large discal spot, an undulate postmedian line, a spot from the costa to the middle radial, a series of antemarginal spots, and a marginal line are velvety black. Hindwings whitish diaphanous, veins brown and margins grey. Length of forewings: 26 mm. Costa Rica; Ecuador.

E. giganteum *Druce.* Head black, neck carmine; collar and thorax black, with yellowish-brown *giganteum* stripes, and a large yellow spot on the metathorax. Abdomen black, above with carmine bands, the last rings all red. Forewings brownish-black with light yellowish veins; at the cell-end there is a brownish white spot, behind it a band of a similar colour; a light brownish antemarginal line extends from the apex to the proximal angle. Hindwings white, broadly bordered with black, with black veins. Expanse of wings: 58 mm. Colombia.

E. punctatum *Guér.* (= *mitigata* *Wkr.*, *cribrum* *Möschl.*, *zamorae* *Dogn.*, *reticulatum* *Btlr.*, *arcno-* *punctatum* *Druce*) (24 k). Head and thorax brownish-grey, spotted black, in the neck yellow and red. Abdomen red with a black terminal segment and lateral rows of black spots. Forewings whitish with grey veins and between them oblong, blackish-brown spots. Hindwings blackish-brown with a whitish diffuse patch below the cell. Distributed from Guatemala as far as Paraguay.

E. buchwaldi *Rothsch.* Closely allied to *punctatum* and discernible by the yellowish grey-white, not *buchwaldi* dark grey underside, by dark grey markings on the thorax, by a series of dark grey dorsal spots on the abdomen and by irregular, often sagittal spots and stripes on the forewing in the place of regular oval spots. West Ecuador (Quevedo).

E. hyalinum *Kaye* (24 k). Anterior body ochreous-brownish, marked black; neck yellowish-red, collar *hyalinum* black; on the metathorax a yellow spot. Abdomen black with subdorsal, almost contiguous, carmine spots

from the 5th to 7th rings. Forewing dark brown with lighter veins, at the distal margin from the lowest radial vein to the lower median vein of a lighter, isabel colour with rows of black spots arranged in the same way as in *punctatum*. Hindwings bluish transparent, at the border broadly black. Expanse of wings: 38 mm. Trinidad.

- leprotum*. **E. leprotum** Druce. Head, collar and anterior part of the thorax greyish, metathorax and the upper side of the abdomen as far as behind the middle blackish-brown; the abdominal sides and the last rings above brilliant red, apex black; underneath yellowish-white; laterally a series of small black spots. Forewings grey, the base, a round cellular spot, a spotted band at the cell-end, and a series of spots near the apex are greyish-black, as well as minute spots along the proximal and distal margins. Hindwings greyish-white, at the apex and distal margin greyish-brown. Expanse of wings: 42 mm. Venezuela.
- fosteri*. **E. fosteri** Rothsch. differs from *leprotum* by the entirely red abdomen, only the last segment being dark, by more densely spotted forewings and grey-white diaphanous hindwings. Length of forewings: ♂ 19 mm, ♀ 22 mm. Paraguay.
- dentatum*. **E. dentatum** Schaus (24 k). Anterior body grey, with blackish stripes, in the neck carmine. Abdomen above carmine, beneath white, laterally black like the last segment; the 1st ring is grey, often also 1 or 2 more rings exhibit small grey spots. Forewings light grey with numerous, darker, small spots and dentate lines. Hindwings grey, in the disc diaphanous. Expanse of wings: 31 mm. Mexico (Coatepec, Misantla).
- melanoperas*. **E. melanoperas** Hmps. (24 k) is distinguished by dark red-brown forewings with reddish-grey veins and narrow transverse lines; the one before the margin is strongly dentate. Two spots on the vertex, hips and abdomen pale carmine, the latter with brown lateral lines, and the first and last segment being brown.
- bolivianum*. Amazon. — subsp. **bolivianum** Rothsch. differs by lighter grey, almost white markings. Bolivia.
- rosenbergi*. **E. rosenbergi** Rothsch. is larger than *melanoperas*, with a large white spot behind the cell of the forewing and a quite sooty-black, not red underside of the abdomen. Length of forewings: ♂ 17 mm, ♀ 14 mm. Ecuador.
- pallada*. **E. pallada** Druce. Anterior body light fawn-coloured with black stripes; antennae and palpi black. Abdomen above brilliant red; the first and last segment, as well as lateral lines black; underside orange-yellow. Forewings light fawn-coloured, between the veins with blackish stripes. Hindwings diaphanous brownish, at the apex and distal margin darker. Expanse of wings: 46 mm. Paraná.
- flavopunctatum*. **E. flavopunctatum** Dogn. Anterior body black; forehead and vertex spotted black, collar and shoulder-covers bordered with yellow; shoulders and mesothorax spotted yellow. The abdomen is above brilliant red, the last ring and the underside black; hips yellow. Forewings white with yellow veins and rows of black spots, covering the wing to such an extent that there remain of the ground-colour spots only in the middle of the cell and below the median, as well as a band behind the cell from the subcosta to the upper median vein. Fringes black and white. Hindwings white with a black marginal band and veins. Expanse of wings: 33 mm. Colombia (Cali).
- dorsipunctum*. **E. dorsipunctum** Hmps. Head and thorax with small black spots and stripes; neck with 2 yellow spots. Forehips and abdomen above carmine, the latter with dorsal black spots, black lateral stripes and a black anal ring, underneath yellowish-white. Forewings white, veins, costal and proximal margins light brown with rows of black spots; in the middle of the cell there is a black spot with a light centre, but parted by a light longitudinal streak. Hindwings white with a marginal band of blackish-brown, being broad at the costa and narrow at the proximal angle. Expanse of wings: 34 mm. Venezuela; Paraguay.
- leopardinum*. **E. leopardinum** spec. nov. (24 l) greatly approximates *dorsipunctum*; it is smaller and differs above all by the absence of the black dorsal spots on the red abdomen; the palpi are at the base and at the terminal joint white; the hindhead is yellow and the neck exhibits 2 carmine spots. From the uniformly light yellowish-grey ground-colour of the forewings the margins and veins do not stand out darker. Peru (Hallapani), from BANG-HAAS.
- quadricolor*. **E. quadricolor** Wkr. (24 l). Head, thorax and forewings yellowish-grey-white with very prominent, black, small spots being bordered with orange, an especially long one above vein 1 at the base. Hindwings dark blackish-grey. Abdomen above carmine with a series of minute black dorsal spots, black anal apex and black lateral spots. Ventral side reddish-white. Brazil: Rio de Janeiro. — **centrale** form. nov. (= subsp. 1. Hmps.) (24 l), flying in Mexico, Costa Rica and Panama, is a form with considerably smaller spots of the forewings, the longish one on vein 1 being parted in two, the hindwings are of a paler grey, whereas the form from the northern parts of South America, Venezuela: **boreale** Rothsch. is smaller, but more brightly coloured, exhibiting larger black spots on a grey ground, and darker hindwings. — The southernmost form from Paraguay: **meridionale** Rothsch. is still smaller, the ♂ has quite grey forewings, the ♀ more purely white ones, the hindwings being yellowish brown-grey.
- atrigruttum*. **E. atrigruttum** Druce (24 l) greatly resembles the Mexican form of *quadricolor*, being about smaller by half, the black spots still smaller and paler, not margined at all with yellow; the hindwing in the disc white, at the border pale grey. The abdomen is of a dull rosy-red, beneath dirty white. It flies in Mexico and Venezuela.

E. marcatum *Schaus* is allied to the preceding. Head and thorax white with black spots. Abdomen *marcatum*. rosy with a brown first segment and a black apex; with short brown subdorsal stripes and a lateral row of black dots; underneath yellow-reddish. Forewings white with similar black spots as the preceding, and black margins; the most distal one of the costal-marginal spots is confluent with a large spot between the median veins, extending as far as the proximal angle. Fringes white, at the ends of the veins spotted black. Hindwings white with grey veins and border which grows broader at the apex and proximal angle. Expanse of wings: 33 mm. Paraguay.

E. clements *Schaus* differs from all the species by the forewings being marked carmine. *clements*. Anterior body and forewings are of a deep dark brown; rings on the palpi, the basal joint of the antennae, the neck, 2 spots on the metathorax, hips and rings on the legs are carmine. Abdomen carmine with a triangular, brown dorsal spot at the base as far as the 3rd ring; the last ring and lateral stripes are likewise brown. The forewings exhibit 3 red spots at the costal base, dentate and undulate red transverse lines before and behind the middle, ring-spots and reniform spots and oblong-oval rings before the margin. Hindwings blackish-brownish, in the disc diaphanous. Expanse of wings: ♂ 36 mm, ♀ 42 mm. Sa. Lucia (West Indies).

E. imriei *Druce* (241) is very easily recognizable by the black forewings being thinly strewn with *imriei*. yellowish-white scales, with 2 large, irregular, whitish costal spots before and behind the middle; the anterior one extends as far as the median, the posterior one to the upper median vein. Before and on the margin there are rows of more or less distinct dots. Hindwings blackish-brownish, towards the base diaphanous. The anterior body is black, on the thorax mixed with ochreous-yellowish. The neck, 2 spots on the metathorax, hips and abdomen are carmine, the latter above with a triangular basal spot, black apex and lateral macular stripes. Expanse of wings: ♂ 34 mm, ♀ 42 mm. Guadeloupe; Dominica.

E. chalcodon *Druce* (241, 261) differs from the allied, very similar species by the antennae being *chalcodon*. white above. Forewings with a round cellular macula being prominently bordered with whitish. The basal joint of the antennae, and the neck are carmine. On the carmine abdomen only the 2 first rings are above black, the 3rd ring shows a black spot. Rio de Janeiro; São Paulo.

E. pyrozonum *Hmps.* (25 f) differs from *chalcodon* by the abdomen being black above and beneath, *pyrozonum*. with orange subdorsal spots on the 5th ring and orange dorsal bands on the following rings. Hindhead and shoulders spotted orange or carmine; hips carmine or orange. On the blackish-brown forewings the veins and linear markings are olive-yellow, arranged about as in *chalcodon*. Particularly conspicuous is a whitish, four-cornered spot behind the round, black cellular spot and a yellow-white marginal spot with 2 black dashes in it. Expanse of wings: 40 to 45 mm. Venezuela; British Guiana as far as Bolivia.

E. sylvius *Stoll* (= *lutulentum* *Möschl.*) (25 a) is only half as large as *latifascium* which the species *sylvius*. resembles otherwise in the marking of the forewings and in the colouring of the abdomen, though the black dorsal spots are absent. The hindwings are much darker, almost one-coloured blackish-brown. Distributed from Mexico to Brazil (Amazon). The larva is densely covered with black and grey hair which grow much longer and thicker towards the posterior segments; the first segment exhibits some thick, yellow hair-tufts. It lives on orange-trees and makes itself a greyish-brown cocoon for the pupation.

E. antonia *Druce* is larger than the preceding species, head and palpi black, the neck yellow; on *antonia*. the brown abdomen only the 4 last rings above are red, the anus itself is black. The wings are more yellowish-brown with yellowish veins, the markings of a deeper black. Hindwings blackish-brown, the disc not being lighter. Expanse of wings: 40 mm. South East Peru.

E. pseudarchias *Hmps.* (= *archias* *Druce*) is a rather large species, distinguishable by the doubly *pseudarchias*. contoured pointed arch formed by the anterior transverse line between the submedian fold and proximal margin, and by the carmine abdomen with a black terminal segment and a large, triangular, jet-black dorsal spot at the base. — The species is very common and distributed from Mexico to the Amazon. — The red colour of the abdomen may be replaced by a burning orange: **aurantiaca** *form. nov.* (25 a) which is before *aurantiaca*. us from Guiana and the Amazon. — **completa** *form. nov.* is another form from the same habitats, in which *completa*. the apical spot at the base of the proximal margin is entirely filled up with black, forming a large black spot.

E. aeolum *Hmps.* (= *rhodophila* *Druce*) (25 a), from Mexico and Guatemala, has brownish-white *aeolum*. forewings with numerous, small, black-streak like spots: at the base on vein 1, two curved streaks form an oval being distally bordered by 2 spots of the anterior row converging into two rectangular spots; in the cell 2 spots being situate above each other; a middle row gets very irregular towards the cell-end. Some submarginal and marginal punctiform spots. Hindwings blackish-grey, somewhat transparent. Head and thorax grey, spotted black, in the neck two small orange spots. Abdomen at the base and at the end blackish-brown, otherwise carmine with black dorsal spots and lateral stripes, beneath yellowish.

E. hampsoni *Rothsch.* extremely approximates *aeolum* and differs by the underside being rosy-red, *hampsoni*. not yellow. The forewings are spotted more indistinctly, and the spots are partly inclined to converge. The hindwings are diaphanous sooty-black, not light grey. Length of forewings: 16 mm. Bolivia.

- tessellatum*. **E. tessellatum** Schaus likewise greatly resembles *aeolum*, but it is much larger. The colour of the anterior body and of the forewings is more lilac-grey, the spots in the neck of a salmon-rosy colour like the underside. The hindwings are somewhat darker. Expanse of wings: 38 mm. Costa Rica.
- cimonis*. **E. cimonis** Schaus. Head dark grey, sides of forehead and vertex, below the eyes and collar spotted yellow; palpi blackish-brown, at the base yellowish. Thorax olive-brown, striped black. The abdomen is above carmine, a large dorsal spot on the 3 first rings, subdorsal rows of spots on the others, broad lateral stripes, and the anal segment are black. The venter and hips of a salmon-rosy colour. Wings rosy grey, veins and cell-fold light olive-brown, black spots arranged similarly as in *latifascia*. Hindwings diaphanous blackish brown, veins and distal margin darker. Expanse of wings: 43 mm. Costa Rica; Venezuela; Ecuador.
- latifascia*. **E. latifascia** Wkr. (25 a) is a rather large species from Mexico, the whole of Central America, Pará as far as Pern. — The forewings are brown with black spots; the largest are situate: at the base of vein 1 and in the surroundings of the cell-end, particularly between the median veins. Postmedian distally long-dentate spots above the lower median vein, the middle and upper radial, with whitish diffuse spots between them; a submarginal row of oblong spots. Hindwings transparent blackish-grey, at the border darker. Abdomen red with a large, triangular, blackish-brown spot at the base and black apex. Single black dorsal spots; broad black lateral stripes. Venter yellowish-rosy.
- baleris*. **E. baleris** Dyar differs from the preceding by the much greater extent of the dark spots, so that they almost entirely cover the wing and there remain only fine light lines between them. Expanse of wings: 41 mm. Mexico (Santa Rosa, State of Vera Cruz).
- flemmingi*. **E. flemmingi** Rothsch. differs from *latifascia* by its unicolorously reddish buff underside, the hips not being red, the thorax of a unicolorous timber tint, the abdomen above more scarlet without any dorsal spots; the brownish-grey, triangular basal spot extends only across 3 rings; the last ring and sublateral stripes are of a timber tint, not black. The forewings are pale timber-tinted, the spots dark brown. Hindwings of a monotonous diaphanous brownish-grey with darker veins. Length of forewings: 22 mm. Ecuador.
- pilati*. **E. pilati** Wkr. (= *sylvius* Sepp, *conjunctum* Möschl.) (25 b) likewise greatly resembles *latifascia* and is smaller; the black spots are much smaller and thinner, more like streaks, the thick spots round the lower cell-end are absent. The base of the abdomen is less extensively black, the dorsal spots are completely present. From Mexico, Guatemala, Honduras, Colombia, Surinam.
- erythroleptis*. **E. erythroleptis** Dyar (25 b) is closely allied to *pilati*, somewhat smaller, with a paler ground-colour, more grey, all the black spots much smaller, in the shape of streaks, particularly the one between the median veins, being very prominent in *pilati*, is very small. The abdomen does not exhibit any black dorsal spots. Known only from Mexico.
- obliquifascia*. **E. obliquifascia** Rothsch. is lighter than *pilati* (25 b), with larger and more irregular spots on the forewings; the black stripe on the upper median vein is absent, but instead a broad, dark brown oblique band traverses the wing from the costal centre to the proximal angle. Trinidad.
- maja*. **E. maja** Druce (25 b) has light brown forewings, with darker reddish-brown little strokes and indistinct dentate lines and darker spots in the middle of the cell and at the cell-end, the latter with darker patches above and below them. Hindwings whitish, veins and margin darker. The abdomen is above carmine, beneath whitish with black dorsal and lateral spots. Distributed from Mexico through the whole of Central America as far as Guiana; also in Trinidad.
- myrtusa*. **E. myrtusa** Druce (25 a) is a large species from Mexico and Costa Rica with greyish-brown, black-marbled forewings; at the base of the proximal margin and below the cell-end there are large black spots. Hindwings diaphanous light grey, at the border somewhat darker. Head and thorax of the same colour as the forewings. The first and last abdominal segment blackish-brown, abdomen otherwise above carmine with black dorsal spots, and with lateral spots being coherent beneath. Venter yellow.
- patrona*. **E. patrona** Schaus (25 b) resembles *myrtusa*, but it is easily recognizable by the broad, blackish-brown longitudinal band traversing the whole forewing from the base to the apex, being only shortly before twice interrupted. From Mexico (Orizaba, Misantla: May, June, October) and Venezuela.
- patulum*. **E. patulum** Dogn. (= *patronides* Rothsch.) differs from *patrona* by the carmine-rosy, not yellowish underside and hips, and by the deeper black markings on the forewing, being concentrated to larger spots particularly above the longitudinal stripe in the middle of the cell and at the cell-end, the shape of the wings being somewhat broader and the border of the hindwing more convex. Expanse of wings: 45 to 48 mm. Peru.
- servator*. **E. servator** Kaye differs from *patrona* (25 b) by the hindwings being of a quite unicolorous, diaphanous pearl-grey colour. The dark brown abdomen exhibits only the two penultimate rings vermilion, the 4 preceding ones being coloured red only at the sides. Expanse of wings: 44 mm. Venezuela (Caracas).

E. casca Dogn. (25 c). The large, white, subapical oblique spot of the brownish-black forewing makes *casca*. the species easily recognizable; the veins are striped orange-yellow, of which colour are also 3 small costal spots, the third at the beginning of the subapical spot; a small spot in the middle of the cell is whitish. Hindwings diaphanous with blackish margins. Body blackish-brown, anterior body with orange stripes and spots, the three first ventral segments with white bands, the two last rings above spotted orange. Ecuador, Bolivia.

E. pseudocasca Rothsch. is discernible from *casca* (25 c) by the pale sea-green, not orange-yellowish *pseudo-casca*. veins and spots; the dark ground-colour recedes greatly; the basal area of the hindwing is of a much purer and more extensive white, and the ventral side exhibits a white, not yellow spot. Length of forewings: 19 mm. Peru (Carabaya), taken in January.

E. albinotum Dogn. is smaller than *casca* (25 c) and differs by the absence of the white spot on the *albinotum*. metathorax, the abdomen being entirely brownish-black, only the anus and a small dorsal spot on the 1st ring being yellow, beneath the rings are margined with yellow. The postmedian white spot on the forewing is shorter, extending only to the middle radial, and is dentate on the 1st radial vein; beside the small orange spot above it there are at the costa 2 more, one in the middle. Expanse of wings: 34 mm. Colombia (San Antonio).

E. darantasia Druce (26 l) is larger than *casca* (25 c), otherwise on the whole rather like it, but the white *darantasia*. spot behind the cell is absent; instead of it we notice a very pointedly dentate, yellowish transverse line. In the middle of the cell and at the end of it there are black spots, between them a small whitish spot. The orange spots in the neck and the whitish spots on the metathorax are absent. Expanse of wings: 46 mm. Costa Rica.

E. flavicaput Hmps. (= *leucophaea* Druce) (25 b). This species and the following ones are very much *flavicaput*. alike; the forewings exhibit, on the yellowish ground-colour, dark veins and 3 dentate lines crossing each other. **E. flavicaput** is one of the darker species, of a yellow-brownish ground-colour, suffused with olive-brown particularly at the proximal margin, base and cell-end. The brownish-grey head exhibits on the vertex two orange spots, the two last abdominal segments are orange. Mexico, Guatemala, Costa Rica, Ecuador.

E. bricenoi Rothsch. Like *flavicaput* (25 b), but with a much lighter yellow ground-colour. The *bricenoi*. median area of the forewing and a postdiscal band from the subcosta to the upper median vein are entirely white. Venezuela (Merida); Colombia (Choachi).

E. griseatum Rothsch. differs from the preceding by the olive-brownish grey-ground-colour. The hind- *griseatum*. wings of the ♂ are white in the basal $\frac{3}{4}$, in the ♀ entirely dark grey. Peru.

E. leucophaeum Wkr. (25 c) from Brazil (Rio de Janeiro) and Paraguay is the most similar to the *leuco-phaeum*. following species, distinguished by the metallic blue spot on the forehead, and the metathorax exhibits a blue spot, too, both, however, being absent in the ♀. On the abdomen the two last rings are above orange, in the ♀ only one ring. The hindhead shows two whitish spots.

E. xanthurum Schaus (25 c) differs from *leucophaeum* particularly by the two dark orange spots on *xanthurum*. the hindhead. Forehead and metathorax in the ♂ do not exhibit any blue spots. In both sexes only the last abdominal segment is orange. Mexico, Costa Rica, Brazil.

E. apicaflava Kaye differs from *xanthurum* chiefly by the absence of the antemedian dentate lines of *apicaflava*. the forewings which are clouded grey with darker scaled veins. At the costa above the middle of the cell there is a dark spot and in the surroundings of the transverse vein a large spot extending to the costa; the subapical dentate band is followed by a narrow, greyish-white macular band. At the proximal angle there is an irregular spot. Venezuela (Caracas).

E. decorum Schaus. Body blackish-brown, thorax and shoulder-covers striped white; the 1st palpal *decorum*. joint, the hindhead, a small spot at the articulation of the forewing, and the 2 last abdominal rings are orange. Venter spotted white. Forewing as far as the posterior transverse line light brown, then whitish; the veins, a stripe from the base of the median to the upper cell-angle and one below the submedian are black; before the middle a dark transverse line being angular in the cell; the posterior transverse line makes two bends from the costa to the upper median vein, then turning to the middle of the proximal margin; an antemarginal, irregular, blackish-brown shade; the uppermost radial vein and the 2 subcostal veins above it are of a more intense black. Hindwings blackish-brown, in the disc whitish. Expanse of wings: ♂ 42 mm, ♀ 49 mm. Costa Rica.

E. surcatum Dogn. Head and thorax brownish-grey; neck yellow; abdomen above black, the 2 last *surcatum*. rings yellow; the underside yellowish. Forewing yellowish-brown, traversed by irregular, rusty-red zigzag-lines: 3 near the base, and 5 in the distal half, between there is a large discal spot. Hindwings blackish. Expanse of wings: 42 mm. Ecuador (Loja).

E. lutetia Druce (25 d) exhibits on the brown forewings behind the cell an indistinct white spot. *lutetia*. The brown body has an orange-yellow abdominal end. Panama.

- marmoratum*. **E. marmoratum** *Btlr.* (= *flavofasciatum* *Möschl.*) (25 c) on the forewings is on the whole similarly marked as the following, but of a darker colouring, dark brownish-grey. From Guiana to the Amazon. — *atratum*. f. **atratum** *Rothsch.* is still much darker, sooty brownish-black. — Venezuela.
- simile*. **E. simile** *nom. nov.* (= *tessellatum* *Rothsch. nec Schaus*) differs from *marmoratum* by the smaller size and narrower forewings, the shoulder-covers being light yellowish-grey bordered with brownish-black, not dark grey with black stripes; the whole thorax is yellowish-grey, not dark grey, of the same colour are the forewings; the veins are dark brown, the antemedian dentate line is only visible at the proximal margin; an irregular, dark brown oblique band extends from the costa to the proximal angle, at the apex there are 2 brown bands. Length of forewings: 18 mm. Venezuela; Surinam; Colombia.
- complicatum*. **E. complicatum** *Btlr.* (25 c) resembles *flavicaput* on the forewings, the marking is somewhat finer, but the abdomen is quite different: orange-yellow, with a triangular, blackish-brown basal spot and black terminal segment, on the ventral side whitish-yellow. From Brazil (Amazon); before me also from East Colombia (Rio Negro) and Bolivia.
- albidius*. **E. albidius** *Rothsch.* is much larger than the preceding. Head whitish grey with orange spots. Thorax whitish with narrow sooty black margins. The abdomen is blackish-grey and exhibits only on the 2 last rings above a large orange spot. Forewings creamy white with 3 irregular, transverse zigzag lines, veins and a discal spot of a sooty-brown colour. Hindwings sooty-grey with darker veins. The ♀ has more grey forewings and a lighter disc of the hindwing. Length of forewings: 27 mm. Amazon (Fonte Boa; Manaos; Rio de Janeiro).
- compositum*. **E. compositum** *spec. nov.* (25 d) combines the characters of *complicatum* and *pyrozonum*, the markings in the basal part of the forewing being like in the former, in the marginal area like in the latter. Body light greyish-brown, with darker markings, abdomen like in *complicatum*. 1 ♂, the patria not being stated, in the Coll. SEITZ.
- amadis*. **E. amadis** *Schaus* (25 d), from Mexico (Coatepec, Misantla) and Colombia, is on the forewings coloured and marked almost exactly like *latifascium* *Wkr.*, only somewhat darker, the head and thorax unicolorously deep blackish-brown, the hindhead exhibiting two orange-yellow spots. The abdomen except a large, triangular, blackish-brown spot at the base and the black apex, is ochreous-yellow, which colour is separated from the ventral surface being somewhat lighter by a blackish-brown lateral stripe.
- tripunctatum*. **E. tripunctatum** *Druce* (25 d) looks very much like *myrtusa* *Druce*, except being somewhat smaller, but owing to the ground-colour being somewhat lighter, reddish-brown, the 3 black spots at the base, below the cell-end and before the apex are more prominent. The abdomen is ochreous-yellow with a large, triangular, black spot at the base, rows of black dots across the dorsum and at the sides and black anal apex. Mexico, Guatemala, Costa Rica, Panama.
- velutinum*. **E. velutinum** *Schaus* (25 e) has light brown, darker dotted forewings with single, darker, small spots; from the middle radial vein to the proximal angle extends an indistinct line growing much broader here; the hindwings are blackish-brown. The abdomen is at the base blackish-brown, otherwise orange with black dorsal and lateral spots, the venter whitish. Brazil (São Paulo).
- striatum*. **E. striatum** *Druce* (25 e) is a species well characterized by the peculiar shape of the wings: the long-extended forewing is strongly bent at the costal margin towards the apex, below the lower radial begins a concave indentation of the distal margin. Yellowish white, tinted olive, with blackish-brown veins and longitudinal markings. More prominently white longitudinal streaks are below the lower median and above the middle radial vein. Hindwings light grey transparent. Abdomen blackish-brown with ochreous-yellow spots growing larger towards the anus on the sides of the 5 last segments. Mexico, Costa Rica, Panama, Ecuador, Brazil. — subsp. **pallescens** *Rothsch.* from Paraná, is of a much paler colour, the markings less distinct and partly vanished.
- perstriatum*. **E. perstriatum** *Hmps.* is extremely near to the preceding and differs chiefly by its entirely dark brown abdomen with subdorsal and sublateral yellow spots only on the 2 last rings; the 3 first rings exhibit beneath hairy, white spots. On the forewings the transverse lines are more distinctly prominent. Expanse of wings: 44 mm. South East Peru.
- reniferum*. **E. reniferum** *Hmps.* (25 f). The anterior body is grey, spotted and striped black, the neck yellow; the orange-yellow abdomen shows a large, triangular, blackish-brown basal spot, black lateral stripes and anal apex; venter white. The forewings are light grey with black veins and strongly bent transverse lines; at the transverse vein there is a large, brown spot with a lighter pupil, expanding still more below the cell. Hindwings blackish-brown. Amazon. Pebas.
- coenobita*. **E. coenobita** *Möschl.* (25 d) approximates the following species, but it is darker on the whole; head and thorax are quite blackish-brown, only the upper part of the forehead and a transverse band behind the collar are white. The abdomen is browner, the 2 last rings above quite orange. The black spots on

the forewings are much more irregular, on the whole larger and form behind the middle a complete, broad, postdiscal band. Expanse of wings: 46 mm. Jamaica.

E. picoides *Rothsch.* differs from *coenobita* (25 d) by its creamy ground-colour, the spots on the forewings being not so black, more brown, being at the same time larger and inclined to flow together. — From Santa Marta, in September and October. *picoides.*

E. pica *Wkr.* (25 e) is a large, easily recognizable species with yellowish-white forewings being irregularly spotted black; head and thorax are white, marked black; behind the eyes and on the metathorax there are very small orange spots. The abdomen is blackish-brown with broad, orange-yellow, lateral macular stripes which are more or less confluent above on the posterior rings. Ventral side for the greatest part white. From Rio de Janeiro and São Paulo. — subsp. **tigrata** *H.-Schüff.* (*peruviana* *Schaus*) is of a purer white with reduced black markings on the forewings. The hindwings are blackish-brown, lighter in the disc. *pica.* *tigrata.*
Costa Rica; Panama; Venezuela; Peru.

E. consortium *Schaus* is on the forewings marked very much like *pica* (25 e), somewhat smaller and distinguished by the abdomen being above orange; only the last ring and a spot on the penultimate ring are black; underneath white, the two last rings and sublateral rows of spots black. Head white, the palpi black, at the ends of the joints spotted white. Collar black with 2 large, creamy-white spots; the thorax is all white, only on the shoulder-covers and the metathorax there is one black spot each. Expanse of wings: 40 mm. Costa Rica. *consortium.*

E. exile *Strand* (26 l) is closely allied to *coenobita* and *consortium*; from the latter it differs by a uniformly black terminal joint of the palpi, the 1st joint exhibiting a white spot at the tip. Head creamy-yellowish with a black forehead. The abdomen is black, with orange lateral stripes which begin narrow, growing broader posteriorly and being united on the two last rings. Expanse of wings: 44 mm. Described and figured according to a ♀ from Ecuador (Coll. NIEPELT). *exile.*

E. tigrisoma *Rothsch.* approximates the preceding. Head and thorax white, bordered with black. The abdomen above black, the 1st ring and a broad dorsal band slate-grey; the rings 3 to 7 exhibit lateral large orange spots. Forewings white with black spots; the disc is crossed by a similar, black oblique band like in the allies. The hindwings are diaphanous white in the basal two thirds, the distal third being brownish-grey. Length of forewings: 21 mm. Brazil (Preto). *tigrisoma.*

E. davidi *Dogn.* (25 e) has a certain exterior resemblance to *pica* and its allies; head and thorax are white, spotted black. The abdomen is black with orange lateral spots on the rings 3 to 7. The forewings are preponderantly black with irregular white spots, the hindwings hyaline with a black marginal band and black veins. Expanse of wings: 44 mm. Ecuador; Bolivia. — In **clarius** (= subsp. 1 *Hmps.*) *clarius.* *nom. nov.* the white colour appears more extensive on the forewings; the abdomen has orange lateral spots only from the 3rd to 5th rings. Peru. *davidi.*

E. ockendeni *Druce.* Body black; sides of the head and collar white. Abdominal sides spotted yellow; the first rings beneath white. The markings of the white forewing similar as in *davidi*, but much finer and divided into smaller spots. Hindwings transparent white, apex and distal margin black. Expanse of wings: 52 mm. South East Peru. *ockendeni.*

E. varium *Wkr.* (25 e) is a large species with brown forewings and yellowish-grey veins and linear markings. The species is recognizable by a yellowish-grey marginal spot between the lower median and lower radial vein with 2 small black spots in it, furthermore a square light spot in the cell-end and the hyaline hindwings with a broad, sharply defined black border. The black abdomen is orange-red on the segments 5 to 7; on the 4th ring there are mostly subdorsal, orange spots. From Panama as far as the Amazon. *varium.*

E. steinbachi *Rothsch.* The head is dark grey, in the neck golden-yellow; the thorax olive-yellow, bordered with dark grey; abdomen yellowish carmine, the first 3 rings and the anal tuft with greyish-black hair. Forewings olive-yellow, in the marginal area between the 2nd median and 3rd radial cream-coloured, covered with sooty grey longitudinal spots and lines forming at the cell-end a more or less distinct, roundish spot. Hindwings sooty grey. Length of forewings: 20 mm. East Bolivia. *steinbachi.*

E. setosum *Sepp* (25 f) is widely spread from Mexico to Bahia; it has long-extended, grey-brownish forewings with darker veins bordered with olive-yellow, and with transverse rows of longish, dark-brown, yellow-ringed spots; the hindwings are diaphanous light grey, at the border darker. Abdomen like in the allies ochreous-yellow with a large, dark brown, triangular basal spot, the apex of which extends as a dorsal stripe as far as the black anal apex. Distributed from Mexico to Brazil. — **relegatum** *Schaus* from Costa Rica is probably only a somewhat smaller, darker form of it. On the body deeper black, the thorax marked brown. Spots of the forewings black, bordered with yellow-reddish. *setosum.* *relegatum.*

E. mara *Kaye* approximates *setosum*, but it is of a purer white and opalescent, with light yellowish veins. At the costa there are 3 light yellow spots at equal distances. Hindwings transparent opalescent, the veins towards the margin brownish. Expanse of wings: 40 mm. Venezuela. *mara.*

- cubense*. **E. cubense** Schaus. Head and thorax olive-grey with black, small spots and stripes bordered with olive-yellowish. Abdomen above black, laterally and on the three last rings also above yellow with 2 black dorsal spots and a black transverse band on the last ring; beneath white; laterally spotted black. Forewings whitish-grey, veins, costa and proximal margin olive-green with oblong, black spots in the cell and between the veins, arranged similarly as in the preceding. Hindwings white, veins and margin blackish. Expanse of wings: 38 mm. Cuba.
- rogersi*. **E. rogersi** Druce (25 f) is the nearest to *setosum*, differing by the broader shape of the wings, somewhat lighter total colouring, the colours being more clearly distributed, not so much dusted over with grey, all the spots somewhat rounder, not so long extended. The hindwings are darker. From Mexico, Costa Rica, Panama.
- confine*. **E. confine** Herr.-Schäff. (25 f), among the allied species, has the purest white ground-colour, the veins are olive-grey, scarcely bordered with yellowish. Head whitish-grey with a large black spot on the vertex and an orange-yellow neck-ring. Collar grey with large, black spots, shoulder-covers whitish-grey, bordered with black. Widely distributed from Florida and Mexico as far as Brazil. — v. **carolina** Hy.-Edw. (= *confine* Holl.) is the northern form from Florida.
- confusum*. **E. confusum** Rothsch. (25 g) extremely resembles *confine*: the ground-colour is not such a pure white, but more of an olive-grey tint, the veins are more yellowish; the spots on the forewing are not black, but more sooty brownish; the yellow of the abdomen is lighter and duller, not so brilliant orange-yellow, the hindwings are dirty grey. Widely distributed from Mexico, Costa Rica, Panama as far as Venezuela. — subsp.
- amazonum*. **amazonum** Rothsch. from Surinam and the Amazon is of a browner tinge, the markings are more hazy, the hindwings of a pure white, semi-transparent.
- myrina*. **E. myrina** Druce (25 g) is on the forewings similarly marked as *confine*, but much duller and finer on the semi-diaphanous white ground. The whole insect is generally smaller, of a more graceful structure, and the abdomen is all yellow with black dorsal and lateral spots. From Mexico as far as Guatemala.
- moeschleri*. **E. moeschleri** Rothsch. Head and thorax light yellowish brown, with darker grey-brown stripes; abdomen above lemon-coloured, the 2 first segments and the last one, as well as a dorsal band of a yellow-brownish grey; the whole underside is brownish-white. Forewings light brownish olive-yellow with some whitish hyaline markings, and spotted and striped brown. Hindwings diaphanous whitish, bordered with drab. Length of forewings: 19 mm. Jamaica.
- parambae*. **E. parambae** Rothsch. (25 g). Head and thorax drab, with darker spots, in the neck yellow. Abdomen above orange with a grey anal apex, the whole underside is of a dirty yellowish. Forewings grey-whitish with grey veins, with 2 antemedian transverse rows of dark grey spots, in the middle a double band of large spots, being divided into 3 bands below the median, one of which runs to the proximal angle; behind them and before the margin, from the costa to the upper median vein there are yet 2 rows of spots. Hindwings dark grey. Length of forewings: 19 mm. Ecuador.
- guacolda*. **E. guacolda** Poey is on the anterior body pale ochreous-brownish, spotted blackish. The abdomen is orange-yellowish, with dorsal and lateral blackish spots, on the venter whitish. On the yellowish-grey forewings, at the base of the median, there is a short black and carmine stripe; at the base, in the cell and at the cell-end some blackish dots; a postmedian row of small spots extending from the costa very obliquely in a proximal direction; the spot below the lower cell-angle is longer than the others; before the margin and on it there are yet rows of minute spots. Hindwings black-brownish, cell and inner-marginal area yellowish. Expanse of wings: 40 mm. Cuba.
- ochrotum*. **E. ochrotum** Hmps. (= *guacolda* Hmps.) is darker than the preceding, more ochreous-brown, all the spots black; the abdomen is orange. Jamaica.
- popayanum*. **E. popayanum** Dogn. Head and thorax orange-yellowish, vertex yellow. Abdomen above yellow, the 1st ring grey, on the following ones as far as the penultimate brown dorsal bands, the sides and venter are whitish. All the wings of a light yellowish-grey. Expanse of wings: 32 mm. Colombia (Popayan).
- abdominale*. **E. abdominale** Wkr. Brownish-grey, neck and abdomen orange, the three first segments above spotted grey. The forewings exhibit 4 darker brown undulate lines, a round spot in the middle of the cell and one at the cell-end; at the border short streak-spots between the veins. Hindwings darker brown. Venezuela.
- aoris*. **E. aoris** Möschl. (25 g). Head and thorax are whitish, the collar yellowish, the chest black-brownish. The abdomen is light yellow, the last ring black; narrow lateral stripes are black, the ventral side white. The forewings are grey with black spots, arranged similarly as in *atrigruttum*, but more extensive. Hindwings semi-diaphanous whitish with a brownish marginal band growing much narrower towards the proximal angle. Expanse of wings: 30 to 40 mm. Surinam.
- inconspicuum*. **E. inconspicuum** Lathy differs from *aoris* (25 g) by the abdomen being also underneath orange-yellow, the two last rings above and the 4 last rings beneath being black. The neck and forehips orange, collar

black-brownish. Forewings very much like in *aoris*, hindwings brownish-black with a diaphanous disc. British Guiana (Demerara).

E. ecuadoris *nom. nov.* (= *buchwaldi* *Rothsch.*) is much smaller than *aoris*. Head and thorax dark grey, collar lighter grey; neck, abdomen and the whole underside monotonously yellow. Forewings light grey with transverse rows of dark grey spots; 4 of them, next to the base above and below the inner-marginal vein, bordered with yellow. Hindwings diaphanous whitish-grey with a broad drab margin and apex. Length of forewings: 14 mm. West Ecuador.

E. ladas *Schaus.* Head and thorax are brownish-black mixed with greyish-white. Abdomen brownish with orange-yellow transverse bands on the 3 last rings, which are more prominent in the ♀. Forewings grey-white with blackish-brown veins; in the middle of the cell and at the end minute darker spots. Before the middle there are traces of a dentate line, behind the middle an irregular line, the latter surrounds the cell in an arch-like way and then turns towards the middle of the proximal margin. Before the margin dark, small sagittal spots. Hindwings blackish-brown, in the ♀ towards the base lighter. Expanse of wings: 24 mm. Rio de Janeiro.

E. xanthoperas *Hmps.* (= *abdominale* *Druce*) (25 i) has brownish-grey forewings with a small dark spot in the middle of the cell, a larger one at the end of the cell and minute, antemarginal sagittal spots. Hindwings brownish-white diaphanous; body brownish-grey, the 3 last abdominal rings orange-yellow. Mexico; Guatemala; Costa Rica.

E. flavicineta *Schaus* (25 h) is easily recognizable by the penultimate yellow abdominal ring, whereas the others are unicolorously blackish-brown. Characteristic is, furthermore, the marking in the cell of the forewing exhibiting in the middle a black circle and on each side of it a black streak along the cell-fold; moreover, on the whitish-grey forewings, the veins and dentate lines are blackish; the transverse vein appears as a light grey angular streak out of the blackish surroundings. The hindwings are light grey, bordered with blackish. Peru and Bolivia (Rio Longo).

E. sadana *Druce.* The head is black with a red vertex; the rest of the body dark brown, beneath rosy-red; legs brown. Forewings unicolorously dark brown, hindwings diaphanous brownish-black. Expanse of wings: 33 mm. Peru (Carabaya).

E. mathani *Schaus.* Head and thorax brown, in the neck 2 yellow spots. Abdomen above blackish-brown, beneath yellow, with brown bands; anal hair yellow. Forewings brownish-grey with dark brown markings: a basal spot, an antemedian, undulate, bent band, in the cell a square spot followed by a lighter brown transverse spot, at the cell-end and behind it a large spot, divided by the veins into 6; a postmedian row of longish spots and an antemarginal, similar, though smaller one. Hindwings brownish-grey, towards the base diaphanous. Expanse of wings: 33 mm. Ecuador.

E. rabusculum *Dogn.* Body dirty white, mixed with grey, abdomen curled grey, the last rings covered with long, grey hair. Forewings whitish-grey, traversed by 6 broad grey transverse bands: a basal one spotted black, one behind it, an antemedian band, close behind it a fourth growing much broader on the transverse vein and forming a large black costal spot, and 2 at the margin, which are scarcely separated, the distal one darkened on both the upper radial veins. Fringes grey. Hindwings white with a minute discal spot and a grey costal margin and border, at the apex broader. Expanse of wings: 45 to 48 mm. South East Peru.

E. costulatum *H.-Schäff.* (25 h). The forewings are marked as in *phaeoproctum*, but the yellow is darker and the apex of the abdomen is orange as in *aroa*. Panama, Venezuela.

E. costinotatum *Dogn.* Anterior body blackish, marked whitish-yellow; abdomen black, the last ring yellow, beneath black; the rest of the ventral side dirty white. Forewings yellow-white, the veins and the middle costal third black; before the apex is a large white spot extending down as far as the middle radial. Forewings black, towards the costa whitish. Expanse of wings: 30 mm. Brazil (Paranapanema). *SCHAUS* places this species to the genus *Hyaleucera* and beside *sororia*.

E. aroa *Schaus* (= *costulatum* *Druce*) (25 h) has whitish forewings, costal margin, discocellular and proximal margin striped yellow. The veins, a stripe in the discocellular and the submedian fold greyish-brown, as far as behind the cell-end, in some places thickened to a spot, then follows a reniform, light spot; the apex is again smoky grey. Thorax and abdomen grey-brown, in the ♂ the last ring, in the ♀ the two last rings orange. The venter is more or less whitish. On the hindhead 2 orange-yellow spots, the shoulder-covers striped orange. Distributed from Mexico to Brazil.

E. tenellulum *Schaus* (25 h). Palpi, head, collar and thorax brownish-grey; stripes on the shoulder-covers and 2 spots in the neck orange. Abdomen, except the orange-yellow last ring, brown-grey, on the ventral side more or less whitish, in the basal half and on the veins round the cell-end light ochreous-yellow. Blackish-brown, oblong spots arranged similarly as in *aroa* leave a reniform, almost purely white spot free before the apex of the wing, this spot projecting between the middle radial and the lowest subcostal vein

strongly convex towards the base. A subterminal macular band with the longest spot between the median veins and the largest between the middle radial and lowest subcostal vein; a terminal row of spots from the apex to the upper median vein, below it the margin is white. From Mexico (Orizaba: March and August) and Costa Rica (Juan-Vinas).

scyton. **E. scyton** Cr. (25 i) differs from *aroa* by grey forewings with a brown tint and without any yellow, with black veins and other markings: an antemedian, doubly angled transverse line; a postmedian, oblique line from the costa to the upper median vein, where it makes an angle and runs to the middle of the proximal margin; behind it there is a light spot with a dentate, distal border. The marginal area is dark with irregular, often contiguous, grey spots. Hindwings diaphanous blackish-brownish, towards the margin darker; body as in *aroa*. Expanse of wings: 32 mm. Distributed from Mexico through British Honduras, Surinam as far as São Paulo.

schausi. **E. schausi** Rothsch. is much larger and of a purer white than *scyton*. Head and thorax greyish-white, margined by a darker sooty grey, in the neck spotted orange. The abdomen is sooty grey, the last ring yellow, proximally margined by black. The underside is broadly banded white. Forewings white with blackish-brown veins, irregular spots and stripes. Hindwings diaphanous grey with darker margins. Length of forewings: 19 to 23 mm. Mexico; Costa Rica; Colombia; Ecuador.

lithosioides. **E. lithosioides** Rothsch. Head and thorax light yellowish brown, abdomen darker sooty brown, with a yellowish anal apex. The forewings are in the basal $\frac{4}{5}$ yellowish wooden brown, in the distal fifth more yellow reddish; antemedian and postmedian, curved, darker brown transverse bands. At the transverse vein, on the median, at the base of the lower median vein, and in the disc and at the proximal angle on the inner-marginal vein there are black dots. Hindwings brownish grey, in the disc diaphanous. In the ♀ the forewings are darker ribbed, the transverse bands are more distinct and at the transverse vein there are 2 dots. Length of forewings: 17 to 19 mm. Rio de Janeiro; Venezuela.

fuscatum. **E. fuscatum** Rothsch. Head and thorax dark brown, in the neck spotted orange. The abdomen is above black with an orange-yellow anal apex, beneath yellow, banded black. Forewings light clayish-brown or more greyish brown with irregular, dark brown transverse bands at the base, in, behind the middle, and before the margin. Hindwing in the basal half diaphanous drab, distally darker grey. Length of forewings: 17 mm. Ecuador.

fuscobrunneum. **E. fuscobrunneum** Rothsch. is uniformly dark olive-brown with a black abdomen and a yellow anal end. The forewings exhibit 2 darker transverse lines and a whitish postmedian shade from the costa to the proximal angle. Hindwings diaphanous sooty-blackish. The ♀ is larger, the hindwings darker. Length of forewings: ♂ 15 mm, ♀ 17,5 mm. Ecuador (Paramba).

fuscoirroratum. **E. fuscoirroratum** Rothsch. is a small, monotonously dark chocolate-brown insect. The forewings are watered with numerous, irregular, yellowish-grey transverse lines and bands. Length of forewings: 14 mm. Venezuela. — subsp. **minor** Rothsch. from the Rio Madeira (San Antonio) is still smaller and exhibits orange spots on each side of the abdominal rings 3 to 6.

strix. **E. strix** Rothsch. The body is dark brown, beneath mixed with whitish. Forewings wooden brown, striated darker brown; at $\frac{2}{5}$ of the length of the costal margin there begins a broad black line forming an arch and running on the inner-marginal vein into the base; at the transverse vein there is a dark line, behind it a bent transverse line followed by an oblique whitish line terminating on the lower median vein into the margin. The apex and a bent antemarginal line whitish. Hindwings diaphanous sooty grey, veins and margin darker. Length of forewings: 21 mm. Colombia.

ino. **E. ino** Druce has an entirely unicolorously fawn-coloured body with a light yellow anal tuft. Forewings light fawn-coloured with darker brown veins and 2 narrow, brown, transverse lines, the first one near the base, the 2nd at the cell-end. Hindwings whitish diaphanous, apex and margin brownish. Expanse of wings: 42 mm. Colombia.

mizar. **E. mizar** Druce. Head and collar brownish-white, thorax and abdomen dark brown, the 2 last rings orange; venter banded white. Forewings grey-white, clouded in a darker brown, with dark brown veins. Hindwings dark brown, towards the base lighter. Expanse of wings: 40 mm. Ecuador.

resina. **E. resina** Druce. Anterior body grey, abdomen black, legs brownish black. Forewings grey-white, strewn with a darker grey, in the cell with a round, dark-grey spot; a dark-grey zigzag-line runs from the apex to the proximal angle. Hindwings dark grey. Expanse of wings: 44 mm. Colombia.

ignotum. **E. ignotum** Druce. The body is unicolorously brownish-grey, the legs whitish. Forewings whitish, densely dusted with a dark grey. Hindwings diaphanous white, at the margin broad black. Expanse of wings: 42 mm. South East Peru.

irrorata. **E. irrorata** Schaus. Palpi and forehead whitish; neck, collar, and thorax light brown: a white stripe extends from the base of the antennae to the base of the wings. Abdomen light brown towards the base, more grey posteriorly. Forewings brown, finely watered with black, behind the middle condensed to an

indistinct transverse shade and marginal streaks; a black discal spot. Hindwings dark grey, towards the base lighter. Expanse of wings: 21 mm. Cuba.

E. testaceum *Druce*. The body is grey, the antennae black. Forewings diaphanous white, behind the cell, at the apex, distal and proximal margin clouded grey. Hindwings diaphanous white. In the ♀ the metathorax is whitish-haired. Expanse of wings: 40 to 46 mm. Venezuela.

E. zephyrum *Schaus*. Anterior body grey-white, hindhead and neck like the abdomen above yellow, the latter above with subdorsal grey stripes, the two last segments all grey, beneath grey. The white forewings have grey veins and stripes on the cellular and submedian folds; anterior transverse line dentate; the posterior one, encircling the large discal spot, runs from the upper median vein to the middle of the proximal margin; behind it a large, white area with likewise white veins, in the apex and at the anal angle a greyish-spotted obscuration. The hindwings semi-transparent, iridescent, with a narrow, dark border. From Costa Rica. — **songoense** *subsp. nov.* (25 h) has above a quite unicolorous grey abdomen, being all white beneath; the cellular and submedian folds are not striped grey, but the veins are grey-brown also in the marginal area, at any rate all the markings brownish. Bolivia (Rio Songo), from BANG-HAAS.

E. aetolia *Druce* has a dark grey anterior body; the neck is bordered with white; abdomen above black, beneath dark grey, the anal tuft is light yellow. The forewings are grey-brown, at the base the costal and distal margins are striped white, the proximal margin in its whole extent bordered with white. Hindwings diaphanous blackish, in the disc lighter, with white fringes. Expanse of wings: 26 mm. Colombia.

E. phaeoproctum *Hmps.* (= *costulatum* *Druce* nec *H.-Schäff.*) resembles *aroa*; it is somewhat smaller and has a pronounced dark middle spot at the cell-end, the light, arch-shaped band before the apex is considerably narrower and the abdomen in both sexes unicolorously brown-grey. Distributed from Mexico to Panama.

E. venosa *Schaus*. Body blackish-brown; forehead whitish; in the neck 2 orange spots; an orange stripe below the collar and on the shoulder-covers. The first abdominal rings are white underneath. Forewings whitish, with broadly grey-striped veins, cellular and submedian folds, except on a large, round, white spot behind the cell; the basal half of the costal margin and the proximal margin are orange; at the cell-end and behind the white spot there is more densely grey dusting. Hindwings light blackish-brown, towards the margin darker. Expanse of wings: 23 mm. Costa Rica.

E. intranotatum *Dogn.* Body blackish-brownish; 2 spots on the neck, and the borders of the shoulder-covers are of a bright yellow, the anal apex blackish-brown; the first abdominal rings beneath whitish. Forewings yellowish-white, the veins and the distal two thirds of the costa broadly blackish-brownish; behind the cell is an oval white spot, extending from the subcosta to the lowest radial. Hindwings pale blackish-brown, in the disc diaphanous. Expanse of wings: 26 mm. Ecuador (Loja).

E. pomatinum *Druce* (26 i) is coloured light grey-brown on the body and forewings, on the latter mixed with reddish-brown; above the proximal margin there is a brown stripe, before the middle a curved, dark line, at the transverse vein a spot extending as far as the costa, and behind the middle a faded, broad, blackish-brown oblique band from the apex to the proximal margin, with an indistinct, light, undulate, antemarginal line and a blackish spot behind it at the proximal angle. Forewings light grey-brownish, towards the margin darker. Expanse of wings: 26 mm. Panama.

E. birchelli *Druce*. Anterior body light brown, abdomen darker, more blackish-brown. Legs light brown, curled white. The forewings are light brown, strewn with a darker brown, with a black spot at the cell-end. Hindwings diaphanous blackish-brown. Expanse of wings: 34 mm. Colombia (Bogotá).

E. plumbicollum *Hmps.* (25 i) is easily recognizable by the silvery-blue colour on the forehead, vertex, collar and prothorax. The animal is otherwise dark chocolate-brown, on the forewings with whitish diffuse spots below the base of the cell, in the cell-end and towards the margin between the inner-marginal vein and lower radial. Hindwings blackish-brownish, towards the base more thinly scaled. Expanse of wings: 36 mm. Brazil (Sa. Catharina).

E. lineatum *Dogn.* has a reddish-brown head and thorax, mixed with white. Abdomen blackish-brown, anteriorly and posteriorly with interspersed whitish scales, with whitish lateral spots and ventral bands. Forewings whitish, thinly scaled; near the base a short, reddish-brown band; 2 antemedian, irregularly dentate lines; at the cell-end a spot in the shape of an 8; 2 postmedian dentate transverse lines, the distal one thickened to a spot at the costa and proximal margin, and a similar, antemarginal line thickened also in the middle; a marginal line and dots at the ends of the veins. Hindwings hyaline with a brownish border and veins. Expanse of wings: 46 mm. Ecuador; Bolivia.

E. hoffmannsi *Rothsch.* is much smaller than the preceding. The forewings are not semi-diaphanous whitish, but light yellow-brownish, the markings much less distinct and of a dull wooden-brown colour, not chocolate-brown. The last abdominal ring is of a bright yellow, not dirty-brown. Length of forewings: 20 mm. Peru; Ecuador.

- rothschildi*. **E. rothschildi** *nom. nov.* (= *ockendeni* *Rothsch.* nec *Druce*) (25 i) greatly resembles the preceding, being likewise smaller than *lineatum*, with yellowish-grey, semi-diaphanous wings, with faded pale grey-brown markings which have almost vanished in the basal half. Venezuela; Ecuador; Peru.
- discolor*. **E. discolor** *Wkr.* (= *rububa* *Druce*) (25 i) has brownish-white forewings with faded, grey-brown spots; the largest occupies the middle of the costal margin and encloses a roundish, light spot at the cell-end; further spots are at the apex, in the middle of the distal margin and at the proximal angle. The pale hindwings exhibit a somewhat darkened margin. Head, thorax and abdomen brown-grey, on the forehead a metallic blue spot. Widely spread from Mexico through the whole of Central America and Brazil as far as Bolivia.
- zizana*. **E. zizana** *Dogn.* Head and thorax brown, forehead blue. Forewings light grey, traversed by 4 lighter veins, the 2 proximal ones regular and parallel, the 2 distal ones more irregular and with several white spots. Hindwings whitish, at the apex and margin smoky brownish. Expanse of wings: 30 mm. Ecuador (Loja).
- nervulum*. **E. nervulum** *Rothsch.* Body sooty wooden brown, on the head with a blue lustre; venter beneath in the basal half whitish. Forewings dirty white with brown veins and large, cloudy, dark brown spots in the disc and at the apex. Hindwings diaphanous grey, in the distal quarter darker. Length of forewings: 15 mm. Ecuador.
- nubilosum*. **E. nubilosum** *Rothsch.* somewhat resembles *nervulum*, of a deeper purple brown on the body, the head black with a blue lustre. The forewings are brownish white in the smaller basal half, with a darker brown base and some indistinct, small stripes; the distal two thirds are purple-brown, in the most distal third clouded whitish. Hindwings diaphanous whitish, at the apex dark grey. Length of forewings: ♂ 13,5 mm, ♀ 17 mm. Peru; Venezuela; Sa. Martha.
- carabayana*. **E. carabayana** *Schaus.* Head grey, palpi and antennae black, forehead metallic dark blue; thorax grey, marked brown. Abdomen in the basal half grey, at the end black. Forewings grey, sparsely strewn with brown, with blackish-brown markings; a shade at the base, a transverse antemedian band, a broad shade from the cell-end to the costa, behind it a line running in an arch round the cell, being the thickest at the proximal margin, a broad antemarginal shade, interrupted between the lower radials, at the margin spots at the apex, between the lower radial veins and at the proximal angle. Hindwings white, at the costa and apex blackish-brown. Expanse of wings: 35 mm. Peru.
- sordidescens*. **E. sordidescens** *Rothsch.* has duller, darker forewings than *carabayana* with obsolete markings. The head is blue, thorax and abdomen sooty wooden brown, the venter beneath in the basal half whitish. Forewings pale wooden brown, in the distal two thirds with darker brown spotted clouds. Hindwings diaphanous light wooden brown. Length of forewings: 19 mm. Venezuela; Peru.
- coeruleocaput*. **E. coeruleocaput** *Rothsch.* is considerably larger than the preceding. The head is metallic blue, the thorax dirty greyish-white, bordered with a sooty black; the abdomen is above light sooty blackish, beneath in the basal half all white, the posterior rings black, with white bands. Forewings creamy white, strewn with brown scales, veins and basal area blackish-brown. An irregularly spotted, dark brown oblique band extends from $\frac{1}{4}$ of the length of the costal margin to the proximal angle and gets much broader below the median; some more deep brown spots are at the transverse vein and above it, at the apex and between the upper median and middle radial vein. Hindwings whitish diaphanous, at the border and apex dark grey. Length of forewings: ♂ 24 mm, ♀ 26 mm. Peru.
- nebulosum*. **E. nebulosum** *Dogn.* (25 g) has a dark brown body, with a somewhat lighter abdomen, forehead blue. Forewings dark brown with a faded, grey antemedian band; behind the cell a similar one, interrupted between the median veins, turning inward on the lower median vein as far as the cell-end. Antemarginal spots above the middle and 2 at the proximal angle. Hindwings diaphanous light brownish, at the margin and apex browner. Expanse of wings: 44 mm. Ecuador (Loja).
- album*. **E. album** *Druce* (= *agylloides* *Dyar*) (25 k) is of a pure white, strikingly resembling some American *Agylla*-species; only the teeth of the antennae are blackish. Hitherto known only from Mexico: Jalapa, Orizaba, (January), Mirador (March, April).
- vestale*. **E. vestale** *Schaus* (24 k) is larger and with broader wings than the preceding, likewise unmarked white, but the wings more thinly scaled, semi-diaphanous, and with a slight greenish silvery gloss. From Peru, São Paulo, and Rio Grande.

146. Genus: **Metaerocea** *Dyar*.

Distinguished from *Eucereon* by the 2nd abdominal ring being strangulated. The veins are, on the whole, the same; on the forewing, the 1st subcostal vein comes from the upper cell-angle. On the hindwings the subcostal vein rises on a short pedicle with the uppermost radial.

M. postflava *Schaus.* Head, thorax, and the base of the abdomen are black; the rest of the abdomen *postflava*. is orange-yellow above, brown beneath. The blackish-brown forewings with darker veins; at the base and middle of the proximal margin and antemarginally there are darker shades, at the costal margin before the middle a dark spot. Hindwings black with hyaline stripes in the disc. Expanse of wings: 29 mm. Rio de Janeiro.

147. Genus: **Apocerea** *Dyar.*

Likewise very near to *Eucereon* from which it differs by the uppermost subcostal vein of the forewing rising on a joint pedicle together with all the others; the upper radial comes from far below the upper cell-angle. On the hindwing, the upper median vein, the lower and middle radial vein, all come forth separated from near the lower cell-angle. The upper radial vein and the subcostal likewise rise separated from the upper cell-angle.

A. sobria *Schaus.* Head and thorax dark grey, the neck yellow. The abdomen is above black, the *sobria*. 3 last rings, with subdorsal interruptions, banded yellow, anus yellow. Forewings light grey with dark grey veins; antemedian and postmedian, curved transverse lines, the latter being dentate towards the proximal margin; between the veins darker stripes. Hindwings greyish-black, at the base whitish. Expanse of wings: 26 mm. French Guiana.

148. Genus: **Correbia** *H.-Schäff.*

Large, rather slender species with narrow wings, mostly coloured orange and bluish-black; the abdomen exhibits short hair-tufts at the sides and at the end; the long palpi are porrect, the terminal joint turned somewhat downward. On the forewing, the upper median vein proceeds from the lower cell-angle, the lower and middle radial on a long pedicle from it. On the hindwing, the upper median vein rises before the lower cell-angle, whereas the lower and middle radial rise together, or on a short pedicle likewise from the lower cell-angle or above it. The *lycoides*-group most strikingly copies the genus of beetles *Colobothea*.

C. bricenoi *Rothsch.* has the broadest forewings of all the species known. Head and thorax are of a dull *bricenoi*. orange-brown, forehead and vertex spotted black, thorax with a black median line. Palpi and antennae, abdomen and underside sooty black. Forewings orange-brown, a transverse antemedian band from the costa to the inner-marginal vein, the middle third of the proximal margin and the apical fifth are black. Hindwing sooty black, in the basal half semidiaphanous, at the costal margin 2 yellow spots. Length of forewings: ♂ 21 mm, ♀ 22 mm. Venezuela.

C. oberthueri *Hmps.* (= *lycoides* *Oberth.*) (25 k) greatly resembles the following species, being recogni- *oberthueri*. zable by the black parts of the wings exhibiting minute, vertical dashes of a silvery blue, as well as by the black abdomen being partly suffused with blue. From Peru and Bolivia.

C. lycoides *Wkr.* (25 k). This species initiates a small group of very similar species which are not *lycoides*. easy to discern, what is rendered still more difficult by the great variability. *lycoides* has narrower wings, coloured more yellow-brown; the discal band and the apical spot are of a rather pure dull black without the distinct, bluish-grey dusting in the cell-spaces; the apical spot does not extend as far as the proximal angle, but it is mostly rectilinearly cut off on the lower or already on the upper median vein. The margin of the rather light, diaphanous hindwing is narrow. The abdomen is above always black, the brown-yellow lateral stripe narrow. Very widely distributed from Mexico to Paraguay; also in Cuba and Jamaica. — In the form **ceramboides** *ceramboides*. *H.-Schäff.* the ochreous-yellow colour is shaded by dark brown.

C. intermedia *nom. nov.* (= *elongata* *Rothsch.* nec *Dogn.*) is about between *lycoides* and *undulata*; it *intermedia*. has the black upperside of the abdomen and the narrow shape of the wings of *lycoides*, whereas the colouring of the wings is more like *undulata*. The sides of the 1st ring and a narrow lateral line from the segments 2 to 5 are orange-brown. The black apical spot of the forewing is striped dull bluish-grey. Length of forewings: ♂ 25 mm, ♀ 27 mm. Brazil (Sa. Catharina; Petropolis; Rio de Janeiro). — subsp. **boliviana** *Rothsch.* differs *boliviana*. by broad orange lateral stripes on the abdomen, a paler, more tawny ground-colour of the forewings, and an entirely black apical spot without any grey longitudinal stripes. Bolivia.

C. undulata *Druce* (25 k) differs from *lycoides* by the forewings being somewhat broader, the ground- *undulata*. colour of a more orange tint, the black parts striped bluish-grey; the hindwings towards the margin blacker. On the whole, the orange colour on the abdomen is more extensive, and in the nomenclatural type, the lateral stripes on the 3rd and 4th rings are united to a yellow transverse band. But in a very great number of specimens from Mexico lying before me, I find all the transitions from the abdomen being above entirely black, as in

- nigridorsalis*. *lycoides*: **nigridorsalis** *form. nov.*, to an almost entirely orange-yellow abdomen, on which only the last segments remain black: **flavidorsalis** *form. nov.* (25 l). — Mexico to Guatemala.
- flavidorsalis*. **C. obtusa** Druce (25 l) is exteriorly almost just like the preceding, from which it differs by entirely yellow palpi, legs, and underside, which are black in the other species. The hindwings are much more extensively hyaline diaphanous. Guatemala, Venezuela (Merida).
- semitransversa*. **C. semitransversa** Schaus. Head and thorax black. Vertex, neck and base of shoulder-covers spotted ochreous-brown. Abdomen black, lateral stripes and the underside except the 2 last rings ochreous-brown. Forewings ochreous-brown with a black discal band as far as the submedian and a black apical spot striped bluish-grey as in *obtusa*. Hindwings transparent blackish-brown with black veins and distal margin, the costal margin being spotted yellow. Expanse of wings: 39 mm. Costa Rica.
- agnonides*. **C. agnonides** Druce (25 l) has much more extensively yellow forewings than the allies: the black apical spot only extends to the upper median vein, on the lower radial the yellow ground-colour penetrates far into it. In the middle of the cell there is a roundish black spot, below which and at the proximal margin there is yet some dark shading. Nicaragua, Peru.
- rufescens*. **C. rufescens** Rothsch. (25 l) is distinguished by the deep orange-red-brown colour of the forewings, the marking being similar as in the preceding species, but the discal band consists more of a black costal spot, being rounded off below and slightly touching the broadly black proximal margin; in the apical spot lavender-blue stripes; the hindwings are almost entirely black; the abdomen shows an intense steel-blue lustre. Venezuela, Colombia (Muzo).
- fulvescens*. **C. fulvescens** Dogn. (25 l) is distinguished by rather thinly scaled, blackish-brown forewings, only the base, the whole costal margin, the median and vein 1 being dull red-brown; hindwings blackish, semi-diaphanous, costa red-brown. On the under surface the wings are blackish-brown with broad orange costal margins. Body bluish-black, head, collar, thorax, and the ventral side of the 3 first abdominal rings red-brown. Forehips orange, legs black, spotted white. Panama (Lino).
- affinis*. **C. affinis** Druce (26 b) on the orange wings exhibits only a roundish, bluish-black apical spot; the hindwing is hyaline in the basal half, orange at the costal margin, with a blackish-brown border. The abdomen is black, laterally striped orange, but not as far as the end; the first 4 rings are beneath orange. Mexico, Guatemala.
- raca*. **C. raca** Druce (26 m). Head, legs and abdomen are black; vertex, palpal base, thorax, spots on the legs, lateral stripes and the underside of the 1st to 5th rings orange. Tarsi ringed white. Forewings all orange with black fringes. Hindwings semi-diaphanous, towards the margin blackish, at the costal margin orange. Expanse of wings: 40 mm. Panama (Chiriqui).
- flavata*. **C. flavata** Druce. Head, abdomen and legs are black, the latter ringed white; hindhead, collar and thorax orange-red. Forewings orange, hindwings black, towards the base hyaline. On the under surface, both wings are black, only the base and costal margin of the forewing are orange. Expanse of wings: 46 mm. Colombia.
- germana*. **C. germana** Rothsch. is larger than *minima*, of a lighter colour, with a much broader yellow base and transverse band of the forewing. Length of forewings: 14 mm. Venezuela; Ecuador; Peru; Bolivia.
- minima*. **C. minima** Druce (26 a). This very small species in its exterior exactly resembles a *Correbidia terminalis*, but it is only half as large. Venezuela; French Guiana.
- felderi*. **C. felderi** Rothsch., according to the short description, greatly resembles *minima*, but it is much darker, with a much narrower transverse band and almost entirely absent orange colouring at the base. It may be identical with the following? Amazon.
- obscura*. **C. obscura** Schaus. The body is black; an orange stripe extends from the antennae across the collar to the shoulders. Palpi at the base and near the tips yellow. Femoral base white and yellow, legs otherwise black, tarsi ringed yellow. The black forewings exhibit a postmedian, yellow-reddish transverse band being brown below the cell, extending from the costa to the proximal margin. Hindwings diaphanous blackish, with darker veins, costal and distal margin. Expanse of wings: 20 mm. French Guiana.
- elongata*. **C. elongata** Dogn. (26 a). Head black and blue; thorax and abdomen brick-red, shoulder-covers brown; legs brown with red femora. The venter shows a series of white dots. Forewings red-brown with a yellow, triangular inner-angular spot. Hindwings hyaline with blackish-brown veins and marginal band. Expanse of wings: 34 mm. Loja (Ecuador).

149. Genus: **Correbidia** *Hmps.*

The species greatly resemble those of the preceding genus, except the broader shape of the wings and the costal margin being very much bent, but there occur transitions, and the veins being not constant at all in long series of specimens, the termination is rather dimmed. The upper median vein of the forewing recedes from the lower cell-angle, and the pedicle of the lower and middle radial disappears more or less, whilst on the hindwing the upper median vein and lower radial approach each other, the middle radial rising in a bent shape from above the cell-angle.

C. notata *Btlr.* (26 a) is easily recognizable by the blackish-brown forewing with a diaphanous, whitish *notata*. postmedian band extending only to the lower median vein and being tinted yellow towards the costa, with a yellowish spot below it and one at the costal base. Hindwing diaphanous black-brownish, towards the base whitish. On the blackish-brown body the palpal base, sides of the head, collar, hips, and lateral stripes on the first abdominal rings are orange-yellow, of the same colour is the ventral side on the first rings, which are then followed as far as the end by sublateral stripe-like spots. Expanse of wings: 26 mm. Amazon.

C. assimilis *Rothsch.* resembles *notata* (26 a) from which it differs by the base of the forewing being *assimilis*. much more extensively reddish-brown, and by a buff, not whitish band of the forewing.

C. similis *Rothsch.* resembles the two preceding species, but it is much larger, and the basal area and *similis*. band of the forewing are much more extensive and more red-brownish. Venezuela; Peru; Trinidad.

C. steinbachi *Rothsch.* is still larger than *similis*, the ground-colour of the forewing varying from *steinbachi*. buff to orange-brownish; the black band of the forewing and the apex are more indistinct and more or less obsolete. Length of forewings: 17 mm. Bolivia, Amazon (Fonte Boa).

C. simonsi *Rothsch.* resembles the preceding, but the black transverse band and the apex are distinctly *simonsi*. prominent and sharply defined, the ground-colour pale reddish buff. Bolivia and Peru.

C. tristitia *Kaye.* Palpi black, 1st and 2nd joint below ochreous-yellow; forehead and neck ochreous- *tristitia*. yellow, mixed with a dull brownish-black; base of shoulder-covers ochreous-yellow, behind it dark brown. On the forewing the base, a broad band, and an apical spot are purple black; a basal band and a postmedian one are yellow; the latter is expanded towards the proximal margin and is undulate on the upper median vein. Hindwing diaphanous dull-ochreous-yellow with a triangular, dark spot at the costa; distal margin purple black. Expanse of wings: 33 mm. British Guiana. In this species, being unknown to me, the description of the abdomen is absent.

C. calopteridia *Btlr.* (26 a) differs from *notata* by its paler yellow and reduced ground-colour; the *calopte-* base of the forewing is black, the last abdominal rings are beneath yellow except the anal apex remaining black. *ridia*. French Guiana; Pará; also from Peru (Chanchamayo and Pachitea).

C. klagesi *Rothsch.* is distinguished from *calopteridia* (26 a) by much longer and narrower forewings, *klagesi*. with a much lighter, whitish base and transverse band, the ground-colour being much bluer. Venezuela, Surinam; Amazon (Fonte Boa, Codajas, Iquitos).

C. terminalis *Wkr.* (= *cimicoides* *H.-Schäff.*, *calopteridia* *Druce* nec *Btlr.*). The name-type from *terminalis*. Cuba has orange-yellow forewings with a narrow discal band and apical spot of a bluish-black colour. — In the common continental form **continentalis** *subsp. nov.* (26 a) from Mexico to Venezuela, the discal band is *continen-* broader, the proximal margin being also darkened brownish-black. The bases of the wings remain orange, *talis*. the abdomen is black beneath at the end.

C. elegans *Druce* (26 b). The forewing is reddish orange with a black apical spot, the hindwing semi- *elegans*. transparent with a broad, brownish-black marginal part. Head and thorax orange, abdomen blackish-brown with orange lateral stripes. Occurring in Mexico, Costa Rica, and Panama. — In subsp. **meridionalis** *Rothsch.* *meridiona-* the veins and margins of the black apical spot by the deeper orange-brown colour contrast with the lighter *lis*. ground. Ecuador.

C. costinotata *Schaus.* Head and thorax orange-yellow, forehead, antennae, and a median stripe on *costinotata*. the thorax black. Abdomen and legs black, hips, bases of femora, and a lateral stripe on the 3 first rings orange-yellowish. Forewings brownish orange with a large, purple black apical spot being proximally irregularly defined, and a small black spot at the middle of the costal margin; at the base of the proximal margin a black stripe. Hindwings yellowish-white, the proximal and distal margins suffused with blackish. Expanse of wings: 33 mm. Costa Rica.

C. striata *Druce* (26 a) is immediately recognizable by the reddish-orange forewings growing somewhat *striata*. darker towards the margin and exhibiting here, between the lower radial veins, a black streak; the middle of the proximal margin is black. Nicaragua; Panama.

apicalis. **C. apicalis** Schaus. Antennae black; palpi black, at the base ochreous-yellow. Forehead black. Hind-head and thorax ochreous-yellow with a black median line. Abdomen above and beneath black, at the sides broadly ochreous-yellow. Forewings of a brilliant ochreous-yellow; a broad, bluish-black, antemedian spot extends from below the costal margin to the inner-marginal vein; at the apex an oblong, bluish-black spot. Proximal margin and the adjoining veins orange. Hindwings yellowish, thinly scaled, apex and proximal angle blackish. Expanse of wings: 25 mm. Cuba.

150. Genus: **Scepsis** Wkr.

Very near to the genus *Ctenucha* from which it differs by the palpi being somewhat shorter with a straightly porrect terminal joint, and by the long, narrow wings; the shaft of the antennae in the middle a little thicker.

fulvicollis. **S. fulvicollis** Hübner. (= *semidiaphana* Harr.) (26 a) has an orange-yellow palpal base, vertex and collar, the abdomen being bluish-black. The long extended forewings are brown, the hyaline hindwings have a broad, bluish-grey border. United States. — In the form **pallens** Hy. Edw. the orange-yellow parts on the head and thorax are yellow.

packardi. **S. packardi** Grote (= *mathewi* Hy. Edw.) deviates from the preceding by browner forewings and the pale yellow colour of the hindhead extending anteriorly as far as between the antennae. United States. — *cocklei*. v. **cocklei** Dyar. In British Colombia there flies a local race, the colouring of which is more like that of *fulvicollis*: forewings of a duller blackish, in the disc diaphanous.

wrighti. **S. wrighti** Stretch (26 b) deviates from the preceding by the blackish-brown colour of its body, the head being all black, the collar and shoulders entirely pale yellow, in f. **gravis** Hy. Edw. orange. California.

discopuncta. **S. discopuncta** Hmps. Body pale ochreous-yellowish, mixed with blackish-brown, vertex striped black, so is the distal margin of the shoulder-covers and the thorax; neck orange. Abdomen above blackish, except the last ochreous rings. Forewings pale ochreous-yellow with black stripes in the base of the cell and above the submedian fold, as well as black dots in the middle of the cell, in the corners of the cell, and behind the cell; postmedian and antemarginal rows of dots being confluent to streaks towards the costa. Hindwings transparent, brownish towards the margin. Expanse of wings: 48 mm. Bolivia.

subhyalina. **S. subhyalina** Hmps. Head white, spotted black on the forehead and vertex; the rest of the body is pale ochreous-yellow, on the metathorax and at the sides of the abdomen spotted black. Forewings diaphanous ochreous-yellowish with dark, faded discal and antemarginal lines. Hindwings more whitish. Expanse of wings: 40 mm. Bolivia.

151. Genus: **Propyria** Hmps.

Small Lythosid-like species with short palpi being turned downward, the antennae being serrate-dentate in the ♂. The lower and middle radial veins of the forewing stand on a long pedicle, the upper one rises below the upper cell-angle; on the hindwing the upper median vein and the middle radial are pedicelled, the lower radial being absent.

schausi. **P. schausi** Dyar (= *fulgens* Neum. & Dyar) has a black head and abdomen, whilst the collar and thorax are carmine. Forewing carmine with a black distal margin occupying one fifth of the length of the wing. Hindwing black with a red basal half of the costal margin. New Mexico; Arizona.

ptychoglene. **P. ptychoglene** Hmps. (= *aequalis* Druce) (26 c). Body black with red shoulder-covers. The forewings are scarlet with a black distal margin which grows broader towards the proximal margin and extends almost to the base, extending towards the costal margin as a fine costal stripe to about the centre of the wing. The hindwings are black, the basal two thirds of the costal margin scarlet. Found in Mexico and Guatemala.

normani. **P. normani** Schaus. Body black, shoulders carmine. Forewings leaden black with a broad red stripe from the base of the costa along above the submedian, growing narrower towards the apex; apical third of the costal margin narrowly black. Hindwing purple black, at the costa some red. Expanse of wings: 24 mm. Costa Rica.

ockendeni. **P. ockendeni** Rothschild. Head and thorax timber-coloured, chest whitish; abdomen black with subdorsal rows of orange-red spots. Forewings reddish timber-coloured; apical fourth, a discal spot, and the proximal margin purple brown. Hindwings orange-scarlet with a black margin, at the proximal margin and anal angle broader. Length of forewings: 15 mm. Peru.

nigrirufa. **P. nigrirufa** Rothschild. Head and thorax sooty brown, abdomen black. Forewings timber-coloured. Hindwing in the basal half sooty black, in the apical half carmine, bordered with black. Length of forewings: 16 mm. Peru.

P. atroxantha *Schaus* deviates from the diagnosis of the genus by the absence of the 4th subcostal vein, whilst the upper radial is petioled with the 3rd and 5th subcostal vein. Body black, margins of the eyes, shoulder-covers, a stripe on the thorax and subdorsal lines on the 2 first abdominal rings are orange-yellow. Wings orange-yellow, the apical third of the forewing and a narrow proximal margin black. Hindwing with a black border, extending at the proximal margin as far as to its middle, where it suddenly ends. Expanse of wings: 22 mm. Mexico (Misantla). *atroxantha*.

P. albofasciata *Rothsch.* is a very large, entirely different species. Head and thorax black with a blue lustre, neck orange. Abdomen black with metallic blue rings and blue sublateral stripes. Forewing sooty black with a white, somewhat oblique, antemedian transverse band and a blue dot at the base. Hindwing black with a broad white transverse band extending from the costa to the lower median vein. Length of forewings: 18,5 mm. Peru (Chanchamayo). *albofasciata*.

152. Genus: **Lycomorpha** Harr.

Like the preceding genus, it greatly reminds us of the Lithosid genus *Ptychoglene*. The palpi are straightly porrect, the shaft of the antennae somewhat thicker in the middle. The two lower radial veins of the forewing rise unpetioled. The hindwing, between the proximal angle and the middle radial, exhibits a concave indentation, the lower radial is absent, the middle one rising above the lower cell-angle.

L. grotei *Pack.* (= *palmerii* *Pack.*) (26 c) is recognizable by the red thorax and collar; the hindwings are more or less extensively red, in f. **pulchra** *Dyar* all red except black fringes and an entirely narrow marginal line. Western United States. *grotei*. *pulchra*.

L. fulgens *Hy. Edw.* (26 c) differs from the preceding by the black collar and thorax, only the shoulder-covers being red; the red spot of the hindwing is more confined to the costal margin and irregularly defined. New Mexico; Arizona. *fulgens*.

L. drucei *Hmps.* is jet-black. The forewing shows a large, earmine spot extending from the base as far as beyond the middle, from the subcosta to the inner-marginal vein. On the hindwing, the basal half of the costal margin is carmine. Expanse of wings: 28 mm. Mexico (Durango). *drucei*.

L. pholus *Drury* (26 d) has an orange-yellow basal part of both wings. The distal part is black like the body, only the shoulder-covers are orange. Canada; United States. — subsp. **miniata** *Pack.* from California shows the orange colour of a more rosy tinge and much more extensive. — The larva is greyish-brown, watered greenish, blackish-haired with large, pale yellow dorsal spots from the 4th to 10th rings, on the others with smaller whitish spots. It lives on lichens, on which it is difficult to notice, and changes to a light brown pupa in a thin web. *pholus*. *miniata*.

153. Genus: **Ctenucha** Kirby.

Broad-winged, often very variegated species with a relatively slim body. The palpi, with a terminal joint begone turned downward, project beyond the head; shaft of antennae not thickened, in the male combed. On the forewing, the upper radial vein rises below the upper cell-angle; on the hindwing, the upper median vein rises, together with the two lower radials from the same place of the lower cell-angle, or separately.

C. togata *Druce* (= *augusta* *Hy. Edw.* (26 c) is not to be mistaken by the forewings being almost quite earmine except a narrow black border; the hindwings are black, at the costal margin narrowly red. Mexico, Costa Rica, Guatemala, Panama. — subsp. **schausi** *Rothsch.* has scarlet, not black shoulder-covers and scarlet, not carmine wings. Mexico (Epinal). — **obscurata** *form. nov.* (26 d) from Costa Rica has the disc of the forewing very much dusted black. *togata*. *schausi*. *obscurata*.

C. cyaniris *Hmps.* (26 d). Both pair of wings are black, in the basal halves with a metallic blue lustre, like the whole body. The forewings show in the middle of the wing an orange-yellow transverse band, which is usually longer and broader in the female. The hindwing shows an orange-yellow spot beyond the middle of the costal margin. The species occurs in Ecuador. *cyaniris*.

C. popayana *Dogn.* differs from *cyaniris* by the orange-yellow spot on the forewing being twice as broad; palpi at the base anteriorly white; ventral side striped black and white. The basal blue on the wings is somewhat confined. May be identical with the following. Colombia. *popayana*.

C. garleppi *Rothsch.* according to the description, differs from *cyaniris* by the smaller extent of the blue colour, which is darker and duller, and by the extraordinarily broad orange band of the forewing, which *garleppi*.

occupies also the apical third of the hindwing and is bordered with black. I presume that it coincides with *popayana* as a synonym. Peru.

- refulgens*. **C. refulgens** Dogn. (26 d) differs from *cyaniris* by the absence of the orange-yellow spot of the hindwing; that of the forewing in both sexes neither reaches the costal margin nor the proximal angle. The underside is, like in the preceding species, extensively white in the ♂, in the ♀ more metallic blue. Ecuador; Peru (Marcapata).
- aymara*. **C. aymara** Schaus. Black; palpal base, forehead and chest white like the underside of the abdomen. Metathorax and abdomen above suffused with blue, the latter with an orange dorsal stripe. Forewing at the base and proximal margin blue, in the middle with a large orange spot. Hindwing at the base suffused with blue, in the ♂ with a large orange spot before the apex, extending down as far as the upper median vein. The ♀ is destitute of this spot and all the white markings. Expanse of wings: ♂ 28 mm, ♀ 32 mm. Peru.
- mennisata*. **C. mennisata** Dogn. greatly resembles the preceding, but the wings are a little narrower and longer, the yellow spot of the forewing does not extend beyond the basal half of the wing, on the hindwing the yellow apical spot is absent, as well as the orange-scaled dorsal stripe on the abdomen. Expanse of wings: 27 mm. Bolivia.
- albipars*. **C. albipars** Hmps. Dull black, forehead, vertex and metathorax spotted metallic blue; abdomen above with a blue lustre, beneath at the base a white spot. The forewings exhibit an orange-yellow discal band. Forewing white, in the marginal third black, towards the costa somewhat broader. Expanse of wings: 32 mm. Bolivia.
- biformis*. **C. biformis** Dogn. Body black, above with an intense bluish-green metallic lustre; hips and venter white. Forewing blackish-brown with a broad oblique band from the middle of the subcostal to the proximal angle, not quite reaching them, the one in the ♂ being of a deep red, in the ♀ orange-yellow; at the base and behind the oblique band between and above the median veins, there are metallic blue stripe-like spots. Hindwings blackish-brown with a dark blue lustre. Ends of fringes whitish. Expanse of wings: 27 mm. Peru (Cajon).
- nantana*. **C. nantana** Wkr. (= *rubicunda* Dogn.) has a stout, blue, densely black-haired body. The black forewings are green at the base, a subcostal band and a marginal band being pale yellow. The hindwings are scarlet with a black base and marginal band and pale yellow fringes. Length of forewings: 30 mm. Amazon.
- annulata*. **C. annulata** Schaus. Head and thorax metallic blue, forehead white, palpi black. Abdomen black, at the base suffused with blue, above yellow, beneath curled white. Wings black, towards the base suffused with metallic blue. Forewing with a broad, orange oblique band; hindwing with an orange marginal band, strewn somewhat with blackish. Expanse of wings: 28 mm. Bolivia.
- braganza*. **C. braganza** Schaus. Black; head and thorax mixed with brown; palpal base, and the sides, sometimes also the whole neck orange. Abdomen with a blue lustre; hips, femora and venter, the latter sublaterally, striped white. Anus sometimes orange. The black forewings show lighter, brownish veins with a postmedian, white oblique band varying in extent; fringes at the apex white. Hindwings with a blue lustre, with blackish-brown veins and white fringes. Expanse of the wings: 48 mm. Brazil (Theresopolis; Rio de Janeiro).
- circe*. **C. circe** Cr. (= *affinis* Bsd., *pylotis* Möschl.) (26 d) is smaller than the preceding and differs by white transverse bands on the ventral side of the abdomen, not 2 white longitudinal lines. Besides, the front of the palpi and parts of the forehead are white, the shoulder-covers and thorax striped lighter, the blackish-brown collar contains interspersed, orange-yellow hairs. All the rest like in *braganza*. Widely distributed from Nicaragua Ecuador, Venezuela, Surinam as far as São Paulo.
- palmeira*. **C. palmeira** Schaus differs from the two preceding by the brownish-black underside of the abdomen minus the white. On the abdomen the blue lustre is absent. The white band behind the cell is cuneiform and extends only from the lowest subcostal to the lower radial vein. The bluish-black hindwings exhibit a white apical spot. Expanse of wings: 40 mm. Brazil (Rio de Janeiro, Rio Grande do Sul); Paraguay.
- jonesi*. **C. jonesi** Rothsch. differs from *palmeira* by the white postmedian band being much longer, extending from the subcosta to the border above the lower median vein and not ending already at the lower radial vein. Paraná, taken in March.
- andrei*. **C. andrei** Rothsch. Chest and underside of abdomen brownish-black, forewings blackish-brown with lighter veins and an oblique white band from the subcosta behind the middle to the proximal angle. Hindwings blackish steel-blue with white fringes. Trinidad.
- mortia*. **C. mortia** Schaus. Head and thorax black; neck and palpal base orange, thorax finely striped yellow. Abdomen bluish-black with orange anal hair. Forewings black with grey veins and a large white spot behind the cell. Fringes at the apex white. Hindwings bluish-black with white fringes. Expanse of wings: 37 mm. Castro (Paraná).

C. reimoseri *Zerny* is allied to the preceding from which it differs by much narrower wings. By the *reimoseri*. white, almost circular spot of the forewing being not situate behind the cell, but in the cell-apex itself, it forms the transition to the following. The contours of the wings correspond about to those of *venosa*. Body and wings are black with a blue lustre; basal palpal joint, sides of the head, shoulders, and anus yellow. Expanse of wings: 32 mm. Paraguay.

C. semistria *Wkr.* (26 d) is black, on the abdomen and hindwings with a bluish-green lustre. The first *semistria*. palpal joints, the head behind the eyes, and the throat orange. The blackish-brown forewing exhibits a large, white spot at the cell-end, the hindwings a small one below the cell-end. Brazil (♂).

C. subsemistria *Strand* from Argentina is closely allied to the preceding. The hindwings are dull black *sub-semistria*. without a blue lustre; orange colour is also found on the shoulders, margin of the collar, and apex of the abdomen, as well as at the base of the forewing. Hindwing without a white spot, that of the forewing being much smaller. Expanse of wings: 32 mm.

C. editha *Wkr.* (26 e) is a relatively broad-winged species with intensely lustrous blue body and wings. *editha*. Palpal base, chest, venter, and the dorsum of the 2nd to 5th abdominal rings are scarlet. Known only from Hayti.

C. vittigera *Blanch.* (26 e) is one of the largest species: the dark brownish-grey forewings are veined *vittigera*. whitish, also the costal margin and subcosta being striped white; hindwings bluish-black with white fringes. The body is greenish-black, the abdomen with whitish ring-indentations. The head is orange, so are the margins of the collar and shoulder-covers. Brazil (Rio de Janeiro, Rio Grande do Sul), Chile, Argentina. — In *lativitta* *lativitta*. *Strand* (26 e as *albescens*), by the white colouring being more extensive, there remains but very little of the brown ground-colour. — f. *nivosa* *Wkr.* has the median veins and the submedian fold also on the hindwing *nivosa*. striped white.

C. devisum *Wkr.* (= *marita* *Schaus*) (26 e) is immediately discernible from among the similar species *devisum* by the white head being on the vertex usually more yellowish. The forewings are of a paler brown than in the allies, the veins white. Brazil, Argentina.

C. venosa *Wkr.* (26 f) has brownish-grey forewings with white to orange-yellow stripes on the inner- *venosa*. marginal vein, the median and the three radial veins. The hindwings are bluish-black. The body is black, suffused with metallic blue, the hindhead scarlet, the shoulder-covers are striped orange. A very common animal from North America, supposed to be distributed as far as Ecuador. How far the southern habitats refer to the forms of the following species is a mooted question. The southernmost habitat to be determined to a certainty by myself, is Mexico.

C. rubrovenata *Rothsch.* is smaller than *venosa*, the wings shorter and more obtuse, the head black, *rubrovenata*. only in the neck red; veins, and stripes on the shoulder-covers are orange-red, in the ♀ yellow; the lowest subcostal vein of the forewing, being always black in *venosa*, is here likewise orange. Bolivia (Rio Songo). — In *peruviana* *form. nov.* (26 f) from Peru the head is orange-red except a black stripe between the antennae. — In *peruviana*. *tucumana* *Rothsch.* from Argentina, being larger, all the veins of the forewing are prominently marked red *tucumana*. or yellow. — In *ecuadorica* *Strand* (= *venosa* *subsp.* 1. *Hmps.*) (26 f) from Ecuador, which is also before us *ecuadorica*. from Chanchamayo (Peru) and has likewise an entirely black head, the red in the neck having almost disappeared, the forewings are of a duller greyish-black, the veins are whitish-yellow as in *venosa*, the hindwings with an intense blue lustre.

C. reducta *Rothsch.* is larger than the preceding, with much broader wings. In the ♂ the inner-marginal *reducta*. vein and the median, the two median veins and the middle radial are scarlet or orange-yellow, in the ♀ white; the lower and upper radial veins remain black. The forewings are black, suffused with blue, not blackish-brown. Peru.

C. cressonana *Grote* is twice as large as the preceding. Head and thorax black, metathorax and abdomen deep blue. Palpal base, vertex, neck and stripes on the shoulders are orange; shoulder-covers black and blue, intermixed with some orange-yellow hairs. The black forewing is at the base blue; the costal margin, the median, the inner-marginal vein, the upper median and lower radial veins are coloured orange close to the margin. Hindwings deep blue. Fringes on all the wings white. Expanse of wings: 52 mm. Rocky Mountains. — In ab. *lutea* *Grote* the orange colouring is replaced by yellow, whereas *sanguinaria* *Streck.* exhibits scarlet *lutea*. colour instead. The latter is also found in Mexico. *sanguinaria*.

C. ruficeps *Wkr.* (26 e) has a metallic green abdomen and carmine vertex and neck. The brown forewings exhibit below the median a large white spot, another one behind it, parted by the lower median vein. The brown hindwing is white in the inner-marginal area; fringes white. Described from Mexico. *ruficeps*.

C. brunnea *Stretch* (26 f) has light olive-brown forewings with fine black veins; hindwings black with *brunnea*. a blue lustre. The body is black with a blue lustre; the two first palpal joints, the neck, shoulders, and stripes on the shoulder-covers are carmine. Hips, fringes and costal margin white. California.

- multifaria*. **C. multifaria** Wkr. (26 g) differs from the preceding by the entirely black forewings with a snow-white costal margin and fringes; the latter are blackish between the lower median and upper radial veins, on both wings. Head, shoulders, and proximal margin of the shoulder-covers scarlet, in f. **luteoscapus** Neum. and Dyar orange-yellow. California.
- rubroscapus*. **C. rubroscapus** Mén. (= *walsinghami* Hy. Edw.) (26 g) greatly resembles the preceding, but it has an entirely black costal margin and fringes; the latter are whitish only at the apices of the wings. — In *ochroscapus*. **ochroscapus** Grote & Rob. (= *corvina* Bsd.) the red parts of the anterior body are orange-yellow. Western United States.
- virginica*. **C. virginica** Charp. (= *latreilliana* Ky.) (26 g) is one of the largest species with dull blackish-brown forewings and somewhat darker, faintly lustrous blue hindwings; at the base of the forewing there is a metallic blue spot. Palpal base, vertex, neck, shoulders, and base of shoulder-covers orange; thorax and abdomen with a greenish-blue lustre. From the United States and Canada. — The larva being very densely haired black and white, on the dorsum yellow, shows white subdorsal and undulate lateral stripes; on the dorsum nine double hair-tufts. It lives on grasses.
- fosteri*. **C. fosteri** Rothsch. has an orange-yellow head, basal half of the collar, and inner side of the shoulder-covers. Thorax and abdomen are sooty blackish-brown, beneath sooty black. Forewings dark wooden brown, hindwings sooty black, both with white fringes. Length of forewings: 21 mm. Paraguay.
- conchylata*. **C. conchylata** spec. nov. (26 f). The body is blackish-brown, abdomen and hips with a blue lustre; the two first palpal joints, throat, hindhead and neck are carmine-rosy. The forewings are unicolorously dark brown, the hindwings in the marginal third with an irregular proximal bordering inclusive of the fringes purple red, the rest bluish-black. Described according to a ♀ from Peru (Vilcanoa). Type in the Coll. DRAUDT. According to the description, *Propyria nigrirufa* Rothsch., being unknown to me, must look like it.
- affinis*. **C. affinis** Druce. Anterior body olive-blackish with a bluish shine, the first 2 palpal joints, the neck and throat are orange, abdomen black with a blue lustre. Forewings olive black, fringes at the apex white, so is a triangular spot at the proximal angle. Hindwings black with a metallic blue lustre, ends of fringes white. Expanse of wings: 34 mm. Guatemala.
- clavia*. **C. clavia** Druce (26 g). The dark brown forewings exhibit a broad, yellowish-white longitudinal stripe from the base to the margin, the white hindwings a broad, brown border, being in the middle expanded like a spot, and proximal margin. Body metallic bluish-green with long black hair. Ecuador.
- albolineata*. **C. albolineata** Druce (= *projecta* Dogn.) looks like *clavia* (26 g). The body is black, on the thorax and abdomen with an intense metallic blue lustre. Forewings black; a white line extends from the base through the middle of the cell below the apex almost to the border; above its end there is a small, round, white spot; base and proximal margin are striped metallic blue. Hindwings black with a broad, white costal band not reaching the apex. Expanse of wings: 48 mm. North Peru.

154. Genus: **Dahana** Grote.

Siphon well-developed; palpi rather long porrect, the terminal joint turned somewhat downward. Antennae doubly combed. The ♂ shows at the base of the abdomen lateral tubercles with an aperture beneath. Wings long and narrow, both above the proximal angle somewhat concavely indented. The veins similar as in *Ctenucha*, but the upper radial vein, on the forewing, comes from the upper cell-angle; on the hindwing, both the lower radial veins come from the lower cell-angle, the subcostal vein at some distance before the upper cell-angle.

- atripennis*. **D. atripennis** Grote (26 g). Head and thorax blackish-brown with a metallic blue lustre. Palpal base, vertex, base of shoulder-covers, and upperside of the abdomen orange, the latter being spotted black beneath, laterally metallic blue. Forewings blackish-brown, dusted rusty brown, at the proximal angle an ochreous-yellow cuneiform spot. Hindwings black with a metallic blue lustre. Expanse of wings: 42 mm. Florida.
- cubana*. **D. cubana** Schaus. Head dark blue, beneath and laterally red, like the palpal base. Thorax black, shoulder-covers striped blue. Abdomen blue, the 2 last rings carmine, extending above almost to the base. Forewing black, at the base striped metallic blue. Hindwing metallic blue, apex and distal margin black. Expanse of wings: 28 mm. Cuba.

155. Genus: **Epectaptera** Hmps.

Palpi porrect, just projecting beyond the forehead. Forewing with a very much extended apex and a very oblique, somewhat concave distal margin, the veins being the usual ones; on the hindwing, the lower median vein rises far before the lower cell-angle, out of which the upper median vein and the lower radial proceed the middle radial vein rising from above the upper cell-angle, the uppermost radial vein and the subcostal from the upper cell-angle.

E. miniata *Rothsch.* (31 k). Head, thorax and abdomen are dark olive-brown, beneath lighter and *miniata*. more reddish, very long-haired. Forewing dark brown, at the costal margin carmine. In the cell there is a small, white, semidiaphanous spot, and a similar one on each side of the upper median vein. Hindwings vermilion with a black base, black veins, discal spot and margin. Length of forewings: 19 mm. Peru.

E. discalis *Schs.* (31 k). Body black, abdomen above suffused with metallic blue. Forewings brownish- *discalis*. black with interspersed, reddish buff scales; in the middle of the cell there is a square, whitish spot, behind the cell a blackish shade. Hindwings orange-red with black margins. Expanse of wings: 31 mm. Peru (Carabaya).

E. discosticta *Hmps.* (26 g). Anterior body black, suffused with metallic bluish-green, abdomen black, *discosticta*. curled greenish-blue. The black forewing exhibits at the base below the median an orange-yellow stripe, behind the cell an orange-yellow spot. The hindwings are orange with a black proximal and distal margin. Venezuela.

E. metochria *Dogn.* (= *drucei* *Rothsch.*) (31 i). ♂ palpi, head, antennae, patagia, tegulae and thorax *metochria*. black, abdomen black with a blue lustre, venter and legs black, the latter with some bluish hairs. Forewings above blackish-brown, beneath black. Hindwings above and beneath black, in the cell, in the postdiscal and submedian folds ochreous-yellow, but the veins remain black. Fringes black. 35 mm. Colombia, at an altitude of 3200 m. — **roseipennis** *Rothsch.* (31 f) differs from *metochria* by numerous, reddish-yellow scales being inter- *roseipennis*. spersed on the forewings; the hindwings are dark brown, strewn with reddish buff, in the disc rosy-red. The species is besides somewhat larger. Length of forewings: 21 mm. Bogotá.

E. laudabilis *Druce* (26 h) differs from *discosticta* by the wings being more brownish, by the absence *laudabilis*. of the postdiscal spot, and the yellow basal spot being only short. Bolivia (Rio Songo).

E. umbrescens *Schs.* (31 k). Head and thorax dark brown; palpi black, at the base white. Abdomen *umbrescens*. above black, strewn with ochreous-yellow, underneath more light grey. Forehips isabel-yellowish. Forewings dark brown, at the cell-end an indistinct dark spot, the proximal margin almost black. Hindwings brown, strewn with yellow, preponderantly in the cell; distal margin blackish. Expanse of wings: 30 mm. Peru (Carabaya).

E. innotata *Dogn.* (31 i) has a black body and uniformly dark brown, long, narrow wings. The forewings *innotata*. are rather densely scaled, the hindwings semidiaphanous except the apex and anal angle. Expanse of wings: 25 mm. Loja.

156. Genus: **Philoros** *Wkr.*

Distinguished from *Ctenucha* by the upper radial of the forewing rising from the upper cell-angle and by the palpi being obliquely erect, the terminal joint being porrect.

Ph. laura *Hmps.* (26 h) has a red head and anal apex; moreover, the black body exhibits a deep *laura*. blue lustre, the underside being more or less white. The forewings are black with white fringes at the apex and proximal angle; the hindwings blue with broad, white fringes and a white spot at the apex and anal angle. Known from Bolivia. — **colombina** *subsp. nov.* (26 h) differs by its snow-white costal margin, white spots on *colombina*. the shoulders, white-striped shoulder-covers, a broad, white longitudinal stripe on the mesothorax and entirely white fringes; besides, the white apical spot of the hindwing is much smaller and the yellowish stripe at the proximal margin of the forewing is absent altogether. Described according to 2 ♂♂ from Colombia (Rio Negro and Sosomoco, East Cordilleras, 1200 m). Type in the Coll. SEITZ. Perhaps a good species.

Ph. nora *Druce* (31 l). Anterior body black, abdomen bluish-black. Forehead and front of the palpi *nora*. white, so are the border of the collar and the legs; neck red. Forewings black, costal margin white, the proximal margin bordered with yellow. Hindwings dark blue, bordered with a bright red from the apex up to the proximal margin. Expanse of wings: 40 mm. Peru.

Ph. rubriceps *Wkr.* (= *scepsiformis* *Hy. Edw.*) (26 h) is an extraordinarily common animal being *rubriceps*. most widely distributed from Mexico to Argentina. It has dark brown forewings and bluish-black hindwings, the abdomen being suffused with metallic blue, and scarlet palpi, throat and vertex, which are orange-yellow in the form: **opaca** *Bsd.* (26 i); in this form occurring in Argentina, Paraguay and South Brazil, the forewings *opaca*. are darker, the hindwings with a deeper blue lustre. — **griseatus** *Rothsch.* from Venezuela (Merida) is everywhere *griseatus*. unicolorously drab, except the carmine palpi, throat and vertex.

Ph. affinis *Rothsch.* (31 l) from Peru and Colombia has more greyish-brown forewings with black *affinis*. veins, the hindwings have no blue lustre at all. Very widely distributed; Brazil, Uruguay, Paraguay, Argentina and Peru.

Ph. neglectus *Bsd.* approximates *affinis*, being somewhat larger, with quite pale brown, sometimes *neglectus*. almost whitish forewings with blackish-brown veins. The hindwings are semidiaphanous. The spots on the palpi and head are orange. Expanse of wings: 36—40 mm. Known from Mexico, Brazil, Peru and Argentina.

obscuratus. **Ph. obscuratus** *Hmps.* Body and wings pale ochreous-yellow, strewn with brown, abdomen above more brown. The forewings exhibit in the lower cell-angle a black dot, behind it a faded, dark brown band which is broken in the shape of an acute angle behind the lower cell-angle, and before the apex a hazy, brown oblique spot. Hindwing towards the base diaphanous. Expanse of wings: 40 mm. Colombia.

perirroratus. **Ph. perirroratus** *Hmps.* Ochreous, densely strewn with blackish. Abdomen above almost entirely blackish. Forewings very densely and uniformly watered brown. Hindwings semi-diaphanous, at the border more densely dusted and clouded brownish-black. Expanse of wings: 46 mm. Bolivia.

157. Genus: **Hyaleucerea** *Btlr.*

It strikingly approximates *Eucereon* from which it chiefly differs only by the two uppermost subcostal veins rising freely from the cell. The wings are long and narrow, the costal margin towards the apex strongly bent with a rather sharp point.

vulnerata. **H. vulnerata** *Btlr.* (= myrrhine *Burm.*) (26 i). The body is black, the abdomen curled red; large spots on the collar and shoulder-covers are white. The forewings are brown with black markings, large hyaline spots in the disc and behind the cell, and a small white apical spot. The hindwings are hyaline with a black border. *boliviana.* Distributed from Mexico to Argentina. — **boliviana** *subsp. nov.* A number of specimens from the Rio Songo in Bolivia (FASSEL) invariably have the two last abdominal rings above coloured all red.

phaeosoma. **H. phaeosoma** *Hmps.* (= *minuta* *Rothsch.*) (31 l). Head and thorax olive-brown, mixed with blackish-brown; neck carmine; palpal base yellow-white. Abdomen blackish-brown with a blue lustre, beneath white. Forewings blackish-brown, on the veins and in the cell striped olive-yellow, also an antemedian costal spot is olive; at the cell-end, behind it and below it, hyaline spots; an undulate antemarginal line and an apical spot are olive. Hindwings hyaline with black veins and a broad bluish-black border. Expanse of wings: 30 mm. Paraguay.

luctuosa. **H. luctuosa** *Mschlr.* is brownish-black, suffused with a dull bluish-green, on the body with a somewhat brighter metallic blue and green; the abdomen exhibits besides lateral and sublateral rows of metallic green spots. Hindwing with a large, hyaline discal spot extending almost to the margin. Expanse of wings: 40 mm. Surinam.

morosa. **H. morosa** *Schs.* (31 k). Body dull greyish-black, abdomen towards the end deep bluish-black; hind-head and on each side a spot below the eye dark red. Forewings greyish-black, the veins, a stripe in the cell and one below it, a broad median shade from the cell to the proximal margin, and an antemarginal shade black; at the base of the proximal margin there is a small, dark blue spot. Hindwing bluish-black with a diaphanous stripe in and below the cell. Expanse of wings: 43 mm. Costa Rica.

erythrotela. **H. erythrotela** *Wkr.* (26 i). Black; neck and apex of abdomen carmine. Wings hyaline with a broad black border and a discal spot cohering with the distal margin. Honduras; Venezuela; Guiana; Pará.

chapmani. **H. chapmani** *Klages.* Body brownish-black; abdomen, beginning from the 4th ring, with lateral red spots. Wings hyaline, with broad, blackish-brown veins and margins and a large discal spot. Expanse of wings: 26 mm. Venezuela. The species is better placed to the genus *Pezaptera* (p. 113).

fusiformis. **H. fusiformis** *Wkr.* (= *trifasciata* *Btlr.*) (26 b). Black; vertex, collar and neck laterally spotted carmine; front of palpi, forehead, shoulders, chest, forehips, and femora spotted white; the abdomen on the ventral side with two rows of white spots. Forewings black, thinly scaled; hindwings hyaline with a black border. From French Guiana to the Amazon.

leucoprocta. **H. leucoprocta** *Dogn.* (26 b) is one of the largest species with a sooty black body, being very conspicuous by the 4 last abdominal rings being coloured yellowish-white above; besides, the abdomen shows a white lateral line. The wings are sooty black with deeper black veins, cellular and submedian folds. The entirely black hindwings show in the cell a lighter streak. French Guiana.

leucosticta. **H. leucosticta** *Druce* (31 l) is likewise black; the abdomen exhibits a white dorsal spot only on the last segment; vertex, pro- and metathorax spotted white; lateral stripes on the abdomen white. Forewings similar as in the preceding, but with distinct darkenings at the costal margin, near the proximal angle and at the apex. The hyaline hindwings are bordered with black. Venezuela, French Guiana.

lugubris. **H. lugubris** *Schaus* is quite unicolorously sooty black, on the forewings in the interspaces somewhat more thinly scaled, with darkenings at the proximal margin, costal margin and cell-end; hindwing semi-diaphanous in the disc. Colombia, French Guiana.

uniformis. **H. uniformis** *Rothsch.* (31 l) is monotonously sooty brown-grey, veins, hindwings and abdomen darker, more black. The hindwings are towards the base lighter, diaphanous. Length of forewings: 23 mm. South Brazil (Sa. Catharina).

H. costinotata Dogn. (31 l). This species, having been described by us on p. 181 as *Eucereum* and figured *costinotata* on t. 311, is better inserted here.

H. sororia Schaus (31 l) looks like the *Eucereon*-species of the *costulatum*-group. Body blackish; *sororia*. 2 spots in the neck, stripes on the shoulder-covers, and the last abdominal rings orange-yellow; sides of the forehead, the underside of the 3 first abdominal rings, and stripes on the legs white. Hindwings black, between the veins striped whitish, in some places spotted ochreous-yellow; behind the cell there is a large white spot; the apex and a large costal spot at the cell-end with shades from there to the proximal margin are blackish. Hindwings grey-brownish white, with black veins and margins. Length of forewings: 27 mm. Costa Rica.

H. gigantea Druce (26 c) has very long-extended, brown forewings with fine, blue-white, strigiform *gigantea*. markings and a large, brown-black costal-marginal spot before the middle. The bluish-white, semi-transparent hindwings have a brown-grey marginal area. The abdomen is orange-yellow, at the base and on the last segment blackish-brown. Distributed from Mexico to Brazil.

H. lemoulti Schs. (26 b as *lugubris*) is more correctly placed here; as to the description comp. p. 171 *lemoulti*. as *Eucereum*.

H. mundula Berg (31 l). This species having been described as *Halesidota* is unicolorously ochreous- *mundula*. yellowish white on the body and wings, the veins and the head somewhat more yellowish. Serrations of the antennae beneath black. Expanse of wings: 28 to 36 mm. Brazil, Paraguay, Argentina.

Additions and Corrections.

The supplementary volume I of HAMPSON's Cat. Lep. Phal. with many new descriptions having been in the meantime published and now arrived in Germany, necessitates numerous additions and supplements, as well as synonymous notes. Very remarkable are the shiftings of many species into other genera, by which it is proved how very difficult it is to define the genera deviating in so minute a way. Particularly the volume of tables published in April 1915, has enabled us to figure yet many species described according to single specimens quite a number also by valuable material received subsequently, and for which we are particularly indebted to Mr. A. H. FASSL.

Owing to the priority of the name: **Amata** F. before **Syntomis** O., the name of the family is changed into:

P. 33. Amatidae.

P. 38, line 22 from below, insert after *strigosus* Druce:

P. novercida Kaye is black-brown on the body, with sparsely intermixed grey hairs; ventral valve *novercida*. bordered with white. Forewings hyaline with black veins and margins, dusted black-brown at the costal margin, in the cell and at the proximal margin; on the hindwing, the cell and a marginal stripe below the inner-marginal vein are also dark. It looks like *noverca*, but the lower median vein rises from the lower cell-angle, as in *strigosus*. Expanse of wings: 28 mm. South Brazil (Castro, Paraná).

P. 38, line 20 from below, for *P. sericeus* Schrottky read:

P. polybioides Burm. (= *sericea* Schrottky). To the habitat add Argentina. Size up to 30 mm. The tabular reference in *polybia* (10 c, as *sericeus*) refers to the present species.

P. 38, line 26 from below:

P. polybia Kaye is to be eliminated with the description and to be placed as synonym after: *noverca* Schaus (P. 39, line 7 from above).

P. 39, line 26 from below, to *aurifera* add: (27 a).

P. 39, „ 19 „ „ , to *caurensis* the following species: *steinbachi* is to be added as synonymous and

P. 39, „ 11 „ „ , to be eliminated with the description.

P. 39, „ 4 „ „ , **melanogen** Dyar is a distinct species and has the priority before: *deceptans* Zerny (p. 40, line 6 from above) which thereby becomes synonymous.

P. 39, after *polistes* insert:

P. aracia Jones (27 a) has a yellow head with brown palpi and vertex; thorax marked yellow and black. *aracia*. Legs red-yellow, partly striped black with white forehips. The first abdominal ring is yellow with 2 black sub-dorsal streaks, the two following ones being red-yellow, the rest black with a leaden gloss; ventral valve golden yellow, bordered with white. Wings hyaline with brown veins and margins, at the costal margin brown down as far as the middle radial, at the cell-end and proximal margin dusted with a coppery colour. Hindwings hyaline with narrow black veins and margins. Expanse of wings: 28 mm. South Brazil (São Paulo).

P. 40, line 6 from above, *deceptans* is to be eliminated as synonymous.

P. 40, „ 10 „ „ , (*polybioides* Burm.) is to be eliminated.

P. 40, „ 15 „ „ , after *ichneumoncus* insert:

- fassli*. **P. fassli** *spec. nov.* (27 a) is larger and more robust than the form *crabronis* of the preceding species which it approaches very closely. It may at once be distinguished by the tibiae and tarsi being entirely yellow; the femora are velvety black, the hips yellow. Sides of the forehead silvery white, palpi quite black, very long-haired and beard-like. Collar and shoulder-covers are bordered with yellow; mesothorax and a transverse stripe on the metathorax, as well as a spot on the shoulder orange-yellow; the strangulated abdominal ring is posteriorly bordered with a light brown; the large, black ventral valve is laterally bordered with a silvery white, the abdomen otherwise purple-black. Antennae brown with a purple lustre, before the apex white-ringed. Wings as in *crabronis*. Expanse of wings: 38 to 40 mm. Described according to a number of fresh ♂♂ from the Rio Songo, Bolivia (FASSEL).
- gracilis*. P. 40, line 28 from below, *gracile* is to be eliminated as synonymous; subsp. **gracilis** Klages is the form from Panama with black antennae with yellow tips, whereas *angustulum* has a carmine antennal shaft.
P. 40, line 26 from below: *nigrifer* (not „nigriferum“) Dyar is a distinct species having the priority before: *perconstrictum* Zerny (p. 40, line 23 from below) which thus becomes synonymous.
P. 40, line 2 from below, to *meridionale* add: (27 a).
P. 41, „ 12 „ above, „ *nigriceps* „ : (27 a).
P. 41, „ 16 „ „ , after *nigriceps* insert:
- alica*. **S. alica** Jones (28 l). Head and thorax blackish-brown with single, interspersed hairs of a leaden colour. Forehead bordered with whitish. Legs striped yellowish; the blackish-brown abdomen, on the 4th and 5th rings, exhibits yellow bands; the ventral side is whitish. The hyaline wings have fine, blackish-brown veins and margins, the forewings exhibit red-brown stripes at the costal and proximal margins. Expanse of wings: 20 mm. South Brazil.
P. 41, line 17 from above, add after *simile*: (= *cosmosomoides* Roltsch.) as synonymous (see p. 124, line 18 from above).
P. 41, „ 18 from below, to *melapera* add: (27 a).
P. 41, „ 10 „ „ , „ *abdominale* „ : (27 a).
P. 42, „ 7 „ above, „ *metamela* „ : (27 a).
P. 42, „ 10 „ „ , add after *metamela*:
- linda*. **S. linda** Jones (27 b). Head and thorax are yellow, the latter striped black. The 3 first abdominal rings are red-yellow, the rest black, with yellow bands, on the ventral side all yellow and red-yellow. Wings hyaline with fine black veins and margins, the forewing with a reddish-brown costal margin and proximal margin. Expanse of wings: 26 mm. Brazil (São Paulo).
P. 42, line 23 from above, *S. nigricornis* is to be taken away and placed to the genus *Loxophlebia* (see p. 61—64).
P. 42, „ 19 „ below: to *meerkatzi* add (27 a).
P. 42, „ 17 „ „ , add:
- matta*. **S. matta** Jones (27 b). Head black with white sides of the forehead and a yellow hindhead. Palpi at the base black, the rest yellow; thorax yellow, striped black. The two first abdominal rings are yellow, striped black, the second at the base red-yellow, the others are black, curled yellow; venter yellow. The hyaline forewings with narrow black margins and veins are red-yellow at the costal margin and base of the proximal margin. Expanse of wings: 22 mm. Brazil (São Paulo).
P. 42, line 11 from below, add after *melissa*:
- semelina*. **S. semelina** Jones (27 b) differs from the preceding by its yellow abdomen with fine black dorsal and lateral stripes and the large black apical spot of the forewing. Expanse of wings: 26 mm. Brazil (Santos).
- melissina*. **S. melissina** Kaye extremely resembles *semelina*, being somewhat smaller and more orange-yellow on the thorax and abdomen, the latter with a black dorsal stripe and segmental indentations; the 3 first abdominal rings exhibit small black lateral stripes turned downward at the ends. Ventral valve yellow. The forewings also have a large black apical spot, the hindwings are yellow in the cell and at the base of the proximal margin. Expanse of wings: 24 mm. Santos.
P. 43, line 12 from above, to *vespoides* add: (27 a).
P. 43, „ 3 „ below, insert after *aliena*:
- obliqua*. **P. obliqua** Hmps. (27 c) deviates from the preceding by the chocolate-brown forewing with a narrow, oblique subapical band of white colour, being proximally dusted somewhat red-brown. Expanse of wings: 24 mm. Ecuador.
P. 44, line 6 from above, place instead of *Paramya*:

9. Genus: **Methysia** Btlr.

and insert after *intersecta* the species: **notabilis** Wkr. and **melanota** Hmps. (p. 137).

P. 44, line 16 from above, after *acnetus* insert:

M. bricenoi Rothsch. of Ichoria on p. 86 line 5 from above.

P. 44, line 9 from below, read (11 a) instead of (10 a).

P. 44, „ 5 „ „ , *leuce* is to be taken out and placed to *Dasysphinx*.

P. 45, „ 3 „ above, to *duronia* add: (27 a).

P. 45, „ 7 „ „ , *sandion* is to be placed to *Cosmosoma*.

P. 45, „ 10 „ „ , *garleppi* „ „ „ „ „ *Dasysphinx*.

P. 45, „ 16 „ „ , *H. watkinsi* Druce is to be eliminated.

P. 45, „ 31 „ „ , after *sahacon* insert:

H. modesta *spec. nov.* (27 b) greatly resembles the preceding, but it is much smaller. Body black, *modesta*. on the forehead, collar, metathorax and femora spotted dull blue with a leaden gloss; the blue spot on the forehead is above bordered by a light yellow spot in the shape of a horseshoe; abdomen laterally and sublaterally likewise spotted blue; the first abdominal ring exhibits subdorsal white, small spots, the 3 first rings being posteriorly bordered with a light yellow. On the ventral side the first 3 rings are all white, the penultimate ring exhibits sublateral orange spots. Wings faintly yellowish hyaline, veins, costal margin and proximal margin orange brownish; a very narrow apical spot of the forewing and inner-angular spot of the hindwing are black. Forehips and tarsi yellow-white, the latter at the extreme ends blackened. Expanse of wings: 33 mm. Described according to 1 pure ♀ from the Rio Songo, Bolivia (FASSEL).

H. ianthina *spec. nov.* (27 b) likewise greatly resembles the preceding, larger than *modesta*; from the *ianthina*. latter it differs by brilliant orange-yellow spots on the forehead and behind the eyes. Collar and shoulder-covers bordered with orange; of the same colour is a median stripe on the thorax. The spots on the abdomen are of a metallic ultramarine blue, a transverse band across the first ring, and the posterior margins of the 4 first segments orange, dorsally expanded to triangular dorsal spots. Venter and legs like in *modesta*, but the forehips blue. The wings of a deeper yellow. Expanse of wings: 38 mm. 1 ♀ from the Songo (FASSEL).

P. 45, line 26 from below, for *staminea* insert the name *albizonata* Dogn. *albizonata*.

P. 45, „ 18 „ „ , to *trizona* add: (27 h).

P. 45, „ 3 „ „ , insert after *leucostalaeta* Burm. as another synonym: *quinquepunctata* Heyl. of p. 75 line 25 from above.

P. 46, „ 4 „ „ , above, to *magnolimbata* add: (27 b).

P. 46, „ 9 „ „ „ , „ „ „ *rhodocera* „ : (27 c).

P. 46, „ 16 „ „ „ , *bombiformis* is to be placed to *Dasysphinx*.

P. 46, „ 25 „ „ „ , for *penates* which becomes *synonymous* insert the name: *nigripes* Heyl. *nigripes*.

P. 47, „ 23 „ „ „ , after *ustrina* add:

I. pertexta *spec. nov.* (29 b) entirely resembles *ustrina*, but the anterior body is entirely black; the *pertexta*. abdomen, only on the two first rings, exhibits minute, subdorsal and sublateral, yellow spots, above small blue dorsal spots. Expanse of wings: 50 mm. There is 1 ♂ before us from Sa. Catharina (Brazil) from the Coll. WERNICKE.

P. 48, line 9 from below, to *joda* add: (10 a, as *lucens*), the figure does not reproduce *C. lucens*. The following description: *basiferoides* Strand, p. 49 line 1 from above is to be added as a synonym to *joda*.

P. 48, line 1 from below, insert after *basifera*:

I. meridensis Schaus (27 d) of p. 54 line 5 from above (*Sarosa*).

P. 49, line 1 from above: *basiferoides* is to be eliminated as a synonym of *joda*.

P. 50, „ 28, 21 and 17 from below, the 3 species *capistrata*, *earminata* and *jamaicensis* are to be placed to the genus *Phoenicoprocta* (p. 57).

P. 51, line 15 from below, to *cineta* add: (27 c).

P. 52, „ 18 „ „ „ „ , *simulans* „: (27 c).

P. 52, „ 16 „ „ „ „ , after *simulans* insert:

A. vitristriga Druce of p. 93 line 26 from above (*Saurita*).

A. trinitatis Rothsch. (27 c) looks almost like a *Macrocneme*: head and thorax being blackish-brown, *trinitatis*. spotted green, the abdomen blackish-brown with metallic green dorsal and lateral stripes; the first ring beneath white, the others suffused with green. Wings dark brown, the forewing with a green dot at the base. Expanse of wings: 34 mm. Trinidad.

P. 52, line 1 from below, insert after *sesiiformis* to which *xanthotarsis* is to be placed as synonymous:

S. flavicostalis Rothsch. of p. 74 line 27 from above (*Cosmosoma*).

P. 53, line 1 from above, *xanthotarsis* is to be eliminated as a synonym of *sesiiformis*.

P. 53, „ 4 „ „ „ „ , to *epona* add (27 c). and after *epona* insert:

S. atritorna Dogn. (27 c) deviates from *epona* by the abdomen being of a brighter orange-red, the *atritorna*. head and thorax of the same colour, with blackish-brown spots, on the vertex spotted blue; the hindwings are not yellow, but white hyaline with large black anal-angular spots. Expanse of wings: 34 mm. Colombia.

P. 53, line 25, after *notata* insert:

S. annotata Dogn. (27 c) differs from the form *innotata* of the preceding species by blackish- *annotata*. brown shoulder-covers, entirely brown legs and smaller size; the 4 first abdominal rings are unicolorously yellow, the others blackish-brown with small blue spots. Expanse of wings: 42 mm. Colombia.

P. 53, line 16 from below, to *helotes* add: (27 c).

P. 53, „ 13 „ „ „ „ , *ozora* is to be placed to the genus *Dasysphinx*.

P. 53, „ 9 „ „ „ „ , to *lutibasis* add: (27 d).

P. 54, „ 1 „ „ „ „ „ , above, „ *mora* „ „ : (27 d). Insert after it:

S. ignicornis Hmps. (28 l). Body blackish-brown, on the vertex and abdomen spotted blue, the last *ignicornis*. rings entirely suffused with blue, on the collar and thorax yellow spots. Antennae fiery red; tarsi orange. The 1st abdominal ring shows a yellow dorsal spot, the 2nd at the base a narrow, yellow ring, the 3rd laterally and beneath a yellow-white band. Forewings yellow hyaline with narrow, blackish-brown margins; the subcostal veins and discal fold fiery red like the base of the inner-marginal vein. Expanse of wings: 38 mm. Peru.

P. 54, line 5 from above, *meridensis* is to be taken out and to be placed to the genus *Isanthrene*.

P. 54, „ 18 „ „ „ „ „ , after *muesseens* insert:

D. pilosa Rothsch. of p. 56 line 26 from above (Gymnelia) and add: (= watkinsi Druce) of p. 45 line 16 from above (Homoeocera).

D. leuce Maassen of p. 44 line 5 from below (Homoeocera).

semicineta.

D. semicineta Dogn. (27 d) greatly approximates *buckleyi*, somewhat smaller, the abdomen more metallic blue, on the 1st, 4th, 5th and 6th rings with subdorsal orange spots. The border of the forewing is only narrow black, without any apical nor inner-angular spots. Expanse of wings: 40 mm. Colombia.

D. buckleyi Druce of p. 56 line 15 from below (Gymnelia).

D. baroni Rothsch. „ „ 56 „ 20 „ above „

D. ozora Druce „ „ 53 „ 13 „ below (Sarosa).

P. 54, line 19 from above, to *volatilis* add: (27 c).

P. 54, „ 23 „ „ „ after *volatilis* insert:

D. ockendeni Rothsch. of p. 55 line 4 from below (Gymnelia).

D. tarsipuncta Schaus. „ „ 56 „ 1 „ above „
to which we add: (27 e).

D. torquata Druce of p. 56 line 16 from above (Gymnelia).

D. bombiformis Rothsch. „ „ 46 „ 16 „ „ (Homoeocera).

D. boettgeri Rothsch. „ „ 55 „ 11 „ below (Gymnelia).

D. garleppi Rothsch. „ „ 45 „ 10 „ above (Homoeocera).

D. herodes Druce „ „ 56 „ 4 „ below (Gymnelia).

P. 54, line 24 from above: for *Lasioteles* Hmps. (nec Beth. Baker) place *Scellilasia* Hmps.

P. 54, „ 4 „ below, add to the diagnose of the genus: distinguished from *Cosmosoma* merely by the border of the hindwing exhibiting an excision before the anal angle. For this reason, HAMPSON enumerates here a great number of species having hitherto been reckoned to *Cosmosoma*:

P. 55, line 2 from above, after *lyrcea* insert:

G. carabayana Rothsch. of p. 75 line 15 from above (Cosmosoma).

G. bricenoi Rothsch. „ „ 75 „ 10 „ „ „

G. metallica Rothsch. „ „ 74 „ 23 „ „ „

G. dubia Rothsch. „ „ 76 „ 21 „ „ „

G. zelosa Dogn. „ „ 78 „ 6 „ „ „

to which we must add: (27 e).

P. 55, line 10 from above, *plumosa* is to be eliminated as a synonym of *Cosm. doris*.

P. 55, „ 28 „ „ „ after *taos* insert:

pavo.

G. pavo Hmps. (27 e) resembles *taos* and differs by orange palpi and spot on the forehead, the ventral side being also orange-yellow, on the 3rd and 4th rings striped black. The wings are more distinctly yellow hyaline, towards the base orange. Expanse of wings: 46 mm. Peru.

G. beata Btlr. of p. 75 line 25 from below (Cosmosoma).

G. hampsoni Klages „ „ 75 „ 20 „ „ „
to which we add: (27 d).

G. nigricornis F. of p. 75 line 16 from below (Cosmosoma).

G. simillima Rothsch. „ „ 74 „ 18 „ above „

G. steinbachi Rothsch. „ „ 74 „ 21 „ „ „

G. gaza Schs. „ „ 74 „ 10 „ „ „

to which we add: (27 d).

G. eusebia Druce of p. 84 line 16 from above (Poecilosoma).

G. tarapotensis Druce „ „ 74 „ 14 „ „ (Cosmosoma).

G. villia Druce „ „ 75 „ 7 „ below „

G. vesparia Perty „ „ 81 „ 3 „ above „

G. stuarti Rothsch. „ „ 75 „ 2 „ below „

G. sephela Druce „ „ 75 „ 10 „ „ „

G. cincta Schs. „ „ 74 „ 6 „ above „

G. scita Wkr. „ „ 80 „ 2 „ below „

G. lycopolis Druce „ „ 73 „ 6 „ „ „

G. flavitarsis Wkr. „ „ 74 „ 17 „ „ „

G. baroni Rothsch. „ „ 74 „ 2 „ „ „

G. guapila Schs. „ „ 74 „ 5 „ „ „

to which we add: (27 e).

G. beatrix Druce of p. 74 line 10 from below (Cosmosoma).

G. salvini Btlr. „ „ 75 „ 4 „ above „

G. colona Schs. „ „ 77 „ 7 „ below „

to which we add: (27 c).

G. lucens Dogn. „ „ 75 „ 8 „ above „

to which we add: (27 d), eliminating: (10 a).

G. hyaloxantha Dogn. (27 d) differs from the preceding by the head and thorax being almost entirely *hyaloxantha*. blackish-brown, only the vertex and collar showing blue spots. The abdomen exhibits on the 1st ring lateral orange spots, from the 2nd to the 6th rings metallic blue bands. Forewings yellow hyaline, subcostally and at the base of the proximal margin with orange stripes, the black margins and apical spots are broader. Expanse of wings: 42 mm. Colombia.

G. nobilis Schs. of p. 74 line 1 from above (Cosmosoma).
to which we add: (27 e).

G. viridicingulata Rothsch. of p. 75 line 20 from above (Cosmosoma).

G. ichneumonoides Rothsch. ,, ,, 74 ,, 21 ,, below ,,

G. ethodaea Druce ,, ,, 80 ,, 17 ,, ,,

P. 55, line 11 from below, *boettgeri*, and line 4 from below, *ockendeni* are to be inserted in the genus *Dasysphinx* (p. 54) line 7 from below, *plagiata* in the genus *Chroslosoma* (p. 67).

P. 56, line 1 from above, *tarsipuncta* is to be placed to the genus *Dasysphinx*.

P. 56, ,, 12 ,, ,, , to *paranapanema* add: (27 e).

P. 56, the species *lorquata* as far as *buckleyi* inclusively, as well as *herodes* are to be placed to *Dasysphinx*, *flavicornis* to *Cosmosoma*.

P. 57, line 20 from below, to *flavipicta* add: (27 e).

P. 57, ,, 11 ,, ,, ,, *vacillans* add: According to a publication by DRAUDT, the breeder H. W. B. MOORE in Brit. Guiana has bred from a laying a very variable series, among which there were beside the nomenclatural form *metachrysea* Druce, *chrysorrhoea* Hmps., furthermore *Leucotmemis thoracica* Schs. and *L. albigutta* Schs.; consequently, the species mentioned last would be merely forms of *vacillans*!

P. 57, line 4 from below, for *incandescens* read: *punicea*.

P. 58, ,, 18 ,, above, after *sanguinea* insert:

P. carminata Hmps. of p. 50 line 21 from below (*Autochloris*) to which is to be added: (27 c).

P. biformata Gibbs (27 f) has a black head, the forehead and vertex being suffused with blue; thorax *biformata*. scarlet, with a black base of the collar and black shoulders; palpal base orange. Legs black, hips red. The black abdomen shows metallic blue dorsal and lateral stripes, and on the first ring red subdorsal streaks. Forewings hyaline with broad black margins and discal spots.

P. 58, line 18 from above, to *trinitatis* add: (27 f).

P. 58, ,, 22 ,, ,, ,, *lydia* add: The breeder having been mentioned in *vacillans* has bred from one and the same laying beside *lydia* also *thera* Druce and *J. demona* Druce which would consequently have to be considered to be forms of *lydia*!

P. 58, line 30 from above, after *lydia* insert:

P. jamaicensis Schs. of p. 50 line 17 from below (*Autochloris*), and add: (27 f).

P. capistrata F. of p. 50 line 28 from below (*Autochloris*), and add the synonyma: (= *thomae* Luc., *cubana* Druce), the latter is consequently to be eliminated as a species on p. 58 line 10 from below; in the ♂ the disc of the forewing is entirely hyaline except the spot in the middle, in the ♀ the extent of the dark median band varies very much.

P. 58, line 29 from below, to *chamboni* add: (27 g).

P. 58, ,, 10 ,, ,, ,, *cubana* as a synonym to *capistrata* must be eliminated.

P. 59, ,, 11 ,, above, add the synonym: *paranensis* Schrottky which must be eliminated on p. 69 line 14 from below. The figure 26 k is better than 12 m.

TP. 59, line 15 from below, to *caymanensis* add: (27 f).

P. 60, ,, 20 ,, above, after *costalis* insert:

Ph. plebecula Dogn. (27 f) of p. 77 line 10 from above (Cosmosoma).

P. 60, line 24 from above, after *gaudens* insert:

Ph. mathona Dogn. Head and thorax blackish-brown, spotted and striped orange; abdomen with *mathona*. orange lateral bands, being united above on the 2nd ring; anal tuft and venter orange, the last ring with a blue lustre. Forewing hyaline with black veins, margins and apical spot, subcostally and at the base of the proximal margin striped orange. Proximal margin of the hindwing yellow haired. Expanse of wings: 24 mm. Ecuador.

P. 60, line 4 from below, to *discaphora* add: (27 g).

P. 61, ,, 17 ,, above, ,, *lateralis* ,, : (27 f).

P. 61, ,, 21 ,, ,, , for *sandix* insert the name *haemapleura* Hmps.

P. 61, ,, 22 ,, below, to *bisigna* add: (27 f), and eliminate the concluding sentence from: „May be“ to the end.

P. 61, ,, 8 ,, ,, ,, *flavipicta* add: (27 f).

P. 62, ,, 12 ,, above, ,, *cinclata* ,, : (27 f).

P. 62, ,, 18 ,, ,, ,, *aurantiaca* ,, : (27 f).

P. 62, ,, 22 ,, ,, , after *aurantiaca* insert:

L. brasiliensis Rothsch. of p. 81 line 11 from above (Cosmosoma).

P. 62, line 22 from above, to *egregia* add: (27 g).

P. 62, ,, 24 ,, below, ,, *metamela* ,, : (27 g), and insert in the description: distinguished from *fininigra* by the colour being more brown, not black, the hips being brown, not spotted white as there.

P. 62, line 2 from below, *inconspicua* is to be taken out and placed to the genus *Mesothen*.

P. 63, ,, 6 ,, above, to *flavinigra* add: (27 g).

P. 63, ,, 25 ,, ,, ,, *geminata* ,, : (27 g).

P. 63, ,, 28 ,, ,, ,, *peralta* ,, : (27 g).

P. 63, ,, 17 ,, below, ,, *crusmalica* ,, : (27 g).

P. 63, ,, 12 ,, ,, , after *crusmalica* insert:

L. davisi Gibbs. (27 h). Head black with white dots behind the antennae, and the forehead bordered *davisi*. with white. Thorax red-yellow. Chest and legs black, the latter partly white. Abdomen black, on the 1st

ring with a small white dot. Wings hyaline with black veins and margins and an orange-yellow base. Expanse of wings: 22 mm. Brit. Honduras.

P. 63, line 7 and 3 from below, *semiflava* and *cosmosomoides* are to be placed to *Mesothen*.

P. 64, .. 13 from above, to *albicincta* add: (27 g).

P. 64, .. 18 .. , , *socorrensis* add: (27 g).

P. 64, .. 27 .. , for *parea* insert the name: *pheiodes* Dogn.

P. 64, .. 15 .. below, to *multieineta* add: (27 h).

P. 64, .. 12 .. , after *multieineta* insert:

L. nigricornis Rebel of p. 42 line 23 from above (*Sphecosoma*), and add: (27 h).

P. 65, line 5 from above, to *biscxualis* add: (27 h).

P. 65, .. 10 .. , , *temperata* .. : (27 h).

P. 65, .. 16 .. , , *albifrons* .. : (27 h).

P. 65, .. 20 .. , , *albilimbata* .. : (27 i).

P. 65, .. 25 .. , after *albilimbata* insert:

aurata. **M. aurata** Dogn. (27 i). Head black with a white forehead; thorax and abdomen orange-yellow, spotted black, the latter in its whole length dorsally, and sublaterally on the 4th, 5th and 7th rings. Wings hyaline with black veins and margins, and some yellow colouring at the base of the forewing and along the proximal margin of the hindwing, before it black. Expanse of wings: 22 mm. Colombia.

P. 65, line 26 from above, *doris* is to be placed to the genus *Cosmosoma*.

P. 65, .. 29 .. , to *flavicostata* add: (27 g).

P. 65, .. 23 .. below, .. *nomia* .. : (27 g).

P. 65, .. 20 .. , *mysia* is to be placed to the genus *Chrostosoma*.

P. 65, .. 14 .. , after *rogenhoferi* insert as a distinct species:

M. perflava Kaye (27 i).

P. 65, line 11 from below, to *ockendeni* add: (27 f).

P. 65, .. 3 .. , , *aurantiaca* .. : (27 h).

P. 66, .. 19 .. above, after *ethela* insert:

M. semiflava Rothsch. of p. 63 line 7 from below (*Loxophlebia*).

M. cosmosomoides Rothsch. .. , 63 .. 3 .. , , ,

M. meridensis Rothsch. .. , 74 .. 24 .. , , (Cosmosoma).

M. inconspicua Kaye .. , 62 .. 2 .. , , (Loxophlebia).

pyrrhina. **M. pyrrhina** Jones (27 h) differs from *pyrrha* by the collar being bordered with white, the white base of the tarsi, and the black abdomen being subdorsally striped grey, with a white dot on the 1st ring. The ♀, on the forewings, is strewn with black in and behind the cell, and striped black in the cell-spaces. Expanse of wings: 22 to 24 mm. Brazil.

P. 66, line 20 from above, to *montana* add: (27 h).

P. 66, .. 24 .. below, .. *roseifemur* .. : it may perhaps be merely a form of *eaeruleicorpus*; in this species the extent of the red colour on the legs is apparently most variable.

P. 66, line 7 from below: after *catherina* insert:

aurantegula. **M. aurantegula** Jones (27 h) is blackish-brown on the body with an orange-spotted collar; terminal joints of palpi and tips of antennae white. Wings hyaline with black veins and margins. Expanse of wings: 28 mm. Brazil (Santos).

P. 66, line 7 from below, to *nana* add: (27 k).

P. 66, .. 4 .. , , *endoleuca* .. : (27 i).

P. 67, .. 10 .. above, after *pampa* insert:

M. abdominalis Rothsch. (27 i) of p. 162 line 17 from below (as *Agyrta*!).

P. 67, line 10 from above, to *pulchella* add: (27 i).

P. 67, .. 27 .. below, for *haematica* insert the name:

Ch. fenestrina Btlr., *haematica* and *zantes* are to be eliminated, there only remains the synonym *chalconitis*.

P. 67, line 11 from below, *fumosum* is to be taken out and placed to *Saurita*.

P. 68, .. 1 .. above, *Ch. anthracina* is to be eliminated and to be quoted as *saurita laeteipars* Dogn.

P. 68, .. 9 .. , *mosca* is to be taken out and placed to *Saurita*.

P. 68, .. 20 .. , to *trimaenulatum* add: (27 i).

P. 68, .. 18 .. below, .. *pellueidum* .. : (27 k).

P. 68, .. 16 .. , after *pellueidum* insert:

Ch. mysia Druce (27 k) of p. 65 line 20 from below (*Mesothen*).

Ch. plagiata Rothsch. .. , 55 .. 7 .. , (Gymnelia).

P. 68, line 15 from below, *sitiona* is to be taken out and placed to *Cosmosoma*.

P. 68, .. 13 .. , to *patricium* add: (27 i).

P. 68, .. 3 .. , after *tricolor* insert:

Ch. rica Dogn. (27 k) of p. 73 line 16 from below (*Cosmosoma*).

P. 68, line 3 from below, *marathum* Druce is to be eliminated as the synonym to *Saurita* *nox*.

P. 69, .. 14 .. , *paranensis* is to be eliminated as the synonym to *Phoeniceoproeta* *teda*.

P. 69, .. 6 .. , after *tenthredoides* insert:

L. lemoulti Rothsch. of p. 81, line '22 from above (*Cosmosoma*).

P. 70, line 10 from above, take *bella* out and place it to *Cosmosoma*.

„ 70, „ 14 „ „ , to *endochrysa* add: (27 k).

„ 70, „ 23 „ below, *felderi* is a smaller form of *emergens* and no separate species.

„ 70, „ 20 „ „ , to *albigutta* add: (27 k); according to Dyar, it is, like the following, identical with *Phoenico-*
procta vacillans!

„ 70, line 17 from below, to *thoracica* add: (27 k).

„ 70, „ 8 „ „ , according to HAMPSON'S opinion, *hoffmannsi* Rothsch. (p. 108, line 9 from below) having been described as *Catonotus* would have to be placed here as *Leucotmemis*; I adhere to my opinion that *Methysia chry-*
sonola is the same animal.

P. 71, line 27 from above, to *exomelan* add the synonym: *pyrsonola* Hmps.

„ 71, „ 14 „ below, „ *rubritarse* add: (27 k).

„ 71, „ 5 „ „ „ , *myrodora* „ : (27 k).

„ 71, „ 2 „ „ „ , read: (13 c), instead of (13 e).

„ 72, „ 16 „ above, *rubrobasale* is only a form of *sectinota*.

„ 72, „ 18 „ „ , to *enlella* add: (27 k).

„ 72, „ 20 „ below, „ *brasilicola* „ : (27 i).

„ 72, „ 16 „ „ , before *galatea* insert:

C. basistiba Dogn. (27 l). Anterior body blackish-brown, on the shoulders, metathorax, forehips *basistiba*.

and posterior chest spotted blue; the first 4 abdominal rings are orange-yellow with a black spot on the first ring, the rest blackish-brown, spotted blue. Forewings hyaline with black veins, margins, median and apical spots; at the base of the forewing there is a blue dot. Expanse of wings: 42 mm. Colombia.

P. 72, line 16 from below, to *galatea* add: (27 l).

„ 72, „ 3 „ „ , after *semifulva* insert:

C. sitiona Schs. (27 l) of p. 68 line 15 from below (*Chrostosoma*).

C. albifrons Dogn. (27 l). Body orange, with black antennae, palpi, legs except the base of the femora *albifrons*.

and apex of abdomen; forehead white. Wings hyaline with black margins and apical spots and some orange at the base. Expanse of wings: 30 mm. Panama.

P. 73, line 4 from above, *C. rubriguthum* is to be placed as an insignificant aberration to *teuthras* (p. 79 line 12 from above).

„ 73, line 16 from below, after *melathoracica* insert:

C. flavicornis Druce of p. 56, line 10 from below (*Gymnelia*!).

P. 73, line 16 from below, place *rica* to *Chrostosoma*, and line 13 and 10: *stryma* and *gracula* to *Saurila*.

„ 73, „ 6 „ „ „ , as far as p. 74, line 23 from above, *lycopolis* — *metallicum* are to be placed to *Gymnelia*; line 27: *flavicostale* to *Sarosa*; line 32: *meridense* to *Mesothen*; the following species from *ichneumonoides* to *stuarti* (p. 75, line 2 from below), as well as p. 76, line 21 from above, *dubium* all to *Gymnelia*.

P. 76, line 26 from above, to *mathani* add: (27 l).

„ 77, „ 1 „ „ „ , before *cinclutum* insert:

C. bella Kaye (27 m) of p. 70 line 10 from above (*Leucotmemis*).

P. 77, line 1 from above, to *cinclutum* add: (27 l).

„ 77, „ 10 „ „ „ , take out *plebecula* and place it to *Phcia*.

„ 77, „ 15 „ „ „ , to *corvicum* add: (27 i).

„ 77, „ 8 „ below, „ *phoenicophorum* add: From East Colombia (Villavicencio) there is from the Coll. FASSL a unicolorously blackish-brown example before me without any red on its body and wings: I denominate the form: *noctifera* (28 a).

P. 77, line 7 from below, place *colona* to *Gymnelia*.

„ 78, „ 10 „ „ „ , after *xanthostictum* insert:

C. sandion Druce (27 l) of p. 45 line 7 from above (*Homoeocera*).

P. 78, line 11 from above, in *durca* the name *nigripes* Heyl. is to be eliminated: after *durca* insert:

C. rasera Jones (27 l) differs from *durca* by the first three abdominal rings being beneath banded white; *rasera*.

the 1st ring exhibits also sublateral blue spots; the tarsi are black. On the under surface each wing is spotted blue at the base of the costal margin. Expanse of wings: 30 to 36 mm. Brazil (Santos; Castro Paraná).

P. 78, line 18 from above, to *pellucidum* add: (27 l).

„ 78, „ 23 „ below, after *crathidinum* insert:

C. rubricarpus Kaye (27 l) of p. 85 line 23 from above (*Mystrocneme*).

C. flavicinctata Dogn. (27 l) of p. 85 line 9 from above (*Mystrocneme*).

P. 78, line 6 from below, *zelosa* is to be placed to *Gymnelia* (not figured).

„ 78, „ 6 „ „ „ , eliminate the reference (14 b) together with the description and place it as a form to *festivum* by the name of: *auranticineta* form. nov. (= subsp. 1 Hmps.).

P. 79, line 3 from above, to *thoracica* add: (27 m).

„ 79, „ 7 „ „ „ , *sicula* is to be eliminated and to be placed as a synonym to *remotum* Wkr. (p. 80 line 25 from above).

P. 79, line 15 from below, the name: *tyrrhene* Hbn. with the synonym: *perfenestratum* Dyar (of p. 80 line 6 from above) is to be introduced for a form with an orange-red discal spot and a red-dusted marginal band.

P. 79, line 4 from below, to *achemonides* add: (27 m).

„ 80, „ 6 „ above, eliminate *perfenestratum*.

„ 80, „ 18 „ „ „ , to *anoxanthium* add: (27 m).

„ 80, „ 25 „ „ „ „ , *remotum* add *sicula* Dyar as synonymous.

„ 80, „ 17 „ below, place *ethodaea* to *Gymnelia*.

„ 80, „ 2 „ „ „ „ , *scita*, and p. 81 line 3 from above: *vesparia* to *Gymnelia*.

„ 81, „ 11 „ above, „ *brasiliense* to *Lorophlebia*.

„ 81, „ 22 „ „ „ „ , *lemoulti* to *Leucotmemis*.

„ 81, „ 25 „ below, to *galbanum* add: (27 m).

„ 81, „ 15 „ „ „ „ , *dorsicinctum* add: (27 m).

„ 82, „ 1 „ above, for *regestum* insert the name:

notostiba. **C. notostiba** Hmps. (notosticta Dogn. 1913 nec Dogn. 1909).

P. 82, line 9 from above, replace *carsors* by:

stictinola. **C. stictinota** Dogn.

P. 82, line 16 from above, to *notosticta* add: (27 m).

„ 82, „ 20 „ „ , after *notosticta* insert:

C. doris Druce of p. 65 line 26 from above (as *Mesothen*) and add as synonym: (= *plumosa* Rothsch.) of p. 55 line 10 from above (as *Gymnelia*).

diplosticta. **C. diplosticta** Dogn. (27 m) is very easily recognizable by the orange-yellow body being spotted black subdorsally, laterally, and sublaterally. Expanse of wings: 36 mm. Colombia.

P. 82, line 4 from below, to *thia* add: (27 m).

„ 83, „ 1 „ above, to *pseudothia* add the synonym: *thiacia* Hmps., and besides: (27 k).

„ 83, „ 5 „ „ , to *angustimargo* add: (27 m).

„ 83, „ 12 „ „ , the name: *intensa* Rothsch. is to be re-inserted, since *intensa* Wkr. is to be placed to *Saurita*.

„ 83, „ 15 „ „ , to *flavita* add: (27 m).

„ 83, „ 25 „ „ , „ *pytna* add: (27 m).

„ 83, „ 4 „ below, place *intensum* to *Saurita*.

„ 84, „ 1 „ above, place *ladan* to *Saurita*.

„ 84, „ 13 „ „ , to *P. chrysis* add:

From Villavicencio (East Colombia) there is a form before me from the Coll. FASSL, in which the red *flava*. colour of the thorax and of the 1st abdominal ring is golden yellow; I denominate it: **flava form. nov.** — In another form from the same origin the 4 first abdominal rings are scarlet, on which the small blue-opalescent *semirubra*. dorsal spots without any black bordering are very peculiarly prominent; it may have the name: **semirubra form nov.** (28 d).

P. 84, line 16 from above, place *eusebia* to *Gymnelia*.

„ 84, „ 25 „ „ , to *mapirensis* add: (28 a).

„ 84, „ 29 „ „ , „ *misionum* „ : (28 a).

„ 84, „ 12 „ below, HAMPSON has of late placed *vespoides* to *Cosmosoma*; I do not see the reason why, since in quite a number of specimens before me, the upper radial vein of the forewing always rises far below the upper cell-angle. After it insert:

annulatum. **P. annulatum spec. nov.** (28 h) resembles the preceding. The palpi are quite yellow; the base of the collar, 4 spots on the thorax, minute spots on the shoulders, and the apices of the shoulder-covers are black. Each abdominal ring is above curled black, beneath only beginning from the 4th ring. Wings like in *vespoides*. Described according to 1 ♂ from the Rio Songo (FASSL).

P. 85, line 9 from above, place *flavicinctata* to *Cosmosoma*.

„ 85, „ 14 „ „ , to *sectum* add: (28 a).

„ 85, „ 18 „ „ , „ *albicarpus* „ (28 a).

„ 85, „ 23 „ „ , place *rubricarpus* to *Cosmosoma*.

„ 86, „ 5 „ „ , „ *bricnoi* to *Melhyia*.

„ 86, „ 16 „ below, to *semiopaca* add: (28 a).

„ 86, „ 12 „ „ , „ *chrostosomides* add: (28 b).

„ 86, „ 4 „ „ , after *chalcomedusa* insert:

virescens. **I. virescens** Dogn. (28 a) is on the anterior body entirely blackish brown, with white-spotted anterior and posterior hips. Abdomen bronze-green like the forewings. Hindwings hyaline broadly bordered with a blackish brown. Ventral valve spotted white. Expanse of wings: 38 mm. Colombia, Bolivia.

P. 87, line 11 from above, *ochreiventris* is to be placed to *Saurita*.

trigutta. „ 87, „ 21 „ „ , eliminate the name *melanthus*, the species must be called: **trigutta** Wkr. After it insert:

melanthus. **P. melanthus** Cr. differs from the preceding by its black colour, red hindhead and collar. Underneath the 4 first abdominal rings are white. Hindwing with a broad, faded, blackish median band; hindwing in the basal half hyaline with black veins, distally quite black. Expanse of wings: 28 mm. Trinidad; Surinam.

P. 87, line 24 from above, to *nigrozona* add: (28 a).

„ 87, „ 17 „ below, eliminate *trabea* and place it as synonym to *picta* (line 15 from above).

„ 87, „ 1 „ „ , after *vesla* insert:

H. cardinalis Rothsch. of p. 91 line 3 from below (as *Saurita*).

P. 88, line 1 from above, to *gentilicia* add: (28 b).

„ 88, „ 9 „ „ , in *endoleuca* replace: (15 b) by (28 b). The species has a white inner-marginal area of the hindwing.

P. 88, line 14 from above, to *melita* add: (28 b).

„ 88, „ 16 „ „ , after *melita* insert:

eurytorna. **H. eurytorna** Hmps. (15 b as *endoleuca*) is distinguished by the inner-marginal area of the hindwing being in the ♂ expanded and beneath roughly scaled; it otherwise greatly resembles *endoleuca*. Expanse of wings: 36 mm. West Colombia.

P. 88, line 16 from below, to *melaleuca* add the description of the ♂: palpi anteriorly white; collar scarlet; mesothorax and the 5 first abdominal rings above and laterally red, the 2nd and 3rd rings are above white, the 5th spotted black; the hyaline part below and behind the cell of the hindwing is absent. Flies also in French Guiana.

P. 88, line 8 from below, for *sanguinea* Jones which becomes synonymous, place: *haemasoma* Curtis (28 b).
 „ 89, „ 1 „ above, before *vittata* insert:

P. flavicans Dogn. with the reference: (15 d as *semiflava*), (of p. 90 line 10 from below), as *Rhynchopyga*; the latter name becomes synonymous. The yellow colour is of a deeper orange-yellow in fresh specimens. *flavicans* was described as *Horama* on p. 143 line 12 from below and is to be eliminated there.

P. 89, line 29 from above, to *pentheri* add: (28 b).

„ 89, „ 11 „ below, *hymenopteridia* is to be placed as *Rhynchopyga* to the beginning of the following genus; for (15 c) read: (15 e).

P. 90, line 8 from above, to *semirufa* add: (28 b).

„ 90, „ 27 „ „ „ *braconida* „ (28 b).

„ 90, „ 10 „ below, after *subflamma* insert:

R. aurantiaca spec. nov. (28 b) differs very much from the other species. Forewing brown with darker *aurantiaca*. veins, cellular and submedian fold, and a slight brightening in the middle of the cell, being somewhat more distinct behind the cell, extending between the upper median and lowest radial as far as to the margin; at the apex there are also 3 or 4 small light spots. Hindwing orange-yellow, bordered with black, rather broadly at the apex. Body unicolorously blackish-brown, at the sides of the chest and of the 1st abdominal ring small, indistinct, orange-yellow spots. Expanse of wings: 35 mm. According to 2 ♀♀ 1 ♂ from the Songo, Bolivia (FASSL).

R. elongata Dogn. of p. 186, line 4 from below, (as *Correbia*). After the description insert: In Bolivia and Peru there flies a form: **bifasciata** form. nov. (= subsp. 1 *Hmps.*) (28 c) with a broad, ochreous *bifasciata*. yellowish antemedian band traversed by the dark veins, and a purely yellow postmedian transverse band; the white abdominal spots are bordered with black.

R. bicolor Dogn. (28 b) of p. 92, line 12 from above, (as *Saurita*).

P. 90, line 10 from below, eliminate *semiflava*.

„ 91, „ 3 „ above, to *steniptera* add: (28 d).

„ 91, „ 3 „ below, place *cardinatis* to *Holophaca*.

„ 92, „ 1 „ „ „ to *meerida*: HAMPSON considers *duccicordis* to be a distinct species and places it to *Rhynchopyga*; I received great numbers of this animal from Mexico, it is certainly a *Saurita* and, according to DYAR's personal assertion synonymous with *meerida*.

P. 92, line 8 from above, to *improvisa* add: (28 c).

„ 92, „ 12 „ „ „ place *bicolor* to *Rhynchopyga*.

„ 92, „ 16 „ „ „ to *tricolor* add: (28 c).

„ 92, „ 19 „ „ „ eliminate *hamon* which is a *Lithosida*.

„ 92, „ 10 „ below, to *talens* add: (28 c).

„ 92, „ 7 „ „ „ *submacula* „ (28 c).

„ 92, „ 3 „ „ „ *hemiphaea* „ (28 c) and as synonym: *pipio* Oberth.

„ 93, „ 1 „ above, „ *rubripuncta* „ (28 c).

„ 93, „ 6 „ „ „ for *mediorubra* insert the name: *S. haematica* Perty (= zantes *H.-Schäff.*, *mediorubra* Kaye).

„ 93, „ 9 „ „ „ to *anthracina* add: (28 d).

„ 93, „ 16 „ „ „ after *cassandra* insert:

S. coccinea spec. nov. (28 d) is smaller than the preceding and coloured on the wings just like it, *coccinea*. though a little lighter; at the base of the forewing there is a small red spot. The whole body above and beneath inclusive of the palpi and legs is scarlet, the latter being brownish at the tibiae; on the collar and abdominal sides there are large, metallic greenish-blue spots in a black ground; the anterior margin of the 2nd abdominal ring exhibits a black transverse band. Expanse of wings: 29 mm. According to 1 couple from the Songo, Bolivia (coll. FASSL).

P. 93, line 26 from above, place *vitistriga* to *Autochtoris*.

„ 93, „ 12 „ below, to *nox* add as synonym: (= *maratha* Druce) of p. 68 line 3 from below (as *Chrostosoma*).

„ 93, „ 7 „ „ „ *perspicua* add: (28 e).

„ 93, „ 4 „ „ „ after *perspicua* insert: *S. gracula* Dogn. (28 c) of p. 73 line 10 from below.

„ 93, „ 1 „ „ „ *phoenicosticta* insert:

S. fumosa Schs. (28 d) of p. 67 line 11 from below (*Chrostosoma*).

S. mosca Dogn. (28 d) of p. 68 line 9 from above (*Chrostosoma*).

P. 94, line 1 from above, to *clandestina* add: (28 d).

„ 94, „ 11 „ „ „ eliminate *venezuelensis* as a species and place it as a smaller form to *tmenus* (line 17 from below).

P. 94, line 19 from above, eliminate *thoracica* as a species and place it as a synonym to *conceisa* (line 14 from below).

„ 94, „ 22 „ below, after *vindonissa* insert:

S. cretheis Druce (28 d). Thorax and 1st abdominal ring above red, beneath blackish-brown; abdomen *cretheis*. bluish-black with lateral rows of metallic blue dots. The blackish-brown forewings exhibit in the cell-end and below it small hyaline stripes, as well as small spots between the veins rising from the cell; the hindwing likewise shows hyaline stripes in the middle. Expanse of wings: 26 mm. Ecuador.

S. hilda Druce (28 d) of p. 137 line 18 from above (*Methysia*).

P. 95, line 4 from above, to *metanifera* add: collar, shoulder-covers and metathorax are bordered with grey. On the forewing all the subcostal veins rise from one stalk.

P. 95, line 6 from above, add to *tiputina* the synonym: (= *obscura* *Ktages*), and eliminate this name inclusive of the rest of the sentence from „being“ to the word „*Ktages*“ on p. 94 line 15 from above.

P. 95, line 15 from above, to *lasiphtebia* add as synonymous: *culicina Oberth.*

„ 95, „ 15 „ „ , after *pectucida* insert:

S. ladan Druce of p. 84 line 1 from above (*Cosmosoma*).

S. ochreiventris Druce (28 e) of p. 87 line 11 from above (*Pseudomya*).

S. intensa Wlkr. of p. 83 line 4 from below (*Cosmosoma*).

S. stryama Druce of p. 73 line 13 from below (*Cosmosoma*).

S. lacteipars Dogn. (= *anthracina Draudt*) (12 l, as *anthracina*) of p. 68 line 1 from above.

P. 95, line 18 from below, to *dubiosa* add: the appendant cell mentioned in the diagnose of the genus seems to be an abnormal, casual condition.

P. 96, line 8 from above, to *diminuta* add the synonym: *ockendeni Roths.* of p. 126 line 12 from below (*Agyrtha*).

„ 97, „ 12 „ „ , „ *tisamena* add: (28 d).

„ 97, „ 17 „ „ , „ *mincrea* „ (28 d).

„ 97, „ 7 „ below, „ *vulcanus* „ the synonym: *descintes Dyar*. After it insert:

plutonica. **E. plutonica** Hmps. (*vulcanus* Druce part.) is most similar to the preceding, distinguishable by its red forehips and white lateral spots on the anterior half of the abdomen, all the rest being alike; it is doubtful whether it is a distinct species. Expanse of wings: 60 mm. Mexico.

P. 98, line 28 from above, to *elegans* add: (28 e).

„ 98, „ 21 „ below, eliminate subsp. *boliviana*. Replace it by the name *laetifica Maassen* (= *strigiventris* subsp. 1 Hmps.) as a distinct species, and eliminate the synonym *laetifica* in the following species.

P. 99, line 1 from above, to *xanthosoma* add: (28 e).

„ 99, „ 10 „ „ , „ *tydia* „ (28 e).

„ 99, „ 13 „ „ , after *tydia* insert:

transacta. **D. transacta** Wkr. (28 e) resembles the preceding and is smaller, in the ground-colour more red-brown; the forewings are marked almost the same, but the small spots at the base and below the middle are hyaline, not yellow. Expanse of wings: 26 mm. Brazil.

P. 99, line 19 from above, to *xanthobasis* add: (28 e).

„ 100, „ 1 „ „ , „ *hampsoni* „ (28 e).

„ 100, „ 17 „ „ , „ *austera* „ (28 e).

„ 100, „ 28 „ „ , „ *angasi* add the synonym: *amphitrite Luc.*, and add to the description: thorax and abdomen are unicolorously greenish-black.

P. 100, line 5 from below, to *jucundissima* add: ground-colour more green than blue, all the white spots smaller, abdominal end scarlet, not carmine.

P. 102, line 10 from above, eliminate *monticola* as a species and place it as synonymous to *cephus*.

„ 102, „ 29 „ „ , to *faterina* add: (29 b).

„ 103, „ 17 „ „ , after *cyanca* insert:

aurifera. **M. aurifera** Hmps. (28 f) is very similar, on the anterior body spotted green, abdomen suffused with green, not blue; besides, the ventral side is spotted white. Wings like in the preceding, but in the basal part of the forewing there is an oblique, black longitudinal band bordered upwards by a golden colour, the hindwing exhibiting only one blue spot behind the lower cell-end. Expanse of wings: 40 mm. Peru.

P. 103, line 23 from below, to *cacrutscens* add: (28 f).

„ 103, „ 18 „ „ , „ *semiviridis* „ (28 f).

„ 103, „ 14 „ „ , „ *nigricornis* „ (28 f).

„ 104, „ 16 „ above, „ *maroniensis* „ (28 g).

„ 104, „ 18 „ below, eliminate *affinis* as synonymous with *chrysitis*.

„ 104, „ 9 „ „ , to *guyanensis* add: (28 f).

„ 104, „ 4 „ „ , „ *cyancscens* „ (28 f).

„ 105, „ 20 „ above, eliminate the synonym: *cyllarus*.

„ 105, „ 24 „ „ , *hampsoni* is a distinct species, add to it: (28 f).

„ 105, „ 27 „ „ , eliminate *caurensis* as synonymous with *vittata*.

„ 105, „ 18 „ below, after *vittata* insert:

M. ockendeni Roths. of p. 110, line 1 from above (*Poliopastea*).

P. 105, line 5 from below, after *nigritarsia* insert:

lamprosoma. **M. lamprosoma** Hmps. (28 f) is well recognizable by its entirely metallic silvery blue abdomen which is black beneath and exhibits in the ♂ 2 rows of white dots. Otherwise the species is very much like the preceding, though the wings are more suffused with blue and the shoulder-covers striped blue. Expanse of wings: 22 mm. Panama.

cyllarus. **M. cyllarus** Druce is not synonymous with *indistincta*; anterior body black with metallic blue spots, the shoulder-covers being striped blue; tips of antennae white. Abdomen suffused with a silvery blue, with blue dorsal and lateral stripes; wings as in *indistincta*, but the blue colour there is here more green.

P. 106, line 1 from above, to *sura* add: (28 f).

„ 106, „ 7 „ „ , „ *viridifusa* „ (28 g).

„ 106, „ 10 „ „ , after *viridifusa* insert:

56a. Genus: **Chrysocneme** gen. nov.

Not essentially different from *Macrocneme* in the veins and other structure, but on the hindwing a rudimentary costal vein rises close at the upper cell-angle, not reaching the costal margin. Tibiae and tarsi are only above covered with hair; the first abdominal ring shows large subdorsal hair-tufts.

Ch. mirabilis *sp. nov.* (28 g). This wonderful discovery of FASSL has a velvety black body with large, *mirabilis*. extremely bright metallic green spots on the forehead, hindhead, and sides of the collar; shoulder-covers and legs are striped the same; furthermore are green: a very large spot on the mesothorax, dorsal, lateral and sub-lateral spots on the abdomen, at the base of the wing and the large ventral valve, the posterior margin of which is haired black and white. A large median spot on the collar, the thoracic sides and the 2 hair-tufts on the first abdominal ring are scarlet. Posterior tarsi orange-yellow. Wings black, suffused with a peacock-blue. Expanse of wings: 42 mm. A splendid ♂ is before me from Pacho, Colombia.

P. 107, line 12 from above: eliminate *pinocha* as synonymous with *Eupyra psittacus*.

„ 107, „ 16 „ „ , to *aurata* add: (28 g).

„ 107, „ 23 „ „ , „ , *longipennis* add: (28 g) and the description: Body black, suffused with blue; antennae after the black base orange. Femora above red, tibiae and tarsi orange; metathorax laterally spotted red. Wings blackish-brown, the forewing in the basal half with a blue lustre. Expanse of wings: 44 mm. Cuba.

P. 108, line 7 from above, after *ignila* insert:

Ch. uniforis *sp. nov.* (28 h) entirely resembles the preceding and may be the same species, but it has *uniforis*. only one round hyaline spot in the cell-end; the colour is a much purer bluish-green, the body and bases of the wings without any copper lustre at all. 1 ♀ from Bogotá (FASSL).

P. 108, line 14 from above, to *eorax* add: (28 g).

„ 108, „ 14 „ below, „ *ehaleipleurus* add the habitat: Venezuela.

„ 109, „ 10 „ above, after *opalizans* insert:

C. chlorota *Dogn.* (28 h). Head and thorax black, spotted blue and with white dots on the forehead, *ehlorota*. palpi, collar, chest and hips; abdomen metallic silvery blue, beneath white, the first ring black, above and at the sides with white dots. Forewings black, towards the base suffused with blue, on the hindwings only below the cell. Expanse of wings: 36 mm. Colombia.

P. 109, line 26 from above, *ehryseis* is to be placed as synonymous; the species has to be denominated as: *dorata dorata*.

Dogn. (of p. 150 line 7 from above — as *Eupyra*).

P. 109, line 22 from below, to *plumulatus* add: (28 h).

„ 109, „ 13 „ „ , after *antennatus* insert:

58a. Genus: **Pseudophaeos** *Hmps.*

Distinguished from the preceding by the antennae being in the ♂ covered with hair in the basal halves above; on the forewing the upper median vein rises before the cell-angle, from which both the lower radial veins rise; only the uppermost subcostal vein rises separately from the cell, the 4 lower ones are on a common pedicle. On the hindwing the lower median vein rises before the cell-angle, from which the upper radial rises together with the lower radial; the middle radial vein is present and comes from above the lower cell-angle.

P. rosenbergi *Rothsch.* of p. 110 line 5 from above (*Poliopasta*).

P. 110, line 1 from above, place *oekendeni* to *Maerocneme*.

„ 110, „ 5 „ „ , „ , *rosenbergi* to *Pseudophaeos*.

„ 110, „ 10 „ „ , HAMPSON places *verdivittata* as doubtful to *Calonolos* after *tripunelatus*.

„ 111, „ 15 „ „ , after *haemorrhoidalis* insert:

M. pyroproctis *Hmps.* (29 b) is considerably larger than the preceding and differs by the red places *pyroproctis*. being here orange, only the 3, not 4, last abdominal rings exhibiting this colour. The black cell-spot of the forewing terminates rounded off close below the cell; otherwise very much alike. Expanse of wings: 62 mm. Peru.

P. 111, line 20 from above, after *paula* insert:

M. analis *Schs.* (28 h) of p. 114 line 27 from above (*Aethria*).

P. 112, line 1 from above, to *fulvicaudata* add: (29 b).

„ 112, „ 5 „ „ , eliminate *monstrabilis* and place it as synonymous to *latifascia f. ismenc* (line 23 from below).

„ 112, „ 18 „ „ , to *fumida* add: (28 h).

„ 113, „ 16 „ „ , place *frigida* to *Aethria*.

„ 113, „ 10 „ below, after *sordida* insert:

P. chapmani *Klages* (28 i) of p. 194 line 9 from below (*Hyaleucerea*).

P. 114, line 23 from above, eliminate *innotata* and place it as synonymous to the preceding species *carnicauda*.

„ 114, „ 27 „ „ , place *analis* to *Mesolasia*.

„ 115, „ 23 „ „ , to *leucaspis* add as synonymous: *langleyi* and eliminate this species on line 9 from below.

„ 115, „ 21 „ below, eliminate *eliza* and place it as synonymous to *daltha*: the ♂ under surface is not spotted white.

A. tenuistriga becomes a distinct species being very closely allied to *ocina*.

P. 116, line 3 from above, after *rubipictus* insert:

A. frigida *Burm.* of p. 113 line 16 from above (as *Trichura*).

P. 116, line 22 from below, eliminate the 68. genus: *Aethriopsis* together with *barbala* and description and place it as synonymous to *Diptilon philocles* p. 121 line 11 from above.

P. 117, line 5 from above, to *flavieineta* add: (28 i) and the synonym: *suapurensis* of p. 118 line 11 from below.

„ 117, „ 12 „ „ , after *vespina* insert:

nephelophora.

A. *nephelophora* Hmps. (28 i). Black; palpi, frontal sides, vertex, borders of the collar and of the shoulder-covers, as well as a spot on the metathorax orange-yellow; chest and legs yellow, the latter at the femoral-tibial angles black. Abdomen posteriorly with yellow ring-indentations, on the 1st ring with subdorsal yellow stripes, venter yellowish. The hyaline wings with yellow-brown veins and fine margins show brownish darkening below and behind the cell. Expanse of wings: 32 mm. Paraguay.

P. 117, line 22 from above, to *rubricauda* add: According to HAMPSON, the type of *quindensis* denoted by DOGNIN as a ♂ is nevertheless a ♀; in this case the latter species would have to be separated from *rubricauda*.

P. 117, line 26 from below, to *notha* add: (28 i).

.. 117, .. 21 .. , , , *auranticincta* .. (28 i).

.. 118, .. 26 .. , above, place *variegata* to *Abrochia*.

.. 118, .. 11 .. , below eliminate *suapurensis*.

.. 119, .. 24 .. , to *parcipuneta* add: (28 h).

.. 119, .. 21 .. , , , *restrita* .. (28 i).

.. 119, .. 15 .. , , , place *albipuncta* to *Napata*.

.. 119, .. 12 .. , , , to *elongata* add: (28 k).

.. 119, .. 8 .. , , , *ealita* .. (28 k).

.. 120, .. 7 .. , , , *espia* .. (28 g).

.. 120, .. 3 .. , , , *sylpha* .. (28 k).

.. 121, .. 11 .. , above, , *philocles* .. as synonymous: *barbata* Schrottky (p. 116 line 22 from below) as *Aethriopsis*.

.. 121, .. 24 .. , , , after *aterea* insert:

gladia.

D. *gladia* Jones (28 k) is on the body black, forehead whitish, middle and hind legs spotted yellow. Abdomen beneath on the 4 first segments and the last yellow. Anal tuft grey. Forewing like in the preceding, hindwing in the costal half yellow, below it black, the proximal margin hyaline with a black border. Expanse of wings: 24 mm. Brazil. São Paulo.

P. 121, line 21 from below, to *erassum* add: (28 i).

.. 122, .. 16 .. , , , eliminate *pseudopolybia*.

.. 122, .. 8 .. , , , to *affinis* add: (28 k).

.. 122, .. 5 .. , , , *nigricauda* .. (28 i).

.. 123, .. 7 .. , above, after *eumenes* insert:

baura.

E. *baura* Jones (28 i) is on the anterior body orange-yellow and black, the abdomen blackish-brown, the first ring dorsally, the 2 next ones subdorsally spotted yellow, on the underside the 3rd and 4th rings carmine like the middle and posterior tibiae. Wings hyaline with black veins and margins, the forewing subcostally, at the base of the proximal margin and on the transverse vein red; in the cell-end and behind it there is brown clouding. Expanse of wings: 32 mm. Brazil (São Paulo).

P. 123, line 18 from above, to *albipuncta* add: (28 i).

.. 123, .. 3 .. , below, , *azurea* add the synonym: *rubroanalis* Rothsch. of p. 163 line 4 from above (as *Agyrta*!), and: (28 l).

.. 124, line 19 from above, eliminate *cosmosomoides*.

.. 124, .. 25 .. , , , in *augusta* read: (26 k) instead of (19 h).

.. 124, .. 19 .. , below, after *sanguitarsia* insert:

A. *caurensis* Klages (28 l) of p. 126 line 13 from above (*Pseudargyrodes*).

A. *variegata* Kaye (28 l) of p. 118 line 28 from below (*Argyrodes*).

P. 124, line 7 from below, to *letrazona* add as synonymous: *pseudopolybia* Schrottky of p. 122 line 16 from below (*Eumeno-gaster*).

P. 125, line 1 from above, place *julumito* as a form to *sanguiceps* (line 6 from above).

.. 125, .. 15 .. , below, to *alridorsala* add: (28 l).

.. 126, .. 8 .. , above, after *moza* insert:

nivaca.

A. *nivaca* Jones (28 l). This small species described as *Heliura* (!) is very easily discernible by the yellow costal margin of the forewing with a broad brown median band, the body being carmine, only the head brown; the abdomen shows brown ring-indentations and a silvery blue stripe on the last rings; palpi and tarsi are orange, at the ends black. Expanse of wings: 26 mm. Brazil (Matto Grosso).

P. 126, line 8 from above, eliminate the genus: *Pseudargyrodes* together with the species *caurensis* (= *Abrochia sanguitarsia*).

P. 126, line 18 from below, after *hypoleucus* insert:

E. *rubrothorax* Rothsch. of p. 128 line 10 from above (*Teucer*).

To *E. obscuratus* add: (28 n).

P. 126, line 15 from below, after *obscuratus* insert:

E. *fuliginosa* Rothsch. (28 n) of p. 168 line 19 from below (*Heliura*).

P. 127, line 11 from above, after *homopteridea* insert:

C. *postflavida* Rothsch. (28 n) of p. 168 line 29 from above (*Heliura*).

C. *dolens* Schs. (28 n) of p. 168 line 25 from above (*Heliura*).

P. 127, line 26 from above, place *distincla*, and line 8 from below: *apicalis* to *Mesocerea*.

.. 127, .. 12 .. , below, place *germanus* as a form to *hypophaeus*.

.. 128, .. 6 .. , above, *obsoleta* is a distinct species. There are now before me 2 more specimens from FASSL from Muzo (Colombia). The species is at once discernible by its red forehips; in *glaucoptis* they are white.

P. 128, line 10 from above, after *earmania* insert:

rosada.

T. *rosada* Dogn. The body is dark red-brown, the abdomen posteriorly with a blue lustre. Forewings dark brown with a dark discal spot, the hindwing in the basal half carmine, at the border bluish-black, at the

apex very broad, towards the proximal angle narrower. In the form: **puelengei** Dogn. the hindwings are entirely *puelengei*. darkened, with a narrower marginal band. Expanse of wings: 30 mm. Ecuador.

P. 128, line 10 from above, place *rubrothorax* to *Ecdemus*.

„ 128, „ 12 „ „ „ „ *brunnea* to *Eucceon*.

„ 128, „ 14 „ below, eliminate *flavicornis* and place it as synonymous to *caeruleus* (line 5 from below).

„ 129, „ 25 „ above, to *capysca* add: (28 l).

„ 129, „ 11 „ below, „ *gnomoides* „ (28 l).

„ 129, „ 10 „ „ „ after *gnomoides* insert:

E. phlebitis Dogn. (28 k) differs from the two preceding by the neck being spotted orange, the collar *phlebitis*. and shoulders entirely unspotted, the abdomen beneath white almost to the end; the veins of the forewing are striped lighter grey, and the hindwing in the disc very extensively hyaline. Expanse of wings: 30 mm. Brit. Honduras.

P. 129, line 5 from below, to *vinasia* add: (28 k).

„ 130, „ 10 „ above, *dodaba* is to be placed as a form to *inornata* (line 6).

„ 130, „ 14 „ below, after *obsoleta* insert:

E. grisescens Hmps. (28 l) is unicolorously blackish-brown, tinted grey, on the vertex, shoulders and palpal base spotted yellow, ventral side white. Veins of the forewing lighter grey, behind the cell a faded whitish spot. Hindwing with a bluish-grey tint and a white stripe in and below the cell. Expanse of wings: 34 mm. Venezuela.

P. 130, line 6 from below, to *sixola* add: (28 k).

„ 131, „ 23 „ „ „ eliminate *giganteum* and place it instead of *hampsoni* p. 132 line 2 from above.

„ 131, „ 20 „ „ „ to *klagesi* add: (28 m, 1st figure).

„ 132, „ 5 „ above, „ *hoffmannsi* „ (28 m).

„ 133, „ 11 „ „ „ „ *phaeoptera* „ (28 k).

„ 133, „ 19 „ „ „ „ *ustulata* „ the preceding *rosenbergi* as an insignificant form. Add besides:

f. columbina Dyar is very conspicuous by an orange-yellow discal spot of the forewing and white *columbina*. forehips.

P. 134, line 1 from above, place *caurensis* as a form without any red spots of the neck to *bulleri* (p. 133 line 6 from below), as well as *musicola* of p. 135 line 20 from below as a form with a white-spotted forehead. — *caerulescens* *caerulescens* form. nov. (= ab. 1 Hmps.) is another form with blue instead of green colouring on the anterior body and forewings, only the abdomen being golden green.

P. 134, line 6 from above, to *cyanopasta* add: (28 k).

„ 134, „ 10 „ „ „ „ *painei* „ (28 m).

„ 134, „ 22 „ „ „ „ *scintillocollaris* „ (28 m).

„ 134, „ 25 „ „ „ insert after it: *albipunctata* Lathy of p. 133 line 25 from above (*Eriphioides*).

„ 134, „ 26 „ „ „ „ *phaiodes* add: (29 a). After it insert:

C. viridis Lathy (28 n) of p. 132 line 6 from below (as *Eriphioides*).

C. metallica Roths. (28 n) of p. 136 line 25 from below (*Antichloris*).

P. 134, line 15 from below, to *bricenoi* add: (28 m).

„ 135, „ 1 „ above, „ *chalcoviridis* „ (29 a).

„ 135, „ 9 „ „ „ „ *chloroptegia* add as synonymous: *nigrolineala* Roths. of p. 126 line 13 from below (*Antichloris*).

P. 135, line 14 from above, to *affinis* add: (28 n).

„ 135, „ 18 „ „ „ „ *viridisalurala* „ (28 m).

„ 135, „ 22 „ „ „ after *viridisalurala* insert:

C. scotoptera Hmps (28 n) (= *Amycles klagesi* Roths.) of p. 136 line 10 from above.

P. 135, line 22 from above, to *underwoodi* add: (28 m).

„ 135, „ 26 „ „ „ „ *simplex* „ (28 m).

„ 135, „ 22 „ below, „ *klagesi* „ (28 m, last figure). After it insert:

C. dolosa Wkr. of p. 136 line 7 from above (*Amycles*).

C. intensa Roths. (28 n) of p. 136 line 21 from below (*Antichloris*).

C. atrinervis Roths. (29 a) of p. 136 line 8 from below (*Antichloris*).

C. steinbachi Roths. (29 a) of p. 136 line 4 from below, as a distinct species.

P. 136, line 3 from above, to *tenebrosa* add: (29 a).

„ 136, „ 5 „ „ „ „ *brinkleyi* „ (29 a).

„ 136, „ 7 and 10 from above, place *dolosa* and *klagesi* to *Ceramidia*.

„ 136, „ 19 „ „ „ to *puriscal* add: (29 c).

„ 136, „ 21 „ below, place *intensa* to *Ceramidia*.

„ 136, „ 17 „ „ „ to *criphia* add as synonymous: *quartzii* of p. 137 line 3 from above.

„ 136, „ 13 „ „ „ eliminate *nigrolineala*.

„ 136, „ 8 „ „ „ place *alrinervis* to *Ceramidia*.

„ 137, „ 3 „ above, eliminate *quartzii*.

„ 137, „ 10 „ „ „ the genus *Methysia* is to be eliminated and replaced by:

96. Genus: **Ceramidiodes** -Hmps.

Very much like *Antichloris*, but on the forewing the ♂ shows a scent-scale stripe along the middle of the costal margin beneath and at the proximal margin long hair, the same at the costal margin of the hindwing which is very convex. In the veins of the forewing no other difference, but on the hindwing the lower radial vein is present and rises, together with the upper median vein, from the lower cell-angle.

C. mathani Roths. of p. 133 line 14 from below (*Ceramidia*).

P. 137, line 16 from below, eliminate *flavidorsia* as a synonym to *Lymire metamelas*.
 „ 137, „ 9 „ „ , after *opponens* insert:

P. popayana Dogn. of p. 180 line 13 from below (*Eucereon*).

P. 137, line 6 from below, to *major* add: (29 c).
 „ 137, „ 3 „ „ , „ *unimacula* „ (29 c). Insert after it:

P. pseudodelphyre Rothsch. of p. 136 line 26 from below (as *Agyrta*!) with the reference: (29 c).

P. 138, line 11 from below, HAMPSON did not state *remissa* as an *Amatide*.
 „ 138, „ 9 „ „ , eliminate *S. auranticauda* which is the Arctiid *Melaxanthia vespiformis*.
 „ 139, „ 15 „ above, to *atricincla* add: (29 c).
 „ 139, „ 18 „ „ , „ *flammans* „ (29 c).
 „ 139, „ 22 „ „ , after *flammans* insert:

N. ockendeni Rothsch. (29 c) of p. 188 line 5 from below (*Propyria*).

N. bipunctata Hmps. (*ockendeni* Rothsch.) (26 h) of p. 193 line 8 from above (*Epectaptera*).

N. nigrorufa Rothsch. (29 d) of p. 188 line 2 from below (*Propyria*).

alterata. **N. alterata** Wkr. (= choana Druce) (29 d) is a large, beautiful, black and orange-yellow species. The abdomen is white beneath. The forewing shows a large triangular spot in the basal half and an oblique subapical band, the hindwing 2 stripes at the proximal margin and a marginal spot in the middle. Expanse of wings: 44 mm. From Venezuela, Brazil, Ecuador and Peru.

cordigera. **N. cordigera** Warr. (29 c) is similar, but the body is quite blackish-brown, only the abdomen shows yellow lateral stripes and a white ventral side. On the forewing the triangular spot is absent, the hindwing exhibits a reniform spot. Expanse of wings: 36 mm. Venezuela.

P. 139, line 23 from above, to *alalanla* add: (28 n).
 The species is to be inserted after *terminalis* (p. 141 line 7 from above).
 P. 139, line 26 from above, to *hyporhoda* add: (29 d).
 „ 139, „ 24 „ below, „ *splendida* „ as synonymous: *melinda* Dyar of p. 152 line 18 (*Cyanopepla*).
 „ 139, „ 11 „ „ , eliminate the sentence: „Possibly — ???“.
 „ 139, „ 4 „ „ , in *maranhaonis* replace: (27 a) by (29 a).
 „ 140, „ 5 „ above, eliminate *abbreviata* together with the description: = *Ctenucha biformis* p. 190 line 17 from above.
 P. 140, line 23 from above, to *subflavescens* add: (29 c).
 „ 140, „ 27 „ „ , „ *metamela* „ (29 e).
 „ 140, „ 22 „ below, „ *cuckloa* „ (29 a).
 „ 141, „ 1 „ above, „ *pseudolelex* „ (29 f).
 „ 141, „ 16 „ „ , eliminate *venezuelensis* and place it as synonym to *leucoletus* (line 11 from above).
 „ 141, „ 25 „ „ , after *albimaculata* insert:

N. albipuncta Druce (29 e) of p. 119 line 15 from below (*Hypocladia*).

P. 141, line 15 from below, place *boettgeri* to *Delphyre*.
 „ 141, „ 11 „ „ , to *quadrinaculata* add as synonymous: *borealis* Rothsch. of p. 160 line 12 from below (as *Micraga*).
 P. 141, line 6 from below, to *sanguicincta* Hmps. add as synonymus: *conchyliata* Draudt (26 f) of p. 192 line 17 from above.
 P. 141, line 3 from below, to *flaviceps* add: (29 e).
 „ 142, „ 9 „ above, after *broadwayi* insert:

cortes. **N. cortes** Gibbs (29 e) greatly resembles the preceding, with somewhat larger white spots, and it is easily recognizable by the 3 last red abdominal rings; the ventral side of the abdomen is white in the basal half, behind it red. Expanse of wings: 44 mm. Brit. Honduras.

P. 142, line 24 from above, to *metamelas* add as synonym: *flavidorsia* Hmps. of p. 137 line 16 from below (*Pseudaclytia*).
 After it insert:

fulvicollis. **L. fulvicollis** Dogn. (29 d) has a quite blackish-brown body, only the neck is ringed orange, and the forehips are white. The wings are blackish-brown, too, the hindwing in the discal area hyaline. Expanse of wings: 26 mm. French Guiana.

P. 143, line 3 from above, after *lanceolata* insert:

L. nitens Rothsch. (29 e) of p. 154 line 8 from below (*Trichodesma*).

P. 143, line 12 from below, place *flavicans* to *Psitopleura*.
 „ 143, „ 2 „ „ , to *flavata* add: (29 g), and the following description: *fulvitaris* is to be placed to it as synonymous.
 P. 144, line 11 from below, to *affinis* add: (29 g), and as synonymous: *pugione* Oberth.
 „ 146, „ 14 „ above, to *imitans* „ (26 m).
 „ 146, „ 20 „ below, *pitthea* is only synonymous, not a subsp.
 „ 146, „ 10 „ „ , after *cocho* insert:

nephelophora. **P. nephelophora** Hmps. (29 f) (= *cocho* ab. 1 Hmps.) differs from the preceding by the collar and soulder-covers being spotted metallic blue. The forewings are more broadly bordered with black with a much larger discal spot and black dusting behind it. Expanse of wings: 38 mm. Brazil (São Paulo).

P. 146, line 10 from below, to *chimaera* add the synonym: (= *cocho* ab. 3 Hmps.)
 „ 147, „ 14 „ „ , after *corydon* insert:

megathyris. **Chl. megathyris** Hmps. (29 f). Body black with bluish-white dots, the abdomen beginning from the 3rd ring with lateral blue bands. Forewing black with metallic blue stripes near the base and 2 very large

hyaline spots; hindwings with a large hyaline spot in and below the cell and a double one behind it. Expanse of wings: 44 mm. Venezuela.

P. 147, line 5 from below, to *pyroproctis* add: (29 d).

„ 148, „ 4 „ above, before *schausi* insert:

I. trogon *sp. nov.* (29 e) greatly resembles in its exterior the preceding on the body and forewings, *trogon*. the hindwings, however, being like in *schausi*. Hips all white, the sublateral spots on the abdomen very large; instead of the one white spot on the hindhead there are 4 behind the eyes; also at the base of the wing there are two white spots. In the specimen which I designated as the type there is on the forewing, behind the cell above the middle radial, a small narrow hyaline spot, above it three more light diffuse patches. In the second specimen these spots are absent, the hindwings are much more extensively black, only one spot in the cell and one behind it are hyaline. The abdomen exhibits lateral hair-tufts at the base, like in *trogonoides*, whereas in *schausi* they are absent. Expanse of wings: 41 mm. Upper Rio Negro in East Colombia (FASSEL).

P. 148, line 4 from above, to *schausi* add: (22 b).

„ 148, „ 23 „ „ „ „ *stellans* add for the ♂: (29 f). Of this species there are now some more specimens of both sexes before me from the Coll. FASSEL. The ♂ has much smaller hindwings with an extended anal angle; the turned over proximal margin contains beneath, in a white, lustrous ground, an oval, light yellow scent-scale spot; the abdomen projects beyond the hindwings; in the ♂ the costal vein is fully developed, the upper radial vein coalesces with the subcostal. Perhaps the animal would anyhow be better placed with the *Arctianac*.

P. 148, line 4 from below, in *ossa* replace: (22 e) by (29 f). After the name insert as synonyma: *unbraticola* Klages of p. 149 line 6 from above, and: *nitens* Rothsch. of p. 163 line 14 from below (as *Agyrta*). After *ossa* insert:

C. germana Rothsch. (22 c as *ossa*) of p. 163 line 9 from below (= *ossa* Druce Biolog. nee 1893).

P. 148, line 1 from below, after *flaviventralis* insert:

C. buchwaldi Rothsch. (29 e) of p. 163 line 20 from below (as *Agyrta*) differs from the preceding by much less blue on the body, quite black, not blue, veins on the hindwing with a white proximal margin, white forehips and much smaller size.

C. acutipennis Rothsch. (29 e) of p. 163 line 18 from below (*Agyrta*).

P. 149, line 6 from above, eliminate *unbraticola*.

„ 149, „ 16 „ „ „ „ to *gymnelioides* add: (29 d).

„ 149, „ 20 „ „ „ „ after *gymnelioides* insert:

120a. Genus: **Osmoeneme** *gen. nov.*

This interesting, new genus is an intermediary between *Schasiura* and *Eupyra*. The forewings entirely correspond to those of the preceding, the discocellular, however, is placed considerably more obliquely. The hindwing shows a more pointed apex, a straighter distal margin and a somewhat extended anal angle; venation very much like *Eupyra*, but both the lower radial veins are on a long petiole. The erect, moderately long palpi have appressed hair; the hairing of the body like in *Schasiura*; the 1st abdominal ring shows laterally a large, soft tuft of yellowish woolly hair. Very characteristic are the posterior tibiae of the ♂: broadly expanded like leaves, the flatly basin-shaped inner side is padded with short, brownish-grey scent-scales. Only one species. Type: *O. bradata* Draudt.

O. bradata *sp. nov.* (29 d) strikingly resembles *I. pyroproctis* (29 d). Body quite black without any *bradata*. white spots, also the forehips are black, the 3 last rings orange-yellow. Wings likewise the same, but the forewing with a hyaline subcostal area, and towards the margin the fine black internerval stripes are absent. The hindwing shows a much narrower black margin, only at the anal angle it is broadened to a large black spot. Expanse of wings: 36 to 39 mm. A small number of specimens from East Colombia (Villavieencio and the Rio Negro) in the Coll. FASSEL.

P. 149, line 25 from below, to *distincta* add: (29 f).

„ 149, „ 8 „ „ „ „ „ *affinis* „ (29 g).

„ 150, „ 7 „ „ above, place *dorata* to *Calonotos*.

„ 150, „ 18 „ „ „ „ to *psittacus* add as synonym: *pinocha* Dogn. of p. 107 line 12 from above (*Phaeo*).

„ 150, „ 2 „ „ below, „ *grandis* add: (29 h).

„ 151, „ 9 „ „ above, eliminate *similis* as synonym to *Cyanopepla orbona*.

„ 151, „ 3 „ „ „ „ after *alonzo* insert:

C. egregia *sp. nov.* (29 h). Body black, suffused with a radiant greenish-blue; palpal base spotted *egregia*. white, forehips blue, spotted white. Venter with a white median stripe. Forewings black with a metallic greenish-blue stripe on the base of the inner-marginal vein, and traces of such scales at the costal base and below the median; from the distal half of the cell, below the median around as far as up to the middle radial, extends a reniform red spot traversed by the black veins. Hindwings black, in the disc with a violet-blue longitudinal stripe and before the middle of the margin with a large, oval, red spot. Fringes white. Expanse of wings: 37 mm. Described according to 1 quite fresh ♀ from the Rio Songo (Bolivia) (FASSEL).

P. 152, line 18 from above, eliminate *melinda* with the description.

„ 152, „ 14 „ „ below, to *orbona* add as synonymous: *similis* Heyl. of p. 151 line 9 from above.

„ 152, „ 6 „ „ „ „ „ *beata* add: (29 h). The description and figure exactly correspond to *G. ira* (p. 159. 26 i), so that I may presume that *beata* is to be replaced by the name *ira*.

- P. 153, line 10 from above, to *baroni* add: (29 h).
 „ 153, „ 2 „ below, „ *dognini* „ (29 i).
 „ 154, „ 4 „ above, „ *girardi* „ (29 i).
 „ 154, „ 8 „ „ „ *perspicua* „ (29 i).
 „ 154, „ 14 „ „ „ *hyaloptera* „ (29 i).
 „ 154, „ 16 „ below, „ *trita* „ (29 g).
 „ 154, „ 12 „ „ „ *metapolia* „ (29 f).
 „ 154, „ 8 „ „ „ place *nitens* to *Loxozona*.
 „ 155, „ 9 „ above, to *albicincta* add: (29 g).
 „ 155, „ 13 „ „ „ *klagesi* „ (29 g).
 „ 155, „ 19 „ „ „ *perptera* „ (29 g).
 „ 155, „ 21 „ „ „ *hoffmannsi* „ (29 g).
 „ 155, „ 24 „ „ „ *oceola* „ (29 g).
 „ 156, „ 3 „ „ „ after *euchromioides* insert:

C. cerealia Druce (29 h) (= *hampsoni* Dogn., *adamsi* Lathy) and insert the descriptions given for the synonymy, the former for the ♂, the latter with a red oblique band on the forewing for the ♀.

P. 156, line 25 from above, after *atbicosta* insert:

simsoni.

C. simsoni Druce (= *euchromioides* Hmps. ♀ nec ♂) (29 b) belongs to another section in which the ♀ exhibits, like in the ♂ of the I. section, a rudimentary middle radial, but without any bare places. The largest species with a broad red marginal band of the hindwing and an entirely red head. Expanse of wings: 64 mm. Colombia, Ecuador.

P. 156, line 26 from above, to *fida* add as another synonym: *venus* Prithw.

„ 156, „ 22 „ below, „ *engelkei* add: (29 h).

„ 153, „ 14 „ „ „ *alcedo*: I received a second specimen in the meantime from Cuba. The figure and description of *Napata chalybea* would fit well to it, but owing to the structure my specimens are for sure *Coreura* (pendant palpi, the upper radial of the forewing rising from far below the upper cell-angle, the subcostal vein of the hindwing before the upper cell-angle etc.)

P. 157, line 4 from above, to *flavicaput* add: (29 h).

„ 157, „ 25 „ „ „ eliminate *affinis* being synonymous to *bractea*.

„ 157, „ 28 „ „ „ to *caeruleonitens* add: (29 i).

„ 157, „ 18 „ below, „ *jonesi* „ (29 g).

„ 157, „ 13 „ „ „ *reducta* „ (29 i).

„ 157, „ 9 „ „ „ *albistriga* „ (29 k).

„ 158, „ 8 „ above, after *heber* insert:

mictochroa.

A. mictochroa Hmps. (29 i) is well characterized by the hindhead, sides of the collar and shoulders being spotted yellow, yellow anterior hips, white middle and posterior hips. The blackish-brown abdomen shows metallic blue lateral and orange ventral stripes. Expanse of wings: 34 mm. Brazil (Castro).

P. 158, line 16 from above, to *bractea* add as synonym: *affinis* Roths. of p. 157 line 25 from above.

„ 158, „ 23 „ „ „ *pydna* add: (29 i).

„ 159, „ 19 „ „ „ *delectans* „ (29 k) and insert after it:

seraphica.

E. seraphica sp. nov. (29 l) differs from the very closely allied *angelica* by the entirely black, blue-reflecting body including the anterior hips; the venter exhibits only a narrow, lavender-grey median stripe. The hyaline spot of the forewing is larger and broader, that of the hindwing is indicated by a very narrow, more thinly scaled place. Expanse of wings: 32 mm. Described according to 5 ♀♀ from the Rio Negro (FASL), from where also the typ. *angelica* originates.

P. 159, line 13 from below, after *chica* insert:

perpasta.

E. perpasta sp. nov. (29 k) is very closely allied to *chica*; it differs by its larger size; head and thorax including the palpi are quite black, only the forehead is white; metathorax and abdomen radiantly bluish-green with a golden reflection, above and beneath in the middle with a white longitudinal stripe. The subcostal space of the forewing hyaline, on the inner-marginal vein there is a broad bluish-green stripe. Hyaline spots otherwise like in *chica*. Expanse of wings: 35 mm. Described according to 1 ♀ from the upper Rio Negro (East Colombia) from the Coll. FASL.

P. 159, line 6 from below, to *klagesi* add: (29 k).

„ 159, „ 12 „ „ „ place *borcalis* to *Napata*.

„ 160, „ 7 „ „ „ before *ochrea* insert:

M. aetolia Druce (29 m) of p. 183 line 15 from above (*Eucereon*).

P. 161, line 5 from above, before *quadricolor* insert:

basalis.

M. basalis Wkr. (= *latona* Druce) (29 i). The body is black, in the neck orange, the abdomen with blue rings. The forewing with 2 blue basal dots exhibit a broad, orange-yellow median band, the hindwing a yellow disc. Expanse of wings: 30 mm. Colombia, Ecuador.

larissa.

M. larissa Druce (= *quadricolor* Hmps. part.) (23 k as *quadricolor*) is somewhat smaller than the following, the median band of the forewing removed more towards the margin and longer, the hindwing much more extensively yellow. Expanse of wings: 32 mm. Ecuador.

In **M. quadricolor** Wkr. the reference (23 k) is to be eliminated and replaced by (29 k). The species is larger, the median band of the forewing shortened, of a lighter yellow and nearer to the base. The hindwing has only one small spot in the cell. Expanse of wings: 36 mm. Venezuela.

M. albofasciata *Rothsch.* (29 k) of p. 189 line 6 from above (as *Propyria*) is likewise very similar. The median band of the forewing is white, situate before the middle, and extends from the costal margin to the proximal margin; the spot of the hindwing is placed more erect. Palpal base yellow. Expanse of wings: 36 mm. Peru, Bolivia.

- P. 162, line 11 from above, to *micilia* add the synonyma: *auro* *Hbn.* and *cottaris* *Ky.*
 „ 162, „ 17 „ „ , *garleppi* is a distinct species; add to it: (29 l).
 „ 162, „ 28 „ „ , to *bifasciata* add: (29 l).
 „ 162, „ 23 „ below, „ *klagesi* „ (29 l).
 „ 162, „ 17 „ „ , eliminate *abdominalis*, and line 12 *ockendeni*.
 „ 162, „ 8 „ „ , eliminate *semihyalina*.
 „ 163, „ 4 „ above, eliminate *rubroanatis*.
 „ 163, „ 9 „ „ , to *mathani* add: (29 k); it is said to be a distinct species; I am unable to find a difference.
 „ 163, „ 18 „ „ , *conspicua* add: (29 k).
 „ 163, from line 23 from above to line 6 from below eliminate: *birchi*, *pseudodelphire*, *buchwaldi*, *acutipennis*, *nilens*, *germana*, all of which belong to other genera.
 P. 163, line 5 from below, to *pulehriformis* add: (29 l).
 „ 164, „ 11 „ above, „ *varuna* „ (29 k) and the following species *lacteicolor* as synonym.
 „ 164, „ 18 „ below, „ *sanguipalpis* „ (29 l).
 „ 165, „ 8 „ above, „ *clongala* „ (29 m).
 „ 165, „ 21 „ „ „ *hebes* „ (29 m). The small species flies in Honduras, Porto Rico; Venezuela; Brit. Guiana and Brazil.
 P. 165, line 28 from above, to *minuta* add the synonyma: *trinita* *Schs.* of p. 172 line 2 from below (as *Eucercyon*) and *griseipuncta* *Rothsch.* of p. 169 line 8 from below (as *Heliura*). On line 31, *subsp. extensa* is to be eliminated and this form to be inserted after it as a distinct species by the name of: *boliviana* *Rothsch.* (29 l) of p. 174 line 17 from above (as a form of *Eucercyon melanoperas*).
 P. 165, line 15 from below, after *maculosa* insert:

D. arpi *Schs.* (30 b). The largest species with yellowish-white forewings spotted greyish-brown and *arpi*. provided with dentate lines. Hindwings greyish-brown, in and behind the cell with a transparent spot. Anterior body yellowish-white, spotted and marked greyish-brown; the abdomen is yellow, the first and the two last segments blackish, the first subdorsally spotted, the middle rings with black segmental margins being expanded above on the dorsum into spots. Expanse of wings: 46 mm. Brazil (Rio de Janeiro).

P. 165, line 6 from below, after *pusilla* insert:

D. parcipuncta *Hmps.* (= *meridionalis* *Rothsch.*) (29 m) of p. 170 line 20 from above (as a subsp. *Heliura stollii*).

D. pieroides *Rothsch.* (30 a) of p. 170 line 12 from above (*Heliura*).

D. distincta *Rothsch.* (29 m) of p. 169 line 15 from above (*Heliura*).

D. lemoulti *Rothsch.* (30 a) of p. 186 line 3 from below (*Heliura*).

P. 165, line 1 from below, to *albivenlus* add as synonym: *birchi* *Rothsch.* of p. 163 line 23 from above (as *Agyrta*). Insert hereafter as a species:

D. borealis *Rothsch.* (29 l) of p. 163 line 27 from above (as a subsp. of the preceding).

D. pumila *Rothsch.* (29 l) of p. 163 line 27 from above (as a subsp. of the preceding).

- P. 165, line 15 from below, to *roseiceps* add as synonym: *integrum* *Rothsch.* of p. 171 line 10 from above (as *Eucercyon*).
 „ 165, „ 6 „ „ „ *discalis* add: (29 m) and as synonym: *infraalba* *Rothsch.* (p. 167 line 24 from below).
 „ 166, „ 1 „ above, „ *aclytioides* add: (30 a).
 „ 166, „ 1 „ „ , in *varians* replace (24 a) by (30 a); the figure and description of the ♂ refer to another animal which is no Syntomid.
 P. 166, line 13 from above, *hampsoni* to which (30 a) is to be added, has to be regarded as a distinct species with the forms *orientalis* and *meridensis*.
 P. 166, line 24 from above, to *pyrozona* add: (29 m), and as synonym: *rubrocincta* *Rothsch.* of p. 169 line 22 from below (as *Heliura*).
 P. 166, line 25 from below, place *suffusa* to *Heliura*.
 „ 166, „ 16 „ „ „ after *macella* insert: *D. germana* *Rothsch.* (29 m) of p. 170 line 27 from above, and for „*sericea*“ compared with it read: *macella*.
 P. 166, line 16 from below, for *lemoulti* place the name *D. meridionalis* *Rothsch.* of p. 169 line 13 from above as *Heliura Klagesi meridionalis*.
 P. 166, line 9 from below, to *subapicalis* add: (30 b).
 „ 166, „ 2 „ „ „ *nigra* „ (30 b).
 „ 167, „ 10 „ above, „ *flaviventralis* „ (30 b).
 „ 167, „ 14 „ „ „ *flaviceps* „ (30 b) and as synonym: *Klagesi* *Rothsch.* of line 24.
 „ 167, „ 18 „ „ „ place *monotona* as synonymous to *lestacea*.
 „ 167, „ 24 „ below, eliminate *infraalba* being synonymous to *Dactyphre discalis*.
 „ 167, „ 19 „ „ , to *rhodocrypta* add (30 a) and as synonym: *klagesi* *Rothsch.* of p. 169 line 11 from above.
 „ 167, „ 12 „ „ . eliminate the sentence: „Probably — to the end!“ After *tetilla* insert:

D. boettgeri *Druce* (30 b) extremely resembles the preceding and differs by its more blackish-brown *boettgeri*. colour, beside the red ring of the neck also carmine hindhead, and a round, white apical spot of the forewing. Expanse of wings: 38 mm. Peru.

After it insert:

144a. Genus: **Mesocerea** Hmps.

The two species forming this new genus have been described as *Teucer*. They greatly approximate the preceding genus from which they differ on the forewing by the upper median vein rising from the corner of the cell, and by the two lower radials being petioled; the upper one comes from the upper cell-angle. On the hindwing the middle radial vein rises almost from the middle of the transverse vein. Beneath the ♂ hindwings are covered with rough scent-scales towards the margin.

M. distincta Rothsch. of p. 127 line 27 from below (as *Teucer*).

M. apicalis Rothsch. of p. 127 line 8 from below (as *Teucer*).

- P. 168, line 8 from above, to *assimilis* add: (30 b).
 „ 168, „ 11 „ „ „ *fulvipicta* „ (30 a).
 „ 168, „ 16 „ „ „ *elongata* „ (30 b).
 „ 168, „ 19 „ „ „ *umbrinaeula* „ (29 m).
 „ 168, „ 29 and 25 from below, place *dolens* and *postflavida* to *Cereopimorpha*.
 „ 168, „ 23 from below, to *fumata* add: (30 a).
 „ 168, „ 19 „ „ „ place *fuliginosa* to *Eedemus*.
 „ 168, „ 16 „ „ „ to *hecale* add as synonym: *picliceeps* Hmps. Insert after it:

Hyalucerea gigantea Druce (30 c) of p. 173 line 16 from below (*Eucereon*).

H. flavipunctata Dogn. (30 c) of p. 174 line 27 from above (*Eucereon*).

H. baleris Dyar (30 c) of p. 176 line 17 from above (*Eucereon*).

H. suffusa Lathy of p. 166 line 25 from below (*Delphyre*).

- P. 168, line 12 from below, place *eacruleocephala* to *Eucereon*.
 „ 168, „ 3 „ „ „ „ *lemoulti* to *Delphyre*.
 „ 169, „ 3 „ „ „ „ above, to *viridieingulata* add: (30 c). Insert after it:

H. excavata Dogn. of p. 171 line 15 from above (*Eucereon*).

H. flava Dogn. of p. 171 line 20 from above (*Eucereon*).

H. perexcavata Rothsch. (30 d) of p. 171 line 23 from above (*Eucereon*).

H. kennedyi Rothsch. (30 c) of p. 171 line 27 from above (*Eucereon*).

thysbodes. **H. thysbodes** Dogn. (30 c) greatly approximates *ockendeni*, from which it differs by more whitish forewings with yellow veins and costal margin, much darker hindwings with a slight, whitish, diaphanous brightening in the discal part. Expanse of wings: 40 mm. Colombia.

- P. 169, line 15 from above, place *distineta* to *Delphyre*.
 „ 169, „ 26 „ „ „ „ to *ockendeni* add: (30 d).
 „ 169, „ 22 „ „ „ „ below, *rubrocineta* is to be eliminated as synonymous with *Delphyre pyrozona*.
 „ 169, „ 17 „ „ „ „ place *rufipes* to *Eucereon*.
 „ 169, „ 8 „ „ „ „ after *balia* insert:

baliodes. **H. baliodes** Hmps. (30 c) differs from the preceding by its black head and thorax, only the vertex, collar and borders of the shoulder-covers being brownish-white; the abdomen, being red above, is black beneath and at the end, the lateral spots are absent. The hindwings are much more extensively dark, the macular marking of the forewing finer. Expanse of wings: 30 mm. French Guiana.

Insert after it:

H. marica Cr. of p. 172 line 11 from above (*Eucereon*).

H. postcoerulea Rothsch. of p. 172 line 17 from above (*Eucereon*).

H. amazonica Rothsch. (30 c) of p. 172 line 19 from above (*Eucereon*).

- P. 169, line 8 from below, eliminate *griseipuncta* as synonym to *Delphyre minuta*.
 „ 169, „ 2 „ „ „ „ place *hoffmannsi* to *Eucereon*.
 „ 170, „ 12 „ „ „ „ above, to *stolti* add: (30 d).
 „ 170, „ 12 „ „ „ „ place *pieroides* to *Delphyre*.
 „ 170, „ 20 „ „ „ „ „ *meridionalis* as *pareipuncta* to *Delphyre*.
 „ 170, „ 26 „ „ „ „ „ after *sanguipalpia* insert:

H. semihyalina Rothsch. (30 c) of p. 162 line 8 from below (*Agryta*).

mimula. **H. mimula** sp. nov. (30 d) strikingly resembles the preceding, but it is somewhat larger. The easiest discernible by the lower median vein of the forewing rising much nearer to the base and parting the oblong hyaline spot, whereas in *semihyalina* it defines it distally: the reniform subapical spot is larger. On the hindwing the hyaline spot is traversed by black veins, the proximal margin is broadly whitish hyaline. Head and palpi are quite blackish-brown, the forehead slightly white. The venter exhibits a broad, white median stripe, in *semihyalina* two sublateral stripes. Expanse of wings: 35 mm. Described according to 1 ♂ from the Rio Songo Bolivia (FASSEL).

- P. 170, line 27 from above, place *germana* to *Delphyre*.
 „ 170, „ 10 „ „ „ „ below, to *albitornia* add: (30 d).
 „ 171, „ 10 „ „ „ „ „ above, eliminate *integrum* as synonym to *Delphyre roseiceps*.
 „ 171, „ 15 to 27 from above, place *excavatum* as far as *kennedyi* to *Heliura*.
 „ 171, „ 23 from below, to *cinetum* add: (30 d).
 „ 171, „ 20 „ „ „ „ „ „ *rubroanale* „ (30 e).

- P. 171, line 6 from below, place *lemoulti* to *Hyaleucerca*.
 „ 171, „ 3 „ „ „ to *meruloides* add: (30 e).
 „ 172, „ 6 „ „ above, after *merula* insert:

E. caeruleocephala Rothsch. (30 e) of p. 168 line 12 from below (*Heliura*).

- P. 172, line 6 from above, place *fanum* to *Correbidia*.
 „ 172, „ 11 „ „ „ „ *maricum* to *Heliura*.
 „ 172, „ 25 „ „ „ „ after *appunctatum* insert:

E. facundum *sp. nov.* (30 e) differs from *appunctatum* above all by the absence of the white spot *facundum*. at the cell-end of the forewing and the entirely black abdomen, in which only the upperside of the 4 last rings is red; the ♂ antennae are only half as long-combed, the shape of the wings is much broader, obtuser, the distal margin by far not so oblique and long as in *rosenbergi*, which is supposed by HAMPSON to belong to *appunctatum*; of the latter only a ♀ seems to be known, so that I cannot judge of the antennae; at any rate, those of *rosenbergi* are extremely long-combed. Expanse of wings: 27 mm. 1 very fresh ♂ from Villavicencio (FASSEL).

E. rufipes Rothsch. (30 f) of p. 169 line 17 from below (*Heliura*).

- P. 172, line 25 from below, *rosadora* and *xanthodora* are only insignificant forms of *rosa*.
 „ 172, „ 2 „ „ below, eliminate *brinita* as synonym to *Dclphyre minuta*.
 „ 173, „ 3 „ „ above, to *rufidorsale* add: (30 f).
 „ 173, „ 11 „ „ „ „ *formosum* „ (30 f).
 „ 173, „ 16 „ „ „ „ *dognini* „ (24 l as *centralis*).
 „ 173, „ 18 „ „ „ „ eliminate *ruficollis*.
 „ 173, „ 24 „ „ „ „ *leriioides* is a distinct species and to be placed after *aoris* (p. 180 line 7 from below) with the reference (31 a).
 P. 173, line 25 from above, place *dilutius* Rothsch. as synonym to the following species: *taronia*.
 „ 173, „ 25 „ „ below, to *conspicuum* add: (30 g).
 „ 173, „ 16 „ „ „ „ place *giganteum* to *Heliura*.
 „ 173, „ 11 „ „ „ „ to *punctatum* add as synonym: *ruficollis* of p. 173 line 18 from above.
 „ 173, „ 11 „ „ „ „ take out the synonym *zamora* as a distinct species with *punctatum* Hamp. as synonym *zamora*. and add: (30 g) to it. It is larger with lighter forewings. Expanse of wings: 40 mm. Guatemala; Ecuador.
 P. 173, line 6 from below, to *buchwaldi* add: (30 f).
 „ 174, „ 4 „ „ above, „ *leprotum* „ (30 d).
 „ 174, „ 10 „ „ „ „ *fosteri* „ (30 f).
 After it insert:

E. fassli *sp. nov.* (30 g). Head and collar blackish-brown, the latter with minute grey spots. Thorax *fassli*. light grey with fine black stripes, metathorax and hindhead scarlet like the abdomen above; the latter has a triangular, brownish-grey basal spot and a black terminal segment; venter and legs black. Forewing light-grey with fine black veins, 3 strongly curved transverse lines, fine black oval annular and reniform maculae in the cell and before the margin 3 brownish-grey spots. Hindwings darker grey. Expanse of wings: 33 to 35 mm. A small number of specimens from the Upper Rio Negro (East Colombia) in the Coll. FASSEL.

- P. 174, line 20 from above, place *bolivianum* to *Dclphyre*.
 „ 174, „ 21 „ „ „ „ to *rosenbergi* add: (30 e).
 „ 174, „ 23 „ „ „ „ „ *pallada* „ (30 e).
 „ 174, „ 27 „ „ „ „ „ place *flavopunctatum* to *Heliura*.
 „ 174, „ 23 „ „ below, to *dorsipunctum* add: (30 e).
 „ 174, „ 9 „ „ „ „ eliminate *centralis* (= *formosum dognini*).
 „ 174, „ 1 „ „ „ „ „ after *atriguttum* insert:

E. capsicum Schs. (30 g) greatly resembles the preceding, from which it differs by its more purely *capsicum*. white ground-colouring, purely white forehips, dark-banded red abdomen with black lateral spots, somewhat differently arranged smaller spots on the purely white forewing and more diaphanous hindwings. Expanse of wings: 32 mm. Brazil (Castro Paraná).

- P. 175, line 1 from above, to *marcatum* add: (30 f).
 „ 175, „ 20 „ „ „ „ after *imrii* insert:

E. wernickei *sp. nov.* (30 h). Head and thorax greyish brown, in the neck 2 small vermilion spots. *wernickei*. Abdomen above carmine with a blackish-brown, triangular basal spot; the last ring and a broad lateral stripe velvety-black; the first palpal joint, the hips and ventral side are light yellow-reddish. Forewings brown with exactly the same scheme of markings as in *complicatum*, though the markings are finer and the light places are absent at the cell-end and before the margin. Hindwings blackish-brown, in, below and behind the cell diaphanous lighter. Expanse of wings: 39 mm. 1 ♂ from Sa. Catharina (Brazil) from the Coll. WERNICKE.

- P. 175, line 27 from below, in *sylvius* eliminate the synonym: *lutulentum*; after it insert as a distinct species:

E. lutulenta Mschlr. is much lighter than *sylvius*, in which the forewings are almost black with *lutulenta*. fine lighter linear markings, whereas here they are greyish-brown, with dark spots. The abdomen is more scarlet, beneath brown, only the 3 first rings are whitish-rosy; the black lateral stripes are absent. Expanse of wings: 36 mm. Surinam; Brazil. Amazon.

- P. 175, line 21 from below, to *antonia* add: (30 f).
 „ 175, „ 3 „ „ „ „ „ *hampsoni* „ (30 f).
 „ 176, „ 1 „ „ above, „ *tessellatum* „ (30 k).
 „ 176, „ 4 „ „ „ „ „ *cimonis* „ (30 h).

- P. 176, line 17 from above, place *bateris* to *Hetiura*.
 „ 176, „ 20 „ „ „ to *flemmingi* add: (30 g).
 „ 176, „ 22 „ below, „ „ *obliquifascia* „ (30 g).
 „ 176, „ 7 „ „ „ *patulum* „ (30 h).
 „ 176, „ 3 „ „ „ *servator* „ (30 h).

After it insert:

assutum.

E. assutum *sp. nov.* (30 h) entirely resembles *patrona* in the colouring and marking of the thorax and forewings, but the ground-colouring is lighter, almost whitish-grey. The abdomen, however, is ochreous-yellow with a brown, triangular basal spot; the other rings are quite unspotted, only the last ring and a part of the penultimate ring velvety black, as well as a broad lateral band. Venter yellowish-white, the 3 last rings curled black. Expanse of wings: 44 mm. 1 ♀ from the Rio Songo (Bolivia) (FASSEL).

P. 177, line 5 from above, after *casca* insert:

colombiac.

E. colombiae *sp. nov.* (30 k) differs from the preceding by narrower, longer wings, a metallic blue forehead, the absence of the orange spots in the neck; the metathorax not being spotted white, and the abdomen quite unicolorously blackish-brown without the yellow anal apcx, the first 3 rings beneath spotted white. The veins on the forewing are more brightly and finely striped orange, the whitish spot behind the cell-end broader, rounder. Expanse of wings: 38 mm. Described according to 1 ♀ from Medina (East Colombia) (FASSEL).

The species *casca* as far as *albinotum* incl. are better placed farther back near *aroa*.

- P. 177, line 6 from above, to *pseudocasca* add: (30 k).
 „ 177, „ 10 „ „ „ „ *albinotum* „ (30 k).
 „ 177, „ 24 „ „ „ „ *bricnoi* „ (30 i).
 „ 177, „ 24 „ „ „ „ *griseatum* „ (30 i).
 „ 177, „ 22 „ below, „ „ *xanthurum* „ as synonyma: *schausi* Roths. of p. 182 line 12 from above and *apicaflava* Kaye of p. 177 line 19 from below.
 P. 177, line 14 from below, to *decorum* add: (30 i).
 „ 177, „ 6 „ „ „ „ *surcatum* „ (30 i).
 „ 178, „ 2 „ above, „ „ *atratum* „ (30 k); it is a distinct species.
 „ 178, „ 4 „ „ „ „ *simite* „ (30 k).
 „ 178, „ 14 „ „ „ „ *albidius* „ (30 l).
 „ 178, „ 12 „ below, „ „ *perstriatum* „ (30 m).
 „ 179, „ 3 „ above, „ „ *picoides* „ (30 l).
 „ 179, „ 10 „ „ „ „ *tigrata* „ (30 k).
 „ 179, „ 13 „ „ „ „ *consortum* „ (30 l).
 „ 179, „ 23 „ „ „ „ *tigrisoma* „ (30 l).
 „ 179, „ 24 „ below, „ „ *ockendeni* (30 l).
 „ 179, „ 15 „ „ „ „ *steinbachi* „ (31 a); this species is better placed more in front to *pseudarchias*.
 „ 179, „ 10 „ „ „ „ *setosum* place the following *mara* as synonym.
 „ 179, „ 6 „ „ „ *relegatum* Schaus (30 m) is a distinct species.
 „ 180, „ 1 „ above, eliminate *cubense* as synonym to *carolina*.
 „ 180, „ 10 „ „ „ „ from *confine* the reference (25 f) is to be taken away and substituted by (30 m). *confinis* H.-S. has become known only from Brazil, Colombia and Peru, it has still more purely white forewings and in the ♂ almost purely white, somewhat diaphanous hindwings with a narrow black border; in the ♀ they are dusted darker.
 P. 180, line 13 from above, *carolina* is to be regarded as a distinct species with the reference: (25 f as *confine*); add hereto as synonyma: *cubense* Schs. (line 1 from above) and *confusum* Roths. (line 15 from above), in the latter of which the reference: (25 g) is to be eliminated.
 P. 180, line 18 from above, *amazonum* (30 m) is a distinct species and is most closely allied to *moeschleri* from which it differs by its more olive-brownish, not so ochreous-yellow colouring and deeper black spots, which are much larger in the cell-end.
 P. 180, line 23 from above, to *moeschleri* add: (25 g as *confusum*).
 „ 180, „ 27 „ „ „ „ *parambae* add: (30 m), and eliminate: (25 g) which refers to a new species:

seitzi.

E. seitzi *sp. nov.* (25 g as *parambae*). Smaller than the preceding with longer, more pointed wings. Head and thorax of a purer yellowish-grey, shoulder-covers striped black. Forewings whitish-grey, on the veins broadly striped olive-brownish, the scheme of markings similar as in the preceding, spots on the whole larger, more oblong, in the basal part a little different; in the submedian area the spots of the subbasal transverse band are contiguous with those of the antemedian band, forming an oval figure; before the middle of the cell there is a remarkable, round spot. Hindwing in the basal part very light, whitish. Abdomen ochreous-yellow, above on the last ring with a blackish-brown spot, the anal hairing again ochreous-yellow. Venter greyish-brown, the anterior rings laterally with large whitish spots. Expanse of wings: 23 mm. 2 ♂♂ from Bolivia in the Coll. SEITZ.

- P. 180, line 15 from below, to *ochrotum* add: (30 m).
 „ 180, „ 13 „ „ „ „ place *popayanum* to *Pseudactytia*.
 „ 180, „ 2 „ „ „ „ to *inconspicuum* add: (30 l).
 „ 181, „ 3 „ above, „ „ *ecuadoris* „ (30 m).
 After *flavicincta* insert:

crambidinum.

E. crambidinum *sp. nov.* (31 a) is a small, delicate, pale insect, the body and forewings coloured light grey, the forehead somewhat darker brownish-grey; the penultimate abdominal segment exhibits small, subdorsal, yellow spots. Forewings on the veins and folds finely striped darker; markings besides: a round spot in the middle of the cell, two at the cell-end and one above them at the costal margin; behind the cell-end and below it very indistinct, long-extended nebulous spots; an antemarginal series of spots: 3 somewhat darker

ones between the middle radial and the costal margin, below they are smaller and more indistinct, between the lower radial veins projecting far towards the margin, then running very obliquely to the middle of the proximal margin; in the marginal area there are somewhat darker scales interspersed. Hindwings white, thinly scaled, with a grey marginal band widening at the apex. Expanse of wings: 28 mm. Described according to 2 fresh ♀♀ from the Rio Negro (East Colombia); Coll. FASSL.

P. 181, line 23 from above, to *sadana* add: (31 a).

„ 181, „ 26 „ „ „ „ *mathani* „ (31 a), and the synonym: (*fuscatum* Rothsch.) of p. 182, line 23 from above.

P. 182, line 5 from above, to *scyton* add: (31 a); (25 i) made according to CRAMER's figure ist not recognizable. Add besides to it as synonym: (*mizar* Druce) of p. 182 line 11 from below.

Insert hereafter:

E. parascyton *Hmps.* (31 a) differs from the preceding by its white-margined forehead, black-striped *parascyton*. shoulder-covers, the forewings being of a purer whitish, with an olive-brown tint in the basal halves, the base itself black; the transverse lines more shadowy; instead of the light spot behind the cell there is blackish dusting. Expanse of wings: 28 mm. Peru.

P. 182, line 12 from above, eliminate *schausi* as synonymous to *xanthurum*.

„ 182, „ 23 „ „ „ eliminate *fuscatum* as synonymous to *mathani*.

„ 182, „ 27 „ „ „ to *fuscobrunneum* add: (31 b).

„ 182, „ 24 „ below, „ *fuscoirroratum* „ (31 b).

„ 182, „ 22 „ „ „ *minor* is to be placed as synonym to **E. brunneum** Rothsch. which is to be inserted here, with the reference: (31 b), of p. 128 line 12 from above (as *Teucer*).

P. 182, line 20 from below, to *strix* add: (31 b).

„ 182, „ 14 „ „ „ „ *ino* „ (31 b).

„ 182, „ 11 „ „ „ „ eliminate *mizar* as synonymous to *scyton*.

„ 182, „ 8 „ „ „ „ to *resina* add: (31 c).

„ 182, „ 5 „ „ „ „ *ignotum* „ (31 a).

„ 182, „ 2 „ „ „ „ *irroratum* „ (31 c).

„ 183, „ 3 „ above, eliminate *testaceum* as synonymous to *lineatum*.

„ 183, „ 6 „ „ „ „ after *testaceum* insert: *hoffmannsi* Rothsch. (31 b) of p. 169, line 2 from below (as *Heliura*).

„ 183, „ 6 „ „ „ „ to *zephyrum* add: (31 c).

„ 183, „ 19 „ „ „ „ *phaeoproctum* „ (25 i).

„ 183, „ 15 „ „ „ „ place *aetolia* to *Micragra*.

„ 183, „ 22 „ „ „ „ to *venosum* add: (31 c).

„ 183, „ 28 „ „ „ „ *intranotatum* „ (31 c).

„ 183, „ 17 „ below, „ *birchelli* „ (31 c).

Insert hereafter:

E. perplicatum *spec. nov.* (31 b) forms about the intermediary between *birchelli* and *fuscoirroratum*. *perplicatum*. Body and forewings fawn-coloured, on the head somewhat lighter yellowish, on the abdomen darker, posteriorly with a slight steel-blue reflection. Palpi anteriorly black, interiorly and at the base of the terminal segment white. Legs blackish-brown, at the ends of the tibiae and tarsi white-ringed. The abdomen shows whitish lateral stripes. Forewings densely strewn with brown scales; they exhibit 3 indistinct, oblique transverse stripes, the antemarginal one more in the shape of a broad shade, the two others are dotted dark on the ribs; in the lower half of the transverse vein there is a dark dot; the apex is parted by an oblique streak; before the margin between the veins small dashes, on the margin similar ones at the ends of the veins. Hindwings brownish-grey, towards the base somewhat lighter. Antennae at the ends above white, before them blackish. Expanse of wings: 35 mm. Described according to 1 ♂ from the Coll. WERNICKE from Sa. Catharina (Brazil).

E. insitivum *sp. nov.* (31 c) is somewhat like the preceding and resembles also *Pseudaclytia popayana*. *insitivum*. Anterior body and forewings light brown. Abdomen above ochreous-yellow with large, blackish-brown transverse spots being confluent on the anterior rings. Ventral side whitish with a broad, blackish-brown median stripe, at the sides small black spots. Forewings with darker veins and 3 similar transverse stripes as in the preceding; the space between the two distal ones darkened. Apex of the wing parted by black; at the upper and lower cell-angles one dark dot each. Hindwings grey-brownish, thinly scaled. Expanse of wings: 30 mm. 1 ♀ from Villavicencio (Colombia) in the Coll. FASSL.

E. sarisa *sp. nov.* (31 d). I am sorry to say that I am unable to ascertain the position of this most *sarisa*. peculiar insect, since only 1 fresh ♂ is before me (FASSL). The strangest mark is probably an organ, to be explained as a secondary sexual distinction, on the under surface of the forewing. The cell in its upper half is here covered with long yellowish scales, whereas in the lower half there rise erect, more hair-like, deep dark brown scales from the whole cellular length of the median, about like a prolonged female retinaculum; they conceal a lancet-shaped, white, somewhat diaphanous formation extending almost to the end of the cell, with longitudinally-grooved channels, looking something like the blade of a grass; proximally it disappears beneath the remarkably strong male retinaculum which as usually rises from the costal. On trying cautiously to move the frenulum, it seems also to move, so that it might be considered as an uncommon development of the retinaculum; I can, however, as stated above, not ascertain this now without risking to damage the specimen. Anterior body and forewings are brown; hindhead, neck, palpal base, and throat are ochreous-yellow, so is the upper side of the abdomen exhibiting black transverse spots which are more or less confluent on the anterior rings and covered by the brown hair of the base. Chest and venter whitish, legs somewhat more brownish. The forewings are veined indistinctly darker; the centre is crossed by a faded transverse band being broken almost

rectangularly at the lower cell-angle. Hindwings blackish-grey, in the disc somewhat more thinly scaled, at the costal margin and the fringes brown. Expanse of wings: 28 mm. 1 ♂ from Villavicencio (East Colombia) from the Coll. FASSL.

- P. 183, line 10 from below, to *lineatum* add: (31 e), and as synonym: (= *testaceum* Druce) of p. 183 line 3 from above.
 „ 183, „ 3 „ „ , for *hoffmannsi* place the name *pagina* Hmps. with the reference: (31 d).
 „ 184, „ 1 „ „ above, for *rothschitdi* which becomes a synonym insert the name: *chloraenoma* Hmps.
 „ 184, „ 9 „ „ , to *zizana* add: (31 d), and as synonym: *carabayanum* Schaus of p. 184 line 20 from above.
 „ 184, „ 12 „ „ , „ *nervulum* „ (31 d).
 „ 184, „ 15 „ „ , „ *nubilosum* „ (31 d).
 „ 184, „ 20 „ „ , eliminate *carabayanum* as synonym to *zizana*.
 „ 184, „ 27 „ „ , to *sordidescens* add: (31 e).
 „ 184, „ 22 „ „ below, „ *caeruleocaput* „ (31 d).
 „ 184, „ 11 „ „ , after *nebulosum* insert:

apicale.

E. apicale Wkr. (31 f). This species, having been originally described as *Halesidota*, has a brownish head with a red vertex; thorax and base of abdomen ochreous-brownish, the latter towards the apex warming into carmine; anal tuft black. Forewings ochreous-brownish with small, dark dashes at the middle of the proximal and costal margins, and before the apex; at the transverse vein likewise small dark spots. Hindwings diaphanous lighter. Expanse of wings: 34 mm. Brazil (*Castro*).

- P. 185, line 1 from above, to *postflava*: genus and species are better inserted between *Herea* and *Eumenogaster* (p. 122).
 „ 185, „ 23 „ „ , „ *bricenoi* add: (31 e).
 „ 185, „ 21 „ „ below, after *oberthueri* insert:

negrana.

C. negrona sp. nov. (31 e) is perhaps only a local form of *oberthueri*. Body unicolorously brownish-black with a slight slate-blue reflection, which grows more intense towards the anus. Legs at the ends of the joints spotted white. Forewings thinly scaled, black with interspersed slate-blue scales in the costal-marginal half, not transversely watered. Veins, towards the margin, darker, costal base orange; a postmedian, narrow, orange-brownish transverse band which vanishes towards the proximal margin and forms a tooth distally on the lower radial. Hindwings sooty black, in the disc thinly scaled with an orange costal spot. Expanse of wings: 39 to 40 mm. 2 ♂♂ 1 ♀ from the Rio Negro (Colombia) (FASSL).

- P. 185, line 12 from below, eliminate the name *intermedia*, and replace *elongata* Roltsch., since *elongata* Dogn. belongs to the genus *Rhynchopyga*. Add to it: (31 e).
 P. 185, line 8 from below, *boliviana* is only an insignificant local form of *tycoides*, and does not belong to *elongata*.
 „ 186, „ 6 „ „ above, to *semitransversa* add: (31 e).
 „ 186, „ 20 „ „ below, after *raea* insert:

meridionalis.

C. meridionalis Rothsch. (31 c) of p. 187 line 11 from below, which is a distinct species and belongs to *Correbia*.

- P. 186, line 19 from below, to *flavala* add: (31 f).
 „ 186, „ 12 „ „ , „ *felderi* „ (31 f).
 „ 186, „ 9 „ „ , „ *obscura* „ (31 g).
 Insert hereafter:

tristitia.

C. tristitia Kaye (= *klagesi* Rothsch.) which belongs here, not to the following genus. The ♂ shows a long hair-tuft in the middle of the proximal margin.

- P. 186, line 4 from below, place *elongata* to *Rhynchopyga*.
 „ 187, „ 8 „ „ above, before *notata* insert:

fana.

C. fana Druce (31 i) of p. 172 line 6 from above. This animal, being most conspicuous as a Syntomid is now placed to *Correbidia* by HAMPSON. According to a ♂ before me from the Coll. FASSL, originating from the Upper Rio Negro in Colombia, the animal would have to be placed to *Correbia*, owing to its hindwings, since the lower radial and upper median vein rise distantly remote from each other, whereas the veins of the forewings correspond exactly with those of *Correbidia*.

- P. 187, line 14 from above, to *assimilis* add: (31 g).
 „ 187, „ 17 „ „ , „ *similis* „ (31 g).
 „ 187, „ 19 „ „ , „ *steinbachi* „ (31 f).
 „ 187, „ 22 „ „ , „ *simonsi* „ (31 f).
 Insert hereafter:

germana.

C. germana Rothsch. (= *calopteridia* Druce nec Btlr., *terminalis* subsp. 1 Hmps., *continentalis* Draudt) (26 a as *continentalis*), which is a distinct species and is therefore to be eliminated as *subspecies* in *terminalis* (p. 187 line 15 from below).

- P. 187, line 24 from above, place *tristitia* to *Correbia*.
 „ 187, „ 8 „ „ below, to *castinotala* add: (31 f).
 „ 188, „ 1 „ „ above, „ *apicalis* „ (31 f).
 Insert hereafter:

bicolor.

C. bicolor H.-S. (31 h). Described as *Charidea*, from Cuba. Forewings unicolorously orange, hindwings lighter, diaphanous, with a brownish-grey margin. Head black with orange sides, thorax orange, abdomen black, at the sides and venter orange, the latter with a series of faded, brownish-grey bands. Expanse of wings: 24 mm.

P. 188, line 17 from above, to *cocklei* add: The full-grown larva is above grey with a black dorsal line and orange sub-dorsal lines; sides black with a light-yellow line below the stigmata; hairing brownish-grey, on the rings 2, 11 and 12 longer and jet-black; lives on grasses in September and October.

P. 188, line 20 from above, after *wrighti* insert:

S. coprea *sp. nov.* (31 g) is on the body and forewings unicolorously blackish-brown with a slight *coprea*. purple lustre. The abdomen reflects posteriorly somewhat blue. The hips and a broad ventral stripe are yellowish-white. On the forewing, in the lower half of the transverse vein, there is a minute, yellowish-white dot. Hindwing sooty black, in the disc hyaline diaphanous. Expanse of wings: 31 mm. Described according to 1 ♂ from the Coll. WERNICKE from Sa. Catharina (Brazil).

P. 188, line 24 from below, to *subhyalina* add: (31 h).

„ 188, „ 8 „ „ „ „ *normani* „ (31 g).

„ 188, „ 5 and 2 from below, place *ockendeni* and *nigrirufa* to *Napata*.

„ 189, „ 1 from above, before *atroxantha* insert:

P. pelopia *Druce*, described as *Talara*. Body black, only the palpal base, forehead and shoulder-covers *pelopia*. orange. Forewings orange, dusted brownish with a black border projecting with a pointed tooth to the upper cell-angle; proximal margin finely black. Hindwing black, in the costal half as far as beyond the middle orange. Expanse of wings: 24 mm. Panama.

P. 189, line 1 from above, after *atroxantha* insert:

P. criton *Druce*, described as *Cisthene*. Head and thorax black, spotted carmine on the shoulder- *criton*. covers; abdomen black with a green reflection. Forewings black, hindwings metallic blue with a black proximal margin and border. Expanse of wings: 22 to 26 mm. This little species has become known from Mexico and Guatemala. On the under surface of the hindwing there may occur white colour as a small spot at the lower cell-end or the whole wing may turn white except the black border. The latter form may be denominated: *hypoleuca* *form. nov.* (= ab. 2 *Hmps.*). *hypoleuca*.

P. 189, line 6 from above, place *albofasciata* to *Mevania*.

„ 189, „ 22 „ „ „ to *drucei* add: (31 g), and as synonym: *erythrophora* *Druce*.

„ 189, „ 20 „ „ below, after *pholus* insert:

L. deserta *Edw.* differs from *pholus* in the ♂ by a narrower black marginal band; the hindwings also *deserta*. have a narrower margin extending at the proximal margin as far as the base; palpi and base of tibiae orange. The ♀ which was captured in copula with the ♂, is coloured remarkably different: on the body and wings orange; the forewing shows a broad, black transverse band behind the base and another one from the costal margin beyond the middle to the proximal angle. Expanse of wings: ♂ 19 mm, ♀ 32 mm. The only couple apparently known was captured in Arizona.

P. 189, line 12 from below, *schausi* *Rothsch.* is a distinct species. Head and thorax blackish-brown, suffused with a metallic blue, with red stripes on the shoulder-covers, the blackish-brown abdomen with blue ring-indentations. Fringes of the wings at the apex and proximal angle white. Add to it: (31 g).

P. 189, line 5 from below, to *popayana* add: (31 h).

„ 189, „ 2 „ „ „ „ *garleppi* „ (31 h).

„ 190, „ 11 „ „ above, „ *mennisata* „ (31 h).

„ 190, „ 14 „ „ „ „ *albipars* „ (31 h).

„ 190, „ 17 „ „ „ „ *biformis* „ (21 d, as *abbreviata*).

„ 190, „ 10 „ „ below, „ *jonesi* „ (31 k).

„ 190, „ 7 „ „ „ „ *andrei* „ (31 k).

Insert after it:

C. manuela *Jones*. Body blackish-brown, palpal base and hindhead orange, abdomen suffused with *manuela*. blue, with an orange anal tuft; on the mesothorax with a fine, white longitudinal stripe; abdomen beneath banded white. Forewing blackish-brown with fine grey veins and a cuneiform, white postmedian spot. Hindwings reflecting blue, with white fringes. Expanse of wings: 38 mm. Brazil (Santos).

C. nana *Jones* greatly resembles the preceding, but it is somewhat smaller and of a lighter olive-brown *nana*. colour; beside the thorax also the shoulder-covers are striped white. Expanse of wings: 32 to 36 mm. Brazil (Santos).

P. 190, line 4 from below, to *mortia* add: (31 k).

„ 191, „ 1 „ „ above, „ *reimoseri* „ (31 g).

„ 191, „ 9 „ „ „ „ *subsemistria* „ (31 g).

„ 191, „ 25 „ „ „ „ *venosa* add as synonym: (= *tigrina* *Streck.*).

„ 191, „ 20 „ „ below, „ *tucumana* being a distinct species add: (31 i).

„ 191, „ 16 „ „ „ „ *reducta* add: (31 i).

„ 191, „ 13 „ „ „ „ *erissonana* „ (31 i).

„ 192, „ 14 „ „ above, „ *fosteri* „ (31 h).

„ 192, „ 17 „ „ „ „ eliminate *conchyliata* (= *Nap. sanguicincta*).

„ 192, „ 22 „ „ „ „ to *affinis* add: (26 k).

„ 192, „ 24 „ „ below, *albolineata* *Druce* (publ. April 1904) becomes synonymous, *projecta* *Dogn.* (publ. March 1904)

being the right name; add to it: (31 h).

P. 192, line 9 from below, to *cubana* add: (31 l).

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with reference to the original descriptions of the forms of the American *Syntomidae*.

* signifies that the form is also figured at the place cited.

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strix Eucer. *Rothsch.* Novit. Zool. 19, p. 176.
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- subflamma* Cosm. *Wkr. List. Lep. Brit. Mus.* 1, p. 159.
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subgloriosa Cyan. *Stgr. Iris* 7, p. 83.
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subsemistria Cten. *Strd. Dtsch. Ent. Ztschr.* 1915, p. 29.
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superba Agyrta *Druce Biol. Centr.-Am., Het.* 1, p. 115, t. 12, f. 5. *
superba Nap. *Druce Ann. Mag. Nat. Hist.* (7) 18, p. 79.
sura Macr. *Schaus Journ. New York Ent. Soc.* 9, p. 42.
surcatus Eucer. *Dogn. Ann. Soc. Ent. Belg.* 41, p. 25.
surinamensis Eriph. *Mschl. Verh. Z.-B. Ges. Wien* 27, p. 640, t. 8, ff. 11, 11 a. *
surrentum Sphcc. *Druce Proc. Zool. Soc. Lond.* 1883, p. 375, t. 39, f. 8. *
sylpha Dipt. *Dogn. Ann. Soc. Ent. Belg.* 46, p. 228.
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teda Phoen. *Wkr. List. Lep. Brit. Mus.* 1, p. 177.
telamonaphorum Dipt. *Prillw. Stett. Ent. Zeit.* 31, p. 350, t. 2, f. 2. *
telephus Cosm. *Wkr. List. Lep. Brit. Mus.* 1, p. 170.
temenus Saur. *Cr. Pap. Exot.* 4, p. 148, t. 367, f. D. *
temperata Mesoth. *Schaus Ann. Mag. Nat. Hist.* (8) 7, p. 174.
tenebrosa Amycl. *Rothsch. Novit. Zool.* 19, p. 154.
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tenellulum Eucer. *Schaus Ann. Mag. Nat. Hist.* (8) 6, p. 195.
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tenuis Saur. *Btlr. Journ. Sinn. Soc. Lond., Zool.* 12, p. 384.
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terra Aclyt. *Schaus Journ. New York Ent. Soc.* 4, p. 133.
tessellatum Eucer. *Schaus Ann. Mag. Nat. Hist.* (8) 6, p. 194.
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tetragramma Hel. *Wkr. List. Lep. Brit. Mus.* 1, p. 268.
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texana Hor. *Grote Proc. Ent. Soc. Philad.* 6, p. 184.
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thoracica Leucotm. *Schaus Proc. U. S. Nat. Mus.* 29, p. 186.
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thyestes Is. *Druce Proc. Zool. Soc. Lond.* 1883, p. 374, t. 39, f. 4. *
thyra Macr. *Mschl. Verh. Z.-B. Ges. Wien* 32, p. 334. *
thyria Hyal. *Druce Ann. Mag. Nat. Hist.* (7) 1, p. 207.
thyridia Macr. *Hmps. Cat. Lep. Phal.* 1, p. 321, t. 11, f. 9. *
thysbe Hel. *Mschl. Verh. Z.-B. Ges. Wien* 27, p. 643. *
thysbodes Hel. *Dogn. Hét. nouv. Am.-Sud VII*, p. 9.
tiburtus Cal. *Cr. Pap. Exot.* 3, p. 75, t. 237, f. C. *
tigrata Eucer. *H.-Schäff. Außereur. Schmnett.* p. 74, f. 278. *
tigrina Cten. *Streck. Lep. Indig. u. Exot., Suppl.* 2, p. 4.
tigris Cosm. *Schaus Proc. Zool. Soc. Lond.* 1894, p. 226.
tigrisoma Eucer. *Rothsch. Novit. Zool.* 19, p. 117.
tijuca Saur. *Schaus Proc. Zool. Soc. Lond.* 1892, p. 275.
tina Hist. *Wkr. List. Lep. Brit. Mus.* 1, p. 233.
tipulina Saur. *Hbn. Smnlg. Exot. Schmnett.* 1, t. 163. *
tisameua Eur. *Dogn. Ann. Soc. Ent. Belg.* 46, p. 227.
- togata* Cten. *Druce Biol. Centr.-Am., Het.* 1, p. 73, t. 6, f. 8.
tolosa Homococ. *Druce Proc. Zool. Soc. Lond.* 1883, p. 374.
tolumuensis Enope *H.-Schäff. Außereur. Schmnett.* p. 73, f. 53. *
torquata Dasysph. *Druce Proc. Zool. Soc. Lond.* 1883, p. 377.
torrida Leucotm. *Wkr. List. Lep. Brit. Mus.* 1, p. 161.
trabea Pseudom. *Druce Ann. Mag. Nat. Hist.* (7) 3, p. 230.
tractipennis Erip. *Btlr. Journ. Linn. Soc. Lond., Zool.* 12, p. 414.
transacta Dycl. *Wkr. List. Lep. Brit. Mus.* VII, 1615.
translucida Pseudom. *Dogn. Le Nat.* (2) 4, p. 91.
triangulifera Loxophl. *Fldr. Reise Novara, Lep.* 2, t. 102, f. 34. *
triangulifera Saur. *Druce Ann. Mag. Nat. Hist.* (7) 1, p. 207.
trichopteraeformis Saur. *Jörgensen Ztschr. wiss. Ins.-Biol.* 9, p. 77.
tricincta Ich. *H.-Schäff. Außereur. Schmnett.* 1, p. 74, f. 300. *
tricolor Arg. *Pack. Rep. Peabody Acad.* 1, p. 62.
tricolor Chrost. *Fldr. Reise Novara, Lep.* 2, t. 105, f. 25. *
tricolor Saur. *Schaus Proc. U. S. Nat. Mus.* 29, p. 187.
trifida Urag. *Dogn. Ann. Soc. Ent. Belg.* 25, p. 153.
trimaculatum Chrostos. *Strd. Dtsch. Ent. Ztschr.* 1915, p. 19.
trinita Eucer. *Schaus Journ. New York Ent. Soc.* 9, p. 44.
trinitatis Autochl. *Rothsch. Novit. Zool.* 19, p. 154.
trinitatis Phoenicop. *Strd. Dtsch. Ent. Ztschr.* 1915, p. 21.
trinitatis Sphccos. *Rothsch. Novit. Zool.* 198, p. 24. *
tripagus Cal. *Hmps. Ann. Mag. Nat. Hist.* (8) 4, p. 346.
tripunctatum Eucer. *Druce Biol. Centr.-Am., Het.* 1, p. 85, t. 9, f. 12. *
tripunctatus Cal. *Druce Ann. Mag. Nat. Hist.* (7) 1, p. 401.
triseriata Paraethr. *H.-Schäff. Außereur. Schmnett.* p. 74. *
tristissima Saur. *Perty Delect. Anim. Artic.* p. 156, t. 31, f. 7. *
tristitia Correb. *Kaye Entomologist* 44, p. 145.
trita Desm. *Dogn. Hét. nouv. Am. Sud* 3, p. 5.
trivittata Phara *Wkr. List. Lep. Brit. Mus.* 2, p. 322.
trizona Homococ. *Dogn. Ann. Soc. Ent. Belg.* 50, p. 178.
troetschi Xanth. *Druce Biol. Centr.-Am., Het.* 1, p. 44, t. 8, f. 8. *
trogon Ixyl. *Drt. Seitz, Macrolep.* 6, p. 209. *
trogonoides Ixyl. *Wkr. List. Lep. Brit. Mus.* 31, p. 101.
tropica Sciops. *Wkr. List. Lep. Brit. Mus.* 1, p. 236.
tryhanci Is. *Rothsch. Novit. Zool.* 18, p. 26. *
tucumana Cten. *Rothsch. Novit. Zool.* 19, p. 184.
tyrrhene Cosm. *Hbn. Zutr. Ext. Schmnett.* 3, p. 23. *
- umbraticola* Cacost. *Klages Proc. U. S. Nat. Mus.* 29, p. 551.
umbreus Epect. *Schaus Proc. U. S. Nat. Mus.* 29, p. 194.
umbrica Pseudac. *Druce Ann. Mag. Nat. Hist.* (7) 1, p. 208.
umbrimacula Hel. *Schaus Proc. U. S. Nat. Mus.* 29, p. 191.
underwoodi Ceram. *Rothsch. Novit. Zool.* 19, p. 152.
undulata Corr. *Druce Biol. Centr.-Am., Het.* 1, p. 77, t. 9, f. 3. *
unifascia Nap. *Schaus Journ. New York Ent. Soc.* 6, p. 140.
uniforis Chrysocale *Drt. Seitz, Macrolep.* 6, p. 205. *
uniformis Desm. *Hmps. Cat. Lep. Phal.* 1, p. 435. *
uniformis Hyal. *Rothsch. Novit. Zool.* 19, p. 186.
unimacula Phaeo *Rothsch. Novit. Zool.* 18, p. 39. *
unimacula Pseudaclyt. *Schaus Proc. U. S. Nat. Mus.* 29, p. 189.
unxa Chrost. *Druce Ann. Mag. Nat. Hist.* (6) 18, p. 31.
uranophila Agyrt. *Wkr. List. Lep. Brit. Mus.* 35, p. 1874.
ursula Desm. *Cr. Pap. Exot.* 4, p. 107, t. 345, f. E. *
ustrina Is. *Hbn. Zutr. Exot. Schmnett.* 3, p. 25, ff. 493, 494. *
ustulata Eriph. *Fldr. Reise Novara, Lep.* 2, t. 102, f. 17. *
utica Pheia *Druce Ann. Mag. Nat. Hist.* (6) 4, p. 85.
- vacillans* Phoen. *Wkr. List. Lep. Brit. Mus.* 7, p. 1617.
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varia Is. *Wkr. List. Lep. Brit. Mus.* 1, p. 157.
varians Delph. *Hmps. Ann. Mag. Nat. Hist.* (7) 8, p. 174.
variegata Abroch. *Kaye Entomologist* 44, p. 145.
varipes Leucotm. *Wkr. List. Lep. Brit. Mus.* 1, p. 175.
varipes Mystr. *Wkr. List. Lep. Brit. Mus.* 1, p. 235.
varuna Agyrta *Druce Ann. Mag. Nat. Hist.* (7) 19, p. 299.
velutinum Eucer. *Schaus Journ. New York Ent. Soc.* 4, p. 134.
venata Episc. *Btlr. Ill. Het. Brit. Mus.* 1, p. 49, t. 16, f. 7. *
venatum Cosm. *Rothsch. Novit. Zool.* 18, p. 34. *
venezuelana Is. *Drt. Seitz, Macrolep.* 6, p. 47. *
venezuelensis Nap. *Klages Proc. U. S. Nat. Mus.* 29, p. 549.
venezuelensis Saur. *Klages Proc. U. S. Nat. Mus.* 29, p. 538.
venosa Cten. *Wkr. List. Lep. Brit. Mus.* 2, p. 248.
venosum Eucer. *Schaus Ann. Mag. Nat. Hist.* (8) 6, p. 195.
ventralis Aclyt. *Guér. Icon. Régn. Animal, Ins.* p. 503.
verdivittata Poliop. *Klages Proc. U. S. Nat. Mus.* 29, p. 541.
vesparia Gymn. *Perty Delect. Anim. Artic.* p. 157. *

- vesparis Loxophl. *Bthr.* Ann. Mag. Nat. Hist. (4) 12, p. 227.
 vespiformis Is. *Bthr.* Journ. Linn. Soc. Lond., Zool. 12, p. 379.
 vespina Arg. *Schaus* Journ. New York Ent. Soc. 9, p. 42.
 respoides Poecil. *Schaus* Proc. U. S. Nat. Mus. 29, p. 186.
 respoides Pseudosphecosoma *Strd.* Dtsch. Ent. Ztschr. 1915, p. 20.
 vesta Hol. *Mschl.* Verh. Z.-B. Ges. Wien 27, p. 637. *
 vestalis Eucer. *Schaus* Proc. Zool. Soc. Lond. 1892, p. 278.
 vicinum Sphec. *Schrottky* Iris 24, p. 149.
 victorina Procal. *Druce* Biol. Centr.-Am., Het. 1, p. 67, t. 8, f. 16. *
 vidua Synt. *Mén.* Cat. Lep. Pétersb. 2, p. 141, t. 14, f. 6. *
 villia Gymn. *Druce* Ann. Mag. Nat. Hist. (7) 18, p. 78.
 vinasia Episc. *Schaus* Ann. Mag. Nat. Hist. (8) 6, p. 189.
 vintonissa Saur. *Druce* Proc. Zool. Soc. Lond. 1883, p. 378.
 virens Synt. *Bthr.* Journ. Linn. Soc. Lond., Zool. 12, p. 405.
 virescens Ich. *Dogn.* Hét. nouv. Am.-Sud VII, p. 7.
 virginica Cten. *Charp.* Esp. Ausländ. Schmett. 2, Suppl. t. 2, ff. 3, 4. *
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 viridifusa Macr. *Schaus* Trans. Am. Ent. Soc. 1904, p. 135.
 viridipunctatum Chrost. *Rothsch.* Novit. Zool. 18, p. 30. *
 viridis Ceram. *Druce* Biol. Centr.-Am., Het. 1, p. 68, t. 7, f. 25. *
 viridis Ceram. *Lathy* Entomologie 32, p. 118.
 viridis Poliop. *Druce* Proc. Zool. Soc. Lond. 183, p. 380.
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 vitrea Agyrt. *Schaus* Ann. Mag. Nat. Hist. (8), p. 191.
 vitrina Dycl. *Rothsch.* Novit. Zool. 18, p. 37. *
 vitristriga Autochl. *Druce* Ann. Mag. Nat. Hist. (6) 20, p. 301.
 vittata Macr. *Wkr.* List. Lep. Brit. Mus. 1, p. 249.
 vittata Psil. *Wkr.* List. Lep. Brit. Mus. 31, p. 83.
 vittigera Cten. *Blech.* in Gay, Nat. Hist. Chil., Zool. 7, p. 67.
 volatilis Dasysph. *Schaus* Ann. Mag. Nat. Hist. (8) 6, p. 189.
 vulcana Synt. *Druce* Ann. Mag. Nat. Hist. (6) 4, p. 83.
 vulcanus Eur. *Wkr.* List. Lep. Brit. Mus. 1, p. 228.
 vulnerata Hyal. *Bthr.* Ann. Mag. Nat. Hist. (4) 15, p. 399.
 walkeri Nap. *Druce* Ann. Mag. Nat. Hist. (6) 4, p. 86.
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 watsoni Cosm. *Rothsch.* Ann. Mag. Nat. Hist. (8) 5, p. 508.
 watsoni Saur. *Rothsch.* Novit. Zool. 18, p. 37. *
 werniekei Eucer. *Drt.* Seitz, Macrolep. 6, p. 214. *
 whitelyi Autochl. *Druce* Proc. Zool. Soc. Lond. 1883, p. 376.
 wrighti Scep. *Stretch* Ent. Am. 1, p. 101.
 xanthistis Cosm. *Hmps.* Cat. Lep. Phal. 1, p. 231. *
 xanthobasis Dycl. *Hmps.* Ann. Mag. Nat. Hist. (8) 4, p. 346.
 xanthobasis Sar. *Druce* Ann. Mag. Hist. (7) 1, p. 403.
 xanthocera Cosm. *Hmps.* Cat. Lep. Phal. 1, p. 236. *
 xanthocera Nyr. *Wkr.* List. Lep. Brit. Mus. 7, p. 1603.
 xanthodora Eucer. *Dyar* Proc. U. S. Nat. Mus. 38, p. 233.
 xanthogastra Gymn. *Perty* Delect. Anim. Artic. p. 156, t. 31, f. 5. *
 xanthogastroides Autochl. *Schaus* Journ. New York Ent. Soc. 9, p. 40.
 xanthomelan Cosm. *Zerny* Novit. Zool. 18, p. 35. * (rosenbergi Rothsch.)
 xanthoparas Eucer. *Hmps.* Cat. Lep. Phal. 1, p. 510, t. 17, f. 13.
 xanthosoma Eur. *Hmps.* Ann. Mag. Nat. Hist. (7) 15, p. 428.
 xanthospila Rhynch. *Hmps.* Cat. Lep. Phal. 1, p. 269, t. 10, f. 9. *
 xanthostictum Cosm. *Hmps.* Cat. Lep. Phal. 1, p. 240, t. 9, f. 21. *
 xanthotarsis Sar. *Lathy* Entomologist 32, p. 116.
 xanthozona Phcia *Dogn.* Hét. nouv. Am. Sud. 1, p. 3.
 xanthozona Rhynch. *Drt.* Seitz, Macrolep. 6, p. 90. *
 xanthura Eucer. *Schaus* Ann. Mag. Nat. Hist. (8) 6, p. 192.
 xenodiee Cyan. *Druce* Biol. Centr.-Am., Het. 1, p. 72, t. 8, ff. 18, 19. *
 xenodorus Autochl. *Druce* Biol. Centr.-Am., Het. 1, p. 55, t. 7, f. 1. *
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 zelosa Gymn. *Dogn.* Ann. Soc. Ent. Belg. 43, p. 251.
 zephyrum Eucer. *Schaus* Ann. Mag. Nat. Hist. (8) 6, p. 194.
 zethus Abr. *Hbn.* Zutr. Exot. Schmett. 1, p. 13, ff. 49, 50. *
 zeus Ptychot. *Schaus* Proc. Zool. Soc. Lond. 1894, p. 228.
 zizana Eucer. *Dogn.* Ann. Soc. Ent. Belg. 41, p. 24.
 zonata Hel. *Druce* Ann. Mag. Nat. Hist. (7) 15, S. 464.
 zureheri Cosm. *Druce* Ann. Mag. Nat. Hist. (6) 13, p. 353.

4. Family: Arctiidae, Tiger Moths.

The number of American *Arctiidae* is very considerable, if one includes the groups having been branched off by others as *Hypsiidae* etc. This has been done here, referring to the fact that the venation of the Arctiids has not been awarded the leading part which is indisputably the case in other groups. I have already hinted at this in Vol. II, p. 43, and in Vol. 10, p. 105. An application upon the American fauna would mean a system based upon exclusive relations in the veins, as for instance the elimination of the *Pericopini*, as it effected in the palearctic regions the elimination of the *Callimorpha*, in the Indian region that of the *Aganais* from the family of the Arctiids; in spite of HAMPSON's precedence, we cannot make up our mind to such a bold proceeding.

We must, however, point out that neither the variegated colouring nor the hairy dress of the larva have been the reason why we inserted the *Callimorphini*, *Pericopini*, *Hypsiini*, *Phaegopterini* etc. among the *Arctiidae*. We find an Arctiid-like monitory exterior also in the ♀♀ of the Lymantriids (*Numenes separata* Vol. II, t. 22 f), in Agaristids and many Geometrids. But a close alliance seems to us to be exhibited by the conformities of details that are difficult to consider as the symptom of convergency. The very uniform smell of oil noticeable in the genuine *Arctiini* as well as in the *Callimorpha*, the *Aganais* and *Pericopis*, is produced by the development of a sharp, protective, yellow secretion emanating in thick drops from two apertures in the neck of the insect, a symptom which seems to be of quite a similar nature and of exactly the same effect in the *Callimorpha*, the *Arctia*, *Spilosoma* etc. In the *Apantesis*, *Arctia* etc. a large, yellow drop flows from the sides of the neck, on being disquieted, in certain *Pericopini*, the secretion profusely intermixed with air is discharged by jerks as a yellow foam, whilst the insect is groaning and moaning. It has an acid, somewhat caustic taste and protects these insects against their enemies to such an extent that they do not hide, but show themselves in a most conspicuous way by glaring colours, and often play in broad daylight, evidently shunned.

Another conformity of the *Callimorphini*, *Hypsiini*, *Pericopini* etc. with the *Arctiini* consists in a peculiar, cracking noise produced by the insects in flying. It is not equally audible to the human ear in all the species, but in many *Arctia*, in *Nyctemera* and *Aganais* it is distinct, and in *Parasemia plantaginis*, *Callimorpha dominula*, *Spilosoma* (*Dionychopus*) *niveum* even loud.

The larvae are all well haired, though not all are shaggy or furry. The hairs are mechanically undoubtedly quite a good protection, chemically, however, of very little effect. They also seem generally to have the purpose of a mechanical effect, for they are often very strong; *Arctia* has fleece-like compact hair which in *Ecpantheria* already grow so hard that they have the effect of spikes, while in the *Pericopini* they are still more specialized. The latter insects are covered with them in the shape of almost steel-hard, brittle, pointed thorns, which are not ramulous like those of the day-butterflies of or the *Dirphia* and *Automeris*, but not less pointed than those, and by which one is easily stung on touching the insect carelessly. Safeguarded by this protection, the larvae of the *Arctiidae* mostly live quite freely, feed in the sunshine, sit freely on the earth or on their food-plants in day-time, and but few, such as some *Ocnogyna*, *Cletis*, *Callimorpha* etc. hide superficially during the day.

Common to nearly all the *Arctiidae* is the behaviour and exterior of the pupa. It is mostly as smooth and bright as a mirror, as if it were polished, but by no means so thick-shelled as we find it in most of the other pupae of a porcelain lustre, the *Bunaea*, *Gynanisa*, *Agarista* etc. The web is very scanty, sometimes it does not even deserve this name and is then confined upon some criss-cross threads in which the pupa is hung up almost without any protection. In some species, such as *Arctia hebe*, *Rhyparia purpurata*, *Hyphoraia aulica* etc. it is to be wondered at how the little protected and rather delicate pupa is exposed to the roughness of the weather often increased by a severe winter. The pupae of the *Lithosiini* are shut off in a wide slit of the bark only by some cross threads, and consequently approachable to all their enemies. In a similar way, the pupae of *Aganais* being gregariously established in the slits of the bark are almost unprotected. The pupae of some *Pericopini*, however, are the most conspicuously and the most freely suspended in a few threads fixed between the tips of the twigs of isolated bushes, so that I occasionally thought to see a cobweb from the distance in the centre of which the pupa, as smooth as porcelain, was suspended like a spider.

Beside these peculiarities of peculiar conformity being found in by far the greatest part of the *Arctiidae* according to our conception there is also a far extending likeness noticeable in the contours of the wings, in the structure of the body, to a certain degree also in the colouring. We do not see anywhere mimicry, nor is there hardly ever any adaptation noticeable. The *Apantesis* shine brightly by their variegated colours, the *Lithosiini* by their yellow, the *Spilosoma* and *Haploa* by the snowy white, the *Belemnina* by their mag-

nificent, metallic spots, the *Ecpantheria* by their peculiar blue rings on a white ground, the *Automolis* by the strange patterns of their wings. Such a graceful, variegated appearance as is exhibited by the *Utetheisa*, *Seiractia*, *Chionaema* (*Bizone*), *Ambryllis boisduvalii* (*Arctia funeralis* H.-Schäff.), *Arachnis picta*, is even rare in the otherwise most variegated *Lepidoptera*-genera. The scheme of colouring as is exhibited by *Daritis sacrificia*, the ♀♀ of the Indian *Peridrome orbicularis*, the *Anaxita decorata* from Mexico, must be pronounced perhaps not as quite grotesque, but at any rate as quite out of the common.

In Vol. X (p. 105) a parallel is set up referring to the distribution of the colours in the Arctiid family on the two hemispheres. In the Old World we found the northern temperate zone to be the patria of numerous extremely variegated and brilliant species, whilst the hot zone is occupied by mostly insignificant, not very glaringly coloured forms. The comparison of the very variegated tables 16 to 18 in Vol. II (containing the palearctic *Arctiidae*) with the tables 19 to 25 in Vol. X (containing the Indo-Australian Arctiids) makes this behaviour easily recognizable. In the same way the magnificently coloured and marked nearctic genera of the Arctiids, such as *Apantesis*, *Hyphoraia*, *Platyprepia*, *Parasemia* etc. occur in North America, in order to disappear to the south where they are replaced by insignificantly yellow or white species (*Haploa*, *Hyphantria*, *Ecpantheria*, *Pygarctia*). Of more than 40 variegated *Apantesis* in the United States there is only one species in Mexico.

Further towards the south the genuine *Arctiini* disappear altogether, and also the *Spilosomatini* die away into insignificant, earth-coloured or grey forms of the genus *Antarchia* the ♀ of which is partly wingless. On the eastern hemisphere, in the southernmost parts (Australia and New Zealand) there appears once more the variegated type of the inclement north in the genera *Metacrias*, *Ardices*, *Phaos* (*Estigmene*) etc. which, however, is no more the case in South America.

In Tropical America there occur then Arctiids of another type (*Charideini*) in great varieties, moreover the *Automolis*, *Robinsonia*, *Idalus*, *Prumola* and their allies, the habitus of which sometimes already exhibits a relation to the *Halisidota*, an uncommonly multiform genus showing, however, very few singular markings and colours, which belongs to the *Phaegopterini* (with nearly 500 forms) and is altogether confined upon America. In the Old World there is no similar type found; the place it occupies in America has remained almost vacant on the eastern hemisphere; only a single genus consisting of few species, *Rhodogastris*, by the biological behaviour, the shape, and to some extent, also by the colouring reminds us of the ramous group of the *Phaegopterinae* in America. Not much is known yet of the larvae of the *Phaegopterinae*; but if there prevails with them the same conformity as with the butterflies of this group, all are probably distinguished by pencil-like or scopiform hair-brushes rising behind the head, on the second ring, and at the anal end of the larva. They are less complicated than the hairy pads, brushes and tufts of the *Automolis*, but they strongly recall the same hairy cover of the South American *Syntomidae*, where the anterior and posterior ends of the larvae are likewise decorated by pencil-shaped hair-tufts.

As to the group of the *Pericopini* we have already above mentioned some facts, further particulars will be given when dealing with this group. The approximately 150 forms reckoned hereto have a rather conformable structure and exactly the same habits. In contrast with the nocturnal *Phaegopterini* and *Charideini* they fly actively in daytime, in case they are chased up, although some have also been taken by the lamp, like in our European *Arctiidae*. As larvae they are decidedly day-animals.

The other groups composing the *Arctiini* of America are such that are also represented in the Old World and which have, therefore, all been already dealt with in Vol. II and Vol. X. These are the *Nolinae* differing little from the palearctic forms, and the *Lithosiinae* likewise exhibiting great conformity in their distribution over the world, as to their colouring, size, shape and also habits. The *Nyctemerinae*, being distributed on the eastern hemisphere do not occur in America, nor do the *Hypsinae* occur there. The *Callimorphinae* would be only American, if one places the *Platyprepia* or *Haploa* to them, which does not seem to me to be advisable. Entirely unparalleled in the west are the Papuan *Cocytia*, the relations of which to the Arctiid family we have denoted to be very loose, and the *Pterothysanus* placed to the *Nyctemerinae* by KIRBY, which, however, as we mentioned in Vol. X, p. 377, do not belong to them at all and which we have inserted in the Arctiids only by way of appendix.

The important part played by the *Arctiidae* in the Old World owing to the frequently very great number of specimens and to their conspicuous appearance, also appertains to them in America. Just like *Utetheisa pulchella* is mostly the first butterfly met with on setting one's foot on the southern coast of Europe or the northern coast of Africa, we are almost everywhere welcomed by *Utetheisa ornatrix* or *bella* on stepping on land in tropical America. At another place I have already mentioned that there exist certain common symptoms in the fauna at the most remote places of our globe, and the *Arctiidae* contribute their mite to it. Whether I disembark in Adelaide, in Ceylon or Hongkong, in Bahia or Algier, everywhere the *Utetheisa* will be productive of the first impressions made upon me. In the north I shall find the *Spilosoma* close above the soil, down on the planks, lanterns or socles, just as well in Tokio and Baltimore as in Germany. Only when I visit the rich vegetations of the gardens and woods, there appear the variegated *Arctiids*; in the Old World the *Callimorpha* and *Arctia*, in the west the *Pericopinae*. On knocking on trees and branches, there will appear everywhere *Lithosiinae* being alike each other; only in the (mostly nocturnal) Arctiid groups, such as the *Phaegopterinae* and the *Automolinae* America abounds by far more than the Old World.

Although there are groups among the American *Arctiidae*, that are much more closely allied to the preceding family of the *Syntomidae* than the *Nolinae* and *Lithosiinae*, we let them follow here at first, in order not to upset the conformity with the ranges of the other faunae. We then put the *Phaegopterini* in the place of the palearctic *Hypsinae*, and instead of the *Callimorphinae* and *Nyctemerinae* being absent in America and allied to the *Hypsinae*, we append there the *Pericopinae*, being likewise allied to them, whereby we obtain the following schedule:

- | | |
|--------------------------|------------------------|
| 1. Nolinae | 5. Spilosominae |
| 2. Lithosiinae | 6. Arctiinae |
| 3. Phaegopterinae | 7. Pericopinae |
| 4. Micrarctiinae | |

I. Nolinae.

The group of genera, of which the stock of American *Nolinae* is composed, comprises the very same genera representing this subfamily also in the other faunae, the genera *Nola*, *Roeselia* and *Celama*. Only a single species, *Nigetia formosalis*, has been assigned to another genus. America, with about 90 forms, possesses approximately half of all the *Nolinae* known; but according to DYAR's Catalogue, only 16 of them fall to the nearctic fauna conform to WALLACE's conception i. e. to the boreal parts of America to the south as far as the Mexican frontier. All the others are neotropical.

A general characterization of the subfamily has been given in Vol. II, p. 44 and supplemented in Vol. X p. 107. The statement made there, that the superficial habitus of the *Nolinae* strongly recalls that of certain microlepidoptera, refers also to the Americans, and this implies that *Nolinae* are captured only when hunting for microlepidoptera, while in the search for macrolepidoptera they are mostly overlooked.

In their size, shape, colouring, early stages, and habits the *Nolinae* of all the continents are so much alike, that the Americans among them need hardly be specially characterized. They are wont to sit, like certain *Acalta* (*Teras*), with their heads turned upwards on the trunks of trees and planks and do not like to fly in daytime, so that one is obliged to search for them carefully or to beat them out; at night they sometimes come to the lamp. The method of making the food-leaf recognizable by skeletonized feeding places is quite common to some Americans as well as to certain palearctic species, and the larva of *Celama triquetra* in North America leaves behind the same tell-tale traces of feeding on the leaves of *Hamamelis virginica* as the European *Roeselia togatulalis* do on oak-bushes.

Moreover, there is as yet very little known of the American species with respect to their life-history. About the South Americans we do not know anything at all, and from the United States HENRY EDWARDS only knew the food-plant and larva of *Celama sorghiella* and *ovilla*. The reason of our scanty knowledge of the *Nolinae*-larvae is partly based on their rareness and insignificance, but partly also in their living so very much concealed; even those few species that do not retire far into the density of the leaves, constantly hide during daytime on the underside of a leaf.

As to the peculiar habit of the larva not to cast off the head of the old skin when shedding their skin, but to carry it on a hair-pencil above the neck, we refer to Vol. X (l. c.). The scaphoid web is not only conspicuous by its shape, but also by its construction, since it is not woven round like other cocoons, but there are at first two walls erected and then this groove is covered with a roof, which method was already known to TREITSCHKE. In this casing the pupa lies being mesodorsally somewhat depressed. The imago, by the pads of erect scales, deviates from the other *Arctiidae*, except certain *Lithosiinae*, some of which, such as some *Chionaema* and the genus *Parelictis* exhibit conspicuous formations in the very same places of the forewings, where we find hairy pads in the *Nolinae*. In *Parelictis* (Vol. X, t. 18 i) this is a knob-like swelling near the cell-end, in *Chionaema pratti* (Vol. II, t. 12 c) a hair-curl on a fold of the wing.

Although we cannot infer a particularly close relation between the *Nolinae* and *Lithosiinae* from this formation alone, yet we consider their insertion here to be less inappropriate than the one preferred in other catalogue-works. Whilst STAUDINGER in his Catalogue (1871) places them quite correctly at the head of the „*Lithosiidae*“, REBEL (1910) places them next to the Cymatophorid *Axia margarita* and together with it between the Geometrids on the one hand and the Noctuid genus *Sarrothripus* on the other hand (!). DYAR, in his „List of North-American Lepidoptera“ scarcely more appropriately places them between the *Epiplemidae* and the strange Lacosomid *Cicinnus melsheimeri*, consequently near the *Psychidae*. We also range it in the American fauna before the *Lithosiinae*, after the *Syntomidae*, since they also exhibit relations to the *Arctiinae*. In KIRBY's Catalogue they are directly included in the *Lithosiidae*, which is well justifiable.

Nearly all the *Nolinae* are in their occurrence locally bound to certain slopes of mountains, clearings in forests and the like, and seem not easily to leave their birth-place. Nevertheless some are widely distributed; some species (*Cel. cicatricalis*, *centonalis* and others) extend from France to China or Japan, and *squalida* pro-

bably occurs in 4 continents in little modified geographical forms. As the young larvae frequently live on lichens — some even throughout their lives —, they are not so much bound to the growth of rich vegetation, and in entirely unwooded districts devoid of plants (Arizona, Central Mexico etc.) we meet yet with representatives of the *Nolidae*, just like we find in the nearly unwooded Egypt just as many *Nolidae* as we find in exuberant districts of Central Europe. In America the same is the case as in the Old World, i. e. in tracts of land of the size of Germany we may approximately find from half to a whole dozen of species of the *Nolidae*, so that the geographical distribution of the family is almost uniform on the whole globe; only in Costa Rica which, however, has been well explored, we find an accumulation of species. Otherwise it is quite immaterial whether one collects in the United States, Mexico, Colombia, Madagascar, Ceylon, Asia Minor, the Amur District, or in the Bavarian Palatinate; everywhere each well performed local collection will yield about 8 to 12 *Nolidae*. A remarkable fact is that America has not one species in common with the Old World.

1. Genus: **Nola** Lach.

On the whole very much like *Celama*, chiefly differing from it by the 4-branched subcostal, only the middle branch being absent, and by the upper radial vein rising at the upper cell-angle. The palpi are usually somewhat longer and project like snouts. In the American species the antennae of the ♂♂ are long-combed (Selca Wkr.)

maia. **N. maia** Schs. (32 k). Body and wings brown, mixed with grey; on the forewing there are two blackish transverse lines, the anterior one being distally bordered with yellow-reddish, the posterior one distally bordered with white; between both there are 2 dots at the cell-end; before the margin with a darker undulate line; hindwings whitish, dusted brown. Expanse of wings: 18 mm. Costa Rica.

niveibasis. **N. niveibasis** Jones (32 k) has a white body, the abdomen being dusted brownish, the forewings are white in the basal halves, distally red-brown; a black median line borders on the two colours and projects on the median towards the margin. At the base of the costal margin there is a blackish-brown spot, beyond the middle there is a dentate, black line distally bordered with white in a costal direction, and besides there is an indistinct, dark, antemarginal line. Hindwings whitish, dusted with red-brown. Expanse of wings: 20 mm. South Brazil.

mesocyma. **N. mesocyma** Dogn. (32 a) is a minute animal with white forewings with a red-brown tinge towards the distal and costal margins, with three fine, black median, postmedian and antemarginal transverse lines; at the upper cell-end there is a small accumulation of red-brown scales. Hindwings white, towards the margin brownish. Expanse of wings: 12 mm. French Guiana.

pulverea. **N. pulverea** Hmps. (32 l) is whitish on the body and wings, thickly dusted red-brown, with two transverse lines on the forewing, the posterior one of which is broken in an acute angle below the costal margin and in the lower half proximally dusted dark. Hindwings whitish, towards the margin brownish with a black middle dot. Expanse of wings: 20 to 26 mm. Bolivia.

sabulosa. **N. sabulosa** Schs. (32 a) is similar; the posterior transverse line is punctiform, more sharply dentate; in front of it at the costal margin a blackish spot and in the middle of the cell a small accumulation of black scales. Expanse of wings: 24 mm. Costa Rica.

mesographa. **N. mesographa** Schs. (32 a) is distinguished by a blackish-blue scaled costal-marginal spot in the middle, from which a brown and black band runs to the proximal margin; at the base of the costal margin there is a brown and black triangular spot, beyond the middle a transverse line of dots; before the border being dusted red-brown, a darker undulate line. Hindwings white, towards the margin brownish. Expanse of wings: 18 to 24 mm. Guiana to Brazil.

tripлага. **N. triplaga** Dogn. (32 a) is a tiny insect easily recognizable by the 3 dark costal-marginal spots; the middle spot is four-cornered with small heaps of black and silvery scales in the middle of the cell and at the upper end. Marginal area dusted red-brown. Expanse of wings: 14 mm. Panama.

caelata. **N. caelata** spec. nov. (32 a) is a small, very easily recognizable species. Head, thorax and forewings snow-white; at the costal base an oblong, red-brown spot, the centre is crossed by a broad, red-brown median band being broadest at the costal margin and somewhat strangulated on the submedian fold; on its proximal border there are, in a straight line above each other, 3 small heaps of thickly applied, enamel scales, of a black colour, with a green-silvery lustre, at the cell-end a fourth. Subterminal band of the usual shape, cloudy, red-brown; the border itself is likewise red-brown like the fringes. Hindwings light brownish-grey. Expanse of wings: 14 mm. — 1 ♂ from Orosi (Costa Rica) from the Coll. FASSL.

perluta. **N. perluta** spec. nov. (32 a). A tiny animal with mostly white forewings; only the marginal area is narrowly brownish; in front of it the 3 cloudy curves of the grey undulate line. In the middle of the costal

margin there is a brownish spot, behind which, indicated by black dots on the veins, the posterior transverse line runs, in some parts indistinctly double. Hindwings slightly smoky brownish. Expanse of wings: 15 mm. 1 ♂ from Muzo (Colombia) in the Coll. FASSL.

N. biconica *Hmps.* (32 a). Greyish-white, dusted brownish, with an antemedian and a median line, *biconica*, both of which proceed from triangular costal-marginal spots; a postmedian line of dots and an antemarginal undulate line. Expanse of wings: 12 to 16 mm. From Panama and Guiana to Brazil.

N. sperata *Schs.* (32 a) is strewn brown and black on the white forewings and traversed by ante-*sperata*. median and postmedian rows of black dots; at the base of the costal margin and in the middle there are triangular brown costal spots; at the base and below the cell-end black dots, before the border and close at it 2 rows of blackish-brown spots. Hindwings white, towards the margin brownish. Expanse of wings: 16 mm. Costa Rica.

N. artata *Schs.* (32 k) greatly resembles *biconica*, the head and thorax are of a purer greyish-white, *artata*. the forewings more silvery white, coarsely strewn with brown and black, the anterior transverse line only indicated by small darker scales. Hindwings of a darker brown. Expanse of wings: 16 mm. Costa Rica.

N. solvita *Schs.* (32 k) is grey, dusted brown and particularly in the basal part of an ochreous tint *solvita*. with 3 indistinct, finely dentate transverse lines and brownish shades in the middle and before the border being dusted darker brown. Hindwings greyish-brown. Expanse of wings: 20 mm. Brazil (Castro).

N. biumbata *Schs.* (32 k) is somewhat larger, thickly dusted reddish-brown and strewn with black; *biumbata*. on the forewings the median line and median shade are absent, the posterior transverse line is in the shape of a broad band and faded; the anterior line is connected with a dark cellular and costal-marginal spot. Hindwings brownish. Expanse of wings: 24 mm. Costa Rica.

N. apera *Drc.* (= *involuta* *Dyar*, *exposita* *Dyar*, *laguneulariae* *Dyar*) (32 a) is grey, dusted brownish, *apera*. and strewn with black on the forewings; costal margin dotted brown; anterior transverse line curved, quite indistinct, the posterior one broken up into dots; an antemarginal dark line with small black vein-stripes. Hindwings whitish, towards the margin brownish. Expanse of wings: 16 mm. Distributed from California to Bolivia and Peru. — Larva flattened, in the colouring varying from white to reddish, haired blackish with a double dark dorsal line and 2 undulate lateral lines; on the 2nd and 3rd rings there is a white spot, bordered subdorsally with black. It lives on willows.

N. bistriga *Mschlr.* (32 k) is very easily recognizable by the light creamy ground-colour, the forewings *bistriga*. being feebly strewn with red-brown; 2 straight red-brown transverse lines do not reach the costal margin; in front of the border there is besides an indistinct, curved line. Hindwing towards the apex brownish. Expanse of wings: 20 mm. Porto Rico.

2. Genus: **Nigetia** *Wkr.*

This genus, established for the only species known, differs from the comprehensive following genus preponderantly by the upper median and lower radial vein of the forewing being petioled; sometimes also the middle one is con-petioled. The palpi are erect, the second joint, owing to its dense sealing, almost quadrangular.

N. formosalis *Wkr.* (= *melanopa* *Z.*) (32 b). Head black; vertex, thorax, the 2 first abdominal segments, *formosalis*. and the forewings are white, the latter with a faint yellowish tinge and a black costal stripe and an oblique median band; an antemarginal band of a leaden colour, partly dusted brownish. Hindwings brownish-grey. Expanse of wings: 18 to 24 mm. United States, Carolina, Texas.

3. Genus: **Roeselia** *Hbn.*

In this genus, like in the preceding, all the subcostal veins are present; the upper radial vein of the forewing rises from below the upper cell-angle. The palpi are roughly sealed, mostly long, turned forward or downward, only in rare cases slightly upward; everything else like in *Celama* and *Nola*. Antennae of the ♂ in the American species doubly combed almost to the tips.

R. intermedia *Drc.* (32 e). Like in the following species the ♂ exhibits beneath in the cell of the forewing *intermedia*. an oblong excavation. White, faintly dusted brownish, with 3 almost quadrangular, black, dusted silvery costal-marginal spots and a similar dusting before the posterior transverse line between the cell and proximal margin; before the border being dusted with red-brown there is an undulate line. Hindwings white, dusted brownish-grey towards the margin. Expanse of wings: 22 mm. Costa Rica.

R. pernitens *Schs.* exhibits on the silvery white forewing, beside the costal-marginal spots, only one *pernitens*. line in front of the margin being dusted brown below the apex. Hindwings white, towards the margin brownish. Expanse of wings: 16 mm. Costa Rica.

- biconigera*. **R. biconigera** *spec. nov.* (32 c) shows in the ♂ beneath on the forewing a deep, circular excavation in the cell on the border between the middle and distal third. Head, thorax and forewings white, strewn with silvery grey. Collar with a brownish band. The forewing shows at the base and middle of the costal margin one blackish-brown, triangular spot each; of the other marking there is mostly little to be noticed; in a distinctly marked ♂ there is a curved antemedian and a feebly dentate posterior transverse line which, as usually, encircles the cell in a bow; in the lower half, at its proximal side, there runs a sharply dentated line; the apical third of the white costal margin with 3 small black spots. Marginal area and undulate line grey-brownish. Hindwings light grey. Expanse of wings: 15 to 17 mm. Type from Espiritu Santo in the Coll. DRAUDT; besides from Costa Rica, Colombia (FASSL).
- placens*. **R. placens** *Schs.* (32 c). The silvery-white forewings are in the costal halves and close in front of the margin dusted red-brown, and exhibit postmedian and antemarginal transverse lines of a leaden colour; in and below the cell-end there is a red-brown scale-spot, above it a triangular costal-marginal spot. Hindwings brown. Expanse of wings: 18 mm. Costa Rica.
- deglypta*. **R. deglypta** *spec. nov.* (32 c) differs from *placens* by the greater extent of the red-brown dusting of the costal margin, so that only the proximal-marginal part below the submedian fold remains purely white; behind the cell the brown costal area is bordered by a broad, olive-grey crescentiform or reniform band, likewise extending to the submedian fold. Marginal part of the costal margin greyish-white with 4 small black costal spots; apex cut off by an oblique white band. Border otherwise dusted red-brown; the cloudy grey undulate line projects in the middle roundish towards the margin; as the lower border of the white marginal streak it extends in a pointed tooth close to the margin. Hindwings brownish. Expanse of wings: 19 mm. 1 ♀ from the Songo (Bolivia) in the Coll. FASSL.
- leucogramma*. **R. leucogramma** *Dogn.* exhibits in the female an oblong excavation below the upper subcostal vein. Forewings white, dusted reddish ochreous, and strewn with black as far as in front of the border; black antemedian and postmedian transverse lines being on the averted sides bordered with white, between them a faded median line, and before the margin an undulate line being distally bordered with white. In the cell before and in the middle small heaps of black and ochreous-yellow scales. Hindwings white, towards the margin yellow-brownish. Expanse of wings: 24 mm. French Guiana.
- bifiliferata*. **R. bifiliferata** *Wkr.* (= *terulosa* *Drc.*) (32 c) is a widely distributed and common species, recognizable by the silvery grey forewings exhibiting the costal margin dusted with a rusty colour and the double anterior transverse line turning at the proximal margin back almost as far as the base; the posterior transverse line is double, too; in front of it there is another dentate, black line; between it and the marginal line there are black vein-streaks. Head and collar are rusty brown. Extremely variable in size. Expanse of wings: 15 to 27 mm. From Mexico, Costa Rica, Panama, Colombia and Brazil.
- polyodonta*. **R. polyodonta** *Schs.* (32 c) greatly resembles the preceding, but it has a white head and collar; the forewings are white, uniformly dusted and the median line is much longer, almost digitiformly dentated; the antemarginal line touches the margin at 3 places. Fringes speckled black and white. Hindwings white, at the margin brownish-grey. Expanse of wings: 20 to 22 mm. From Mexico to French Guiana.
- micans*. **R. micans** *Hmps.* (= *fasciata* *Rothsch.*) (32 c) is silvery white, scantily strewn with black, with a triangular black spot at the base and a square one in the middle of the costal margin. The transverse lines indistinct; an undulate antemarginal line. Expanse of wings: 18 to 24 mm. Colombia. Bolivia.
- canescens*. **R. canescens** *spec. nov.* (32 d) resembles *micans*, with a little broader and rounder wings; the ground-colour of the forewings is a delicate bluish-grey, scantily strewn with brown, the marking quite similar, all the transverse lines more distantly remote, the costal spot triangular; the small heap of scales is not situate in it, as in *micans*, but below its apex. Hindwings brownish-grey. Expanse of wings: 22 mm. 1 ♀ from Orosi (Costa Rica) in the Coll. FASSL.
- argyraspis*. **R. argyraspis** *spec. nov.* (32 d) is a tiny, silvery-white insect; the forewings are tinged greyish-brownish towards the margin, and exhibit at the base and middle of the costal margin one blackish-brown, triangular spot each like in the preceding; the scaly spot strewn with silvery scales and touching the apex of the triangular spot, in the middle of the cell, is very large, round, jet-black, and exhibits silvery scales, being arranged concentrically to its margin, so that the impression of a ring is created; the indistinct postmedian line encircling the cell grows thicker below the submedian fold and form a V with the thick black median line touching it at the proximal margin. Costal margin spotted black; undulate line of the usual shape, smoky grey. Hindwings towards the margin with a faint brownish hue. Expanse of wings: 12 mm. 1 ♂ from the Upper Rio Negro (East Colombia) in the Coll. FASSL.
- unilinea*. **R. unilinea** *Schs.* (32 c) is a small species very easily recognizable by the blackish-brown postmedian band; the forewings are otherwise silvery white, at the margin dusted brown, with an undulate antemarginal line and a dark spot at the base of the costal margin. Expanse of wings: 16 mm. Costa Rica.

R. trocha Dogn. (32 d) is a little similar, though much larger and with a much broader median band; *trocha*. near the apex of the forewing there is yet a large, triangular costal-marginal spot. Hindwing brownish-grey. Expanse of wings: 24 mm. Ecuador.

R. leucostola Hmps. (= *melicerta* Drc. p. p.) (32 d) has on the white forewing only one large, quadrangular costal-marginal spot in the middle, one small spot each at the base and subapically at the costal margin, an interrupted nebulous antemarginal line with 3 projectures towards the margin, the middle one of which forms a large marginal spot. Expanse of wings: 26 mm. Costa Rica.

R. rufescens Dogn. (32 d) is white on the forewings, densely dusted red-brown, except the basal half of the proximal margin, a spot in the cell-end and two spots at the apex and proximal angle; the transverse lines are indistinct, the veins behind the cell striped black; instead of the undulate line there is only an oblique streak below the apex. Hindwings purely white. Expanse of wings: 26 mm. Ecuador.

R. causta Hmps. (32 l) is very similar, the whole wing more densely dusted red-brown, and with a distinct, bluish-grey undulate line; behind the median line there is a double transverse line; the space between the latter and the undulate line remains white. Hindwings white, towards the margin brownish. Expanse of wings: 20 mm. Bolivia.

R. niveicosta Schs. (32 d) is still more densely dusted red-brown, but the costal margin remains here broadly whitish; below it the dusting is still darker; the 3 transverse lines are only indistinctly marked by the light ground-colour. Expanse of wings: 22 mm. Brazil (Castro, Paraná).

R. versicolora Dogn. (32 e) is a large species with white forewings dusted grey and red-brown and strewn with black, with black antemedian and postmedian transverse lines, the latter of which is distally bordered with white; a similar undulate line is before the border, in front of it black sagittiform spots; in the median area at the costal margin a triangular spot with black dusting below it, and at the cell-end 2 small heaps of black scales with a whitish crescent behind them. Expanse of wings: 20 to 28 mm. Peru, Colombia. The posterior transverse line may also consist of larger black cuneiform spots (= ab. 1 Hmps.). In another form: **rufofusa** nom. nov. (= ab. 2 Hmps.), the wing is intensely suffused with red-brown, and the veins are striped black beyond the distal transverse line.

R. effusa spec. nov. (32 e) is still larger than the preceding, much more slenderly built; forewings more pointed with a more oblique margin. The scaling is smoother and more lustrous, much less strewn with white. The marginal area exhibits only the clouded undulate line, the small, black sagittiform spots before it are absent; in the median area we see a kind of a blackish-brown median band. Hindwings snow-white, fringes very long. Expanse of wings: 30 mm. 1 ♂ from the Quindiu Pass in the Coll. FASSL.

R. hermana Schs. (32 l) has in the basal half of the costal margin a long, red-brown spot; the anterior and posterior transverse lines are double; the veins behind the latter, as well as the median are black, before the margin connected by an indistinct, dentate line. Hindwings whitish, towards the margin brownish, in the ♀ quite dark. Expanse of wings: 20 to 24 mm. Mexico, Brazil.

R. mediozona Dogn. (32 d) is white, strewn with brown and grey, with a very broad, brown median band bordered with black, in it a whitish spot in the cell-end, and at the costal margin 3 black dots; the veins in the marginal half marked blackish with a fine, dentate line behind them. Hindwings of a pure white. Expanse of wings: 28 mm. Ecuador.

R. perangulata Hmps. (32 d) is a large, easily recognizable species looking very much like the following. The forewing is of a purer white, only at the costal margin dusted brown, the posterior transverse line is pointedly broken on the lower radial vein; a brown macular band is before the margin, in the space between black vein-streaks. Hindwings lighter. Expanse of wings: 32 mm. Bolivia, Peru, Brazil.

R. pedanta Dyar (32 e) is very similar, the forewing more uniformly dusted brownish-grey; the posterior transverse line is pointedly broken on the lower median vein, a black median line is inwardly angled on the two median veins, before the margin there is a black, dentate, undulate line, behind it below the apex red-brown dusting. Hindwings darker brownish grey. Expanse of wings: 30 mm. Mexico, Costa Rica.

R. recurvata Dogn. (32 e) is likewise somewhat similarly marked, dusted much darker and more densely brown and strewn with black, the transverse lines less sharply broken and less strongly curved, on the averted sides bordered with whitish. Expanse of wings: 30 mm. Colombia.

R. pygmaea Hmps. (32 e) is smaller, with white forewings strewn with brown, the marking very much like in *pedanta*, with small heaps of leaden-lustrous, blackish-brown scales in the middle of the cell and at the end; in the middle of the costal margin there is a small, dark triangular spot; in the indistinct undulate line before the margin there are black vein-streaks. Expanse of wings: 16 to 23 mm. Brazil (São Paulo, Castro Paraná), Colombia (Tolima, Rio Negro).

- dentata*. **R. dentata** Dyar (32 l) is a greyish-brown species with a finely dentated anterior, and strongly dentated posterior transverse line and a round dark spot in and below the middle of the cell; undulate line indistinctly darker. Expanse of wings: 24 mm. Arizona.
- antennata*. **R. antennata** Btlr. (= *snelleni* Btlr. ♀) (32 l) is very similar, much lighter, more yellowish-brown, the posterior transverse line is not dentate, but inwardly a dentate line runs parallel to it. Hindwings white, towards the margin brownish. Expanse of wings: 18 mm. Amazon.
- divisa*. **R. divisa** Schs. (32 k). The forewings are in the basal half white, at the costal margin dusted brown and black, in the distal half grey, strewn with black, with a white apical spot; the anterior transverse line is indistinct, the posterior one broken up into dots, inwardly dusted darker blackish-brown; an ante-marginal, irregular undulate line; large heaps of scales are situate in the cell near the base, in the middle and at the end of it. Hindwings whitish, towards the margin brownish. — In *natama* Schs. the marginal area is much darker brown, strewn with black and white, in **fusca** *nom. nov.* (= ab. 2 *Hmps.*) the whole thorax and forewing are unicolorously covered with brown. Expanse of wings: 20 mm. Brazil.
- divisoides*. **R. divisoides** Schs. (32 k) is a very similar animal; the forewings are more uniformly white, at the costal margin and in the marginal area less dusted brown with more distinct transverse lines, the anterior one being distinctly dentate; the dentate median line more indistinct. Fringes speckled white and brown. Hindwings more uniformly brownish-grey. Expanse of wings: 18 to 22 mm. From French Guiana and Brazil (Rio de Janeiro, Santos).
- arana*. **R. arana** Schs. (32 f) is light brown, on the vertex white, on the thorax and the costa of the forewing at the base and before the apex strewn with greenish-black scales; in the middle of the cell and at the end there are large heaps of yellowish scales. Transverse lines distinct only near the costal margin, farther below dying away or broken up into dots, the posterior one double. Apex of the wing spotted white. Expanse of wings: 24 mm. Brazil.
- patina*. **R. patina** Drc. (32 e). Forewings brownish-grey, strewn darker, with black costal-marginal spots near the base and at the upper cell-end, the latter triangular, on it and in the middle of the cell there are large heaps of black scales; the posterior transverse line is broken up into dots, and before it there is a dentate transverse line; undulate line indistinctly dentate, behind it black marginal dots. Hindwings brownish-grey. Expanse of wings: 20 to 30 mm. Costa Rica.
- plumatella*. **R. plumatella** Drc. is very similar, distinguished by its larger size and lighter hindwings. Expanse of wings: 30 mm. Guatemala.
- rodea*. **R. rodea** Schs. (32 e) is likewise similar; forewings white, dusted brownish-grey, marked almost the same; the middle costal-marginal spot, however, is square and not so deep blackish-brown; the scaled spot in the middle of the cell is removed more to the end. Hindwings white, towards the margin brownish or quite greyish-brown. — **garuba** Schs. is of a purer white, scarcely dusted darker. Expanse of wings: 18 to 22 mm. Brazil (São Paulo; Castro; Paraná).
- flaviscapula*. **R. flaviscapula** *spec. nov.* (32 f) belongs to the same group. Head and thorax white, shoulder-covers ochreous-yellow. The white forewings are densely dusted light brown; the scheme of markings is the same as in the preceding species, but the sharply dentate transverse lines are much less distinct, their course almost only indicated by long, black vein-streaks. Very characteristic are the 3 small heaps of scales at the base, the middle and end of the cell: blackish-brown, towards the margin broadly ochreous-yellow. Hindwings light grey, towards the margin smoky brownish. Expanse of wings: 22 mm. 1 ♂ from Pacho (Colombia) in the Coll. FASSL.
- minuscule*. **R. minuscule** Z. (= *phylla* Dyar, *minor* Dyar, *patina* Drc. part.) (32 f) differs by the longer, more stretched shape of the wings, the markings otherwise very much like the preceding. The wings are dusted darker brown and densely strewn with black; instead of the basal costal-marginal spot there are only two small dots. Hindwings brownish-grey. — **fuscula** Grt. (= *conspicua* Dyar) is a larger and still darker brown form. — **postalbida** *form. nov.* (= subsp. 1 *Hmps.*) may be called a form from Bolivia with entirely white hindwings being brownish only at the apex. The species is otherwise widely distributed in North America (Texas, Colorado, California, Arizona), Mexico and Panama as far as Colombia. Expanse of wings: 24 to 30 mm. — The larva living on different oaks, is cream-coloured on the dorsum, beneath lighter with dark brown subdorsal bands, which are connected by transverse bands on the rings 7 and 11; it is light-haired, on the 3rd ring very long and pupates in a cymbiform web covered by bark.
- punctilinea*. **R. punctilinea** *spec. nov.* (32 f) is another species approximating *patina*. Forewings of a much purer white, only very scantily strewn with black. Marking the same, but all the transverse lines are on the veins thickly dotted black; the parallel line accompanying the posterior transverse line inside, is very much approached and forms on the inner-marginal vein a pointed tooth directed towards the base. Fringes of a yellowish lustre, in the basal half speckled brownish-grey. The white collar exhibits a blackish-brown transverse band. Hindwings brownish-grey. Expanse of wings: 26 mm. 1 ♀ from Orosi (Costa Rica) in the Coll. FASSL.
- stilbina*. **R. stilbina** *spec. nov.* (32 f) is of a purer grey than *minuscule* with entirely white hindwings, with a fine, dark marginal line; very characteristic are the two thick, black transverse lines: the anterior one almost

straight, only below the costal margin feebly curved, the posterior one encircles, almost in the shape of a quadrangle, the crescentiform, white cell-end macula, projecting the farthest towards the margin on the lower radial vein. The small heaps of scales of a blue lustre. Expanse of wings: 25 mm. Several ♂♂ from Pacho (Colombia) in the Coll. FASSL.

R. stictigrama Dogn. (32 f). Forewings white, dusted with a reddish ochreous yellow and strewn with black; an anterior row of black dots doubles towards the proximal margin; above the cell-end there is a black spot at the costal margin, as well as at the base; behind the cell there are besides 2 double rows of dots, and before the margin a third. The white hindwings, being brownish towards the costal margin, likewise exhibit a postmedian row of black vein-dots. Expanse of wings: 26 mm. Colombia. *stictigrama*.

R. nepheloleuca Hmps. (32 g) is very similar; on the forewings the space below the cell, in the cell-end and behind it remains purely white; the posterior transverse line is white, only at the proximal side marked by black dots; before the margin white streaks. Hindwings white, towards the margin brownish. Expanse of wings: 24 mm. Venezuela to Peru. *nepheloleuca*.

R. semicrema spec. nov. (32 g) greatly approximates the preceding, different by more intense cinnamon-coloured dusting along the whole costal margin and in the marginal area; the whole surface of the wings, moreover, is strewn with rusty brown scales; only the apex of the wings remains light whitish; marking otherwise similar, the black subterminal spots thicker. Hindwings dark brownish-grey. Expanse of wings: 19 to 24 mm. A number of specimens in both sexes from Colombia and Bolivia. — A ♂ from Bolivia I for the present consider to be a form of this species: **apiciplaga** form. nov. (32 g). The cinnamon colour is here confined to a large subapical spot, the costal margin remains more extensively white, the marking is finer; everything else is the same. *semicrema*, *apiciplaga*.

R. pulverea Dogn. (32 f) is a very large species of a slender structure, on the white forewings dusted yellowish-brown and strewn with black; anterior transverse line double, in the cell behind it a small heap of dark scales; in the middle of the costal margin a dark spot with 2 black dots and two below it; the posterior transverse line consists of minute, fine black teeth; undulate line faded dark; fringes speckled. Expanse of wings: 34 mm. Colombia. *pulverea*.

R. metaleuca Hmps. (32 g) on the greyish-brown forewings, exhibits white dusting at the costal margin, in it 2 velvety black spots at the base and in the middle; the posterior transverse line is broken up into dots. Hindwings of a pure white with a small median dot and a line beyond it, in the ♀ dark brownish-grey. Expanse of wings: 24 mm. Costa Rica, Colombia, Bolivia. *metaleuca*.

R. godalma sp. nov. (32 g). This greatly distinguished species resembles *metaleuca*. The ground of the wings is quite purely lustrous olive-brownish; all the black dusting or spots are absent except the two large, jet-black costal-marginal spots; costal margin and transverse lines purely snow-white, hindwings white with a brownish discal spot and margin. Expanse of wings: 22 mm. 1 pure ♂ from the Quindiu Pass (3500 m) in the Coll. FASSL. *godalma*.

R. decepta Schs. (32 g) is much smaller and more purely white, strewn with a dark brown, towards the margin darker brown, the other marking entirely like in *godalma*. Expanse of wings: ♂ 12 mm, ♀ 18 mm. Costa Rica. *decepta*.

R. medioscripta Schs. (32 h) is grey with a long, black costal-marginal spot at the base and a broad, slightly bent black median line which proceeds from a triangular costal-marginal spot; anterior transverse line very indistinct, the posterior one broken up into dots. Expanse of wings: 22 mm. Mexico (Orizaba, Jalapa), Costa Rica, Colombia (Quindiu), Bolivia (Rio Songo). — In a specimen from the Quindiu from the Coll. FASSL: **basifusca** form. nov. (32 h) the whole basal area as far as the median line is coloured dark brown. *medioscripta*, *basifusca*.

R. excelsior spec. nov. (32 g) is a magnificent species resembling *basifusca* in the scheme of markings. Head silvery white, thorax yellow mixed with cinnamon-brown. Basal half of the forewing lustrous straw-coloured, at the costal margin brownish and defined from the silvery white marginal area by 2 red-brown, uniformly rounded parallel lines. The marginal area is traversed by a double, sharply dentated black postmedian, the two lines of which are twice as far remote from each other below the 2nd median vein, as they are above it; the very pointedly dentated subterminal band extends almost to the slightly brownish marginal area, in which there is besides a very regular dentate line close in front of the brown fringes parted by a white line. Hindwings white, towards the margin behind the faint postmedian line tinged grey. Expanse of wings: 21 mm. Some specimens from Colombia (Cañon del Tolima) in the Coll. FASSL. *excelsior*.

4. Genus: **Celama** Wkr.

More than a dozen members of this genus being distributed in the whole world, have hitherto become known to us from America. As to the diagnose we refer to Vol. II. We simply state here, that the species are distinguished from the other genera by the subcostal being only 3-branched, only the uppermost branch and the two lower ones being present. The uppermost radial vein comes from below the upper cell-angle.

- carilla.* **C. carilla** Schs. (32 k) is a tiny, greyish-white animal, mixed with brown on the thorax; on the forewings, with a brown base of the costal margin and a triangular spot in the middle of the costal margin, there are antemedian and postmedian transverse lines, the latter composed of dots; below the middle costal-marginal spot a scaled spot at the cell-end which is continued to the proximal margin, below the lower median vein as a line parallel to the posterior transverse stripe; before the margin and on it one brown line each. Hindwings white, dusted darker. — The median area may be darkened in the shape of a band: f. **mediofasciata** nov. (32 b) (FASSL, Orosi). Expanse of wings: 12 to 18 mm. Costa Rica.
- scruposa.* **C. scruposa** spec. nov. (32 b) resembles the preceding, but it has somewhat narrower wings, and is much more coarsely scaled, chalky white, thickly strewn with black scales; the median area darker by blackish-brown scales in the shape of a band, the scheme of markings otherwise just like in *carilla*; in the cloudy undulate line and before the fringes there are distinct black vein-streaks. Hindwings lighter. Expanse of wings: 18 mm. 1 ♀ from Orosi, Costa Rica; type in the Coll. FASSL.
- aphyla.* **C. aphyla** Hmps. (32 l) shows on the grey forewing strewn with black 2 dentate transverse lines being sharply broken in an acute angle; besides an irregularly dentate, antemarginal line. Hindwings white, towards the margin darkened. Expanse of wings: 22 mm. California.
- semirufa.* **C. semirufa** Dogn. (32 b) is easily recognizable by the forewing being white in the smaller basal half and distally red-brown; in the middle of the cell a small heap of black and silvery scales, beyond the middle black vein-dots and small, white, costal-marginal dashes. In contrast with the following, the border between white and brown is a straight line. Expanse of wings: 16 mm. Colombia.
- dimera.* **C. dimera** Dogn. (32 b) differs from the preceding, very similar species by the bent black line separating the white area of the wing from the brown one; a postmedian, undulate, black line and, besides, 2 somewhat more indistinct, antemarginal lines. Expanse of wings: 16 mm. French Guiana.
- Sect. II. Antennae of the ♂ with ciliary tufts (*Aradrapha*).
- pustulata.* **C. pustulata** Wkr. (= nigrofasciata Z., obaurata Morr.) (32 b) is white; forewings with heaps of black scales at the base of the cell, as well as in and behind the cell-end; at the base of the costal margin there is a brown spot strewn with black; a similar, almost triangular median band is distally bordered by the punctiform postmedian line; before the margin an irregularly dentate line and on the margin a dark macular band. The white hindwings are brownish towards the margin. Expanse of wings: 22 mm. Northern Atlantic States.
- cilicoides.* **C. cilicoides** Grt. (32 k) differs from the preceding by the median band being placed much more towards the margin and being tinted only quite pale brown. A small heap of blackish-brown scales with a leaden-lustrous admixture. Expanse of wings: 18 mm. Atlantic States.
- appelia.* **C. appelia** Hmps. (32 k) is likewise somewhat similar, in the basal half dusted brownish with accumulations of brown scales in the base, middle and end of the cell; before the middle a brownish transverse line; the brown dusting before the postmedian is much less sharply defined. Expanse of wings: 20 mm. Brazil (São Paulo).
- sorghiella.* **C. sorghiella** Riley (= portoricensis Mschlr.). Forewings purely white with a brown base of the costal margin; small heaps of scales as in *appelia*; the brown dusting before the posterior transverse line is absent, only beyond the lower cell-angle it is exhibited in the way of spots; in the lower marginal half there is an undulate line. Expanse of wings: 16 mm. Most widely distributed from North Carolina through Dutch Guiana as far as Argentina. — The larva is yellow or greenish with a brimstone-coloured dorsal stripe bordered on both sides by brown, and stiff hairs on tubercles; in the sides there are somewhat longer hair. It lives in a web on *Sorghum vulgare* and turns into a yellow-brownish, darker granulated pupa.
- triquetrana.* **C. triquetrana** Fitch. (= trinotata Wkr., sexmaculata Grt.) (32 b) is grey, densely dusted brown, on the collar with a red-yellow band and brown spots on the shoulders. The forewings exhibit at the costal margin 3 red-brown spots, the two posterior ones of which exhibit small heaps of scales at their lower ends; 3 oblique, partly dentate transverse lines cross the wing. Hindwings whitish, towards the margin brownish with a small median dot. Expanse of wings: 20 mm. North America, California. — Larva light yellow with blackish dorsal and subdorsal lines and white hairs on tubercles. It only eats the upper epidermis of the leaves of *Hamamelis virginica* and pupates in a scaphoid casing with small pieces of bark pasted on it.
- minna.* **C. minna** Bllr. (= hyemalis Stretch.) (32 a). White, strewn with brown; before and behind the middle there are oblique rows of dots, before the margin an irregularly undulate line; at the base of the costal margin with a red-brown, oblong spot. Expanse of wings: 26 mm. California.
- ovilla.* **C. ovilla** Grt. (32 b) is an insignificant, greyish-brown, darker strewn, small animal with indistinct, partly punctiform transverse lines and small heaps of scales at the base, middle, and end of the cell. Hindwings

white, brownish towards the margin; abdomen yellowish. Expanse of wings: 20 mm. Atlantic States. — The dark-haired larva lives on oak and pupates in a scaphoid web on the upperside of a leaf.

C. clethrae Dyar (32 l) differs from the very similar preceding species by its more bluish-grey, *clethrae*. not brownish colouring, and somewhat more distinct marking. Hindwings darker. Expanse of wings: 20 mm. New York. The diaphanous white larva with irregular, grey dorsal and lateral stripes lives on *Clethra atrifolia* and pupates in a triangular web covered with bark.

C. albirufa Schs. (32 b). Forewings white, strewn brownish, and at the costal margin and border dusted *albirufa*. red-brown, traversed by 2 very oblique lines broken up into dots; from the lower cell-angle a red-brown median shade runs to the proximal margin. Expanse of wings: 14 mm. French Guiana.

C. obliquata B. & McD. Dull grey; forewing with a straight, blackish-brown antemedian line and a *obliquata*. similar posterior transverse line slightly curved round the cell-end, with dark vein-dots; before the margin there is a lighter undulate line, on the border black dots. Hindwings brownish-grey, towards the base lighter. Expanse of wings: 16 mm. Florida.

II. Lithosiinae.

About 600 forms of this subfamily are known to us from America; like most of the palearctic *Lithosia*, they are mostly rather insignificant forms, being besides very rare. Whoever is not well acquainted with their life-history, may collect carefully in America without meeting with a single more conspicuous *Lithosiina*. Whilst in Europe particularly *Oeonistis quadra* and some small *Lithosia* in the plains, *Endrosa* in the alpine districts, are met with in greater numbers, in Eastern Asia especially the *Stigmatophora*, in the East Indies mostly species from the genera *Chionaema* and *Mitochrista*, in Australia *Eutane* and certain *Asura* resembling them exteriorly, and whilst in New Guinea and the Moluccas the hemochrome *Chionaema* of the *fulvia*-(*liboria*)-group belong to the characteristic insects: there occur in America chiefly blackish-yellow forms exhibiting the very same orange bands as a very great number of butterflies of other families (genuine *Arctiinae*, *Geometridae*, *Dioptriidae*, *Syntomidae* etc.) do; they are lively, often diurnal, small insects resting on blossoms, but they must sometimes be also beaten out of the bushes and may even come to the lamp in the evening; as, for instance, the genus *Josiodes* with nearly 30 American forms, many *Agylla*, the *Euryptidia*, *Cisthene* etc.

Of the American *Lithosiinae* scarcely 30 forms occur in the nearctic region; the whole rest is tropical or subtropical. It is surprising how rapidly the *Lithosiinae* decrease if one proceeds from the tropics towards the towards the polar region. Close at the tropical frontier (for instance near Rio de Janeiro) *Lithosia* may be taken by the lamp every evening, but a few degrees of latitude more to the south they disappear altogether, whereas in the equatorial districts they had almost become troublesome to us. In the tropics the glass of the lamp is sometimes covered with the snow-white *Agylla*-species marked with a dark inner-marginal stripe, of which we meet with but very rare examples in the south, and which are entirely absent in the United States.

Like in the palearctic *Lithosiinae*, the greater number of the 108 American genera (i. e. 66) are monotypical or they at most have two, often very similar forms. The reasons why the *Lithosia* are so very difficult to comprise by morphological criteria, we have mentioned in Vol. X, p. 118, where we stated the fact that in the Indian fauna the inclination applicable for the whole subfamily of separating an uncommonly great part of the species also with respect to the genus, is distinctly exhibited. About 150 genera have been established for the Indian *Lithosiinae* numbering about 1000 forms, so that, on an average, only 7 to 8 forms fall to each genus. About the same proportion is found in the American forms, about 600, with more than 100 genera. We may infer therefrom that the *Lithosia*-species have been more extensively specialized than most of the other groups of butterflies, and that the judgment of the value of their generic characteristics has not yet found the right criteria for their systematization. As we have already elsewhere pointed out, the venation appears to be often influenced by scent-spots or other, evidently secondary formations, so that the deviations of the veins may not be considered to be of the phylogenetic importance it usually has in other groups. The names of the genera *Paraggylla*, *Neaggylla*, *Paratalara*, *Epitalara*, *Neothyone*, *Paramulona*, *Neomulona* etc. already show that their mostly single species do not deviate too far from the *Talara*, *Mulona*, *Thyone* etc.

This explains also why the few genera counting more than a dozen forms mostly comprise an uncommonly large number of species, the *Afrida* with 30, the *Illice* with almost 60, the *Agylla* even with 76 exclusively American forms.

As to the characterization of the subfamily vide Vol. II, p. 50; in Vol. X, p. 118 to 120, it is supplemented. To the biological statements made there we may add yet, that in the American fauna we find the

colouring and marking of the *Lithosiinae* to be far more similar to that of other groups, than we find it in Europe, Asia or Australia.

About the early stages of American *Lithosiinae* we as yet know very little; but just this ignorance makes us presume that they behave like their palearctic allies, feeding on lichens and keeping hidden on trunks and in fissures of stones.

The frailty and delicate bodily condition of nearly all the *Lithosiidae* prevents them from being able to fly across big oceans. Thus America has not one single *Lithosia* in common with the other continents, and among the 250 genera there are even only few that have representatives on both hemispheres.

Also with respect to the imagines our knowledge of the American *Lithosiinae* is very deficient; nearly half of all the species known have been only published in the two last decades, and this gives us an idea of the great number of forms unknown to us, which may yet be discovered in the vast forests of South America. The *Lithosiinae* are mostly not common, often even very rare and besides lead a very obscure life. The larvae very rarely appear; owing to their insignificant exterior and their feeding from lichens nobody has yet been induced to breed them on a large scale. Nor are they easy to handle in the collections; their delicacy and mostly very brittle scaling make their preservation and preparation very bothersome. Their scientific operation likewise offers great difficulties already stated above by the fact that a very great part of the species could not be combined to one genus with another species. It is G. HAMPSON's desert to have completed and rendered more scientific the Catalogue of the American *Lithosiinae* which has been very incomplete at KIRBY's times — by his fundamental „Lepidoptera Phalaenae of the British Museum“. We therefore follow this commendable work, though in about the reverse order, so as to agree with the treatises of the same groups in the Indo-Australian (Vol. X) and palearctic (Vol. II) faunae, which are arranged according to the Catalogue of Staudinger-Rebel. Numerous figures of species, of which only one specimen has become known, have been copied from HAMPSON's work.

1. Genus: **Chrysozana** Hmps.

Proboscis well developed; the short palpi porrect; shaft of antenna somewhat thickened, in the ♂ covered with ciliary pencils. On the forewing the upper median vein proceeds from below the cell-corner, from which the lower radial vein originates; the two upper ones rise in common from the middle of the transverse vein; the second lowest subcostal vein is absent, the uppermost anastomoses with the costal. Veins on the hindwing greatly simplified: the upper median and lower radial vein coincide, the middle radial is absent altogether, the upper radial is petioled with the subcostal. The whole distal half of the hindwing is beneath in the ♂ covered with rough scent-scales. The genus contains only 1 small species.

croesus. **C. croesus** Hmps. (33 g) is golden on the thorax and forewing, with a black margin; hindwings carmine with a black marginal band; abdomen orange, above red, in the ♀ with a black apex. Expanse of wings: 20 mm. Bolivia.

2. Genus: **Boenasa** Wkr.

It contains only one most peculiar, small animal, the hindwing being stunted to a small triangular rudiment hidden below the base of the proximal margin of the forewing; instead of it the whole inner-marginal part is so very much developed that it assumes — without veins — the function of a normally sized hindwing; the latter, for this purpose, is turned over in such a way that the original under surface becomes the upper surface, so that its proximal margin has become the functional costal margin. The forewing is otherwise like in the preceding genus, though the two upper radial veins are separated; the lowest subcostal vein rises yet below the cell-angle, the two next ones are petioled. The palpi are longer and more slender than in *Chrysozana*.

nigrorosea. **B. nigrorosea** Wkr. (33 f). Anterior body and forewing blackish-brown with an oblique red antemarginal band, a red discal spot and small stripes at the base of the proximal margin. Abdomen and hindwings red, the latter with dark fringes. Expanse of wings: 26 mm. Hayti.

3. Genus: **Metallosia** Hmps.

Similar as *Chrysozana*, but with long-haired posterior tibiae and two first joints of the tarsi. The proximal angle of the hindwing is extended to a lobe, and long and thickly haired.

chrysotis. **M. chrysotis** Hmps. (33 f) is golden on the anterior body, with a bronze-green head, collar and shoulder-covers. Abdomen red with a brown anal tuft and orange lateral tufts. Forewings brown, with golden scales; hindwings carmine with a black apical spot and orange inner-angular fringes. Expanse of wings: 16 mm. Brazil.

nitens. **M. nitens** Schs. is brown on its body and forewings, suffused with a metallic green, the hindwings being unicolorously brown. Expanse of wings: 20 mm. Costa Rica.

4. Genus: **Deua** Wkr.

On the forewings also like the preceding genera. Veins of the hindwings extremely simplified by the absence of the upper median and middle radial, and by the upper radial anastomosing with the subcostal vein. Only 1 species:

D. imbutana Wkr. (34 a) is coppery brown; the forewing exhibits a blackish cell-spot in an elliptic, *imbutana*. yellowish-grey spot extending as far as the proximal angle. Expanse of wings: 14 mm. Brazil.

5. Genus: **Bruceia** Neum.

Proboscis stunted, palpi short, erect, forehead with a round projection, antennae finely serrate. Abdomen roughly haired. Veins like in *imbutana*, but on the forewing the upper radial vein rises from below the upper cell-angle, on the hindwing the upper radial vein rises on a long pedicle together with the subcostal. Only 1 species:

B. pulverina Neum. (= *hubbardi* Dyar) (33 g) is grey, with an ochreous-yellow tint and strewn *pulverina*. with black. On the forewings there are median and antemarginal, indistinct transverse lines of a lighter ground-colour, being inwardly tinged darker, a small, lighter discal spot between. Hindwings lighter. Expanse of wings: 24 to 36 mm. Colorado, Arizona.

6. Genus: **Haematomis** Hmps.

Very much like the preceding; on the forewing the two lower radial veins rise with the upper median vein from the same place; the uppermost subcostal vein anastomoses with the costal, all the rest as in *Bruceia*.

H. mexicana Drc. (33 g). Head and metathorax light yellow, shoulder-covers rosy, body otherwise *mexicana*. blackish-brownish. Forewings more grey with yellow longitudinal stripes. Hindwings light yellow, in the ♀ brownish-grey with a light yellow longitudinal stripe. Expanse of wings: 22 to 24 mm. Widely distributed and common in Arizona, Mexico, Guatemala.

H. radians Dyar (33 g) is very similar, of a somewhat broader shape of the wings with finer longitudinal *radians*. stripes on a darker, more reddish-brown ground. Hindwing whitish, dusted brown, with a whitish longitudinal stripe. In the ♀ the light stripes are entirely absent on the submedian fold and proximal margin, the hindwings being one-coloured brownish-grey; anal tuft rosy, so is a spot on the metathorax. Expanse of wings: 20 mm. Mexico (Orizaba, Guerrero).

H. uniformis Schs. (33 g) differs by one-coloured greyish-brown forewings, only the costal margin *uniformis*. is lighter. Head and thorax greyish-brown with a purple lustre; shoulder-covers are rosy. Hindwings whitish, towards the margin more or less brownish. Expanse of wings: 22 mm. Mexico.

7. Genus: **Diarhabdosia** Hmps.

Differs from *Haematomis* by the well developed proboscis. On the forewing the two lower radial veins and the upper median vein rise separately; the uppermost subcostal vein is only approached to the costal, not coalescent with it. Hindwings like in *Hypoprepia*. 8 species from tropical America.

D. minima Drc. (33 g) differs entirely from the other species. Head and thorax white, abdomen *minima*. orange. Forewings yellowish-white with interrupted, black, oblique transverse lines before, in and beyond the middle, and small, dark antemarginal spots. Hindwings orange. — **rosea** form. nov. (= ab. 1 Hmps.) (33 c) *rosea*. is suffused with rosy on the abdomen and hindwings. Expanse of wings: 20 mm. Mexico to the Amazon.

D. strigipennis Schs. (33 g) is much smaller, otherwise somewhat similar, distinguished by yellow *strigipennis*. hindwings and a yellow abdomen with a red apex; besides the markings of the forewing are different; in the proximal half they are confined almost only to the costal margin. Hindwing with a small blackish-brown apical spot. Expanse of wings: 16 mm. French Guiana.

D. cora Dyar (33 g) has its wings coloured and marked very much like in the following; the apical *cora*. spot of the hindwing is but very small; the species is on the whole much smaller (only 16 mm). French Guiana.

D. laudamia Drc. (= *pusa* Dogn., *peruviana* Schs.) (33 g) is a widely distributed, very common species. *laudamia*. Body yellow with rosy spots on the shoulder-covers and thorax. On the yellowish-brown forewings there are narrow, light-yellow, longitudinal stripes at the costal margin and on the cell-fold; the proximal margin, growing much broader towards the distal margin, is light-yellow, too. Hindwing yellow with a large dark apical spot, in the ♀ brownish-grey like the abdomen. Expanse of wings: 24 to 28 mm. From Mexico through the whole of Central America as far as Ecuador, Peru and Brazil.

D. pueblae spec. nov. (33 h) is very similar, with longer, more slender wings, and a more pointed *pueblae*. apex; the costal-marginal and discal stripes are finer, more distinct, not faded, the inner-marginal stripe somewhat narrower, more uniform. Hindwing at the proximal angle in the ♂ less extended, lighter yellow, the whole costal area grey as far as down to the lower median vein; anal tuft rosy. ♀ much darker, hindwings quite unicolorously blackish-grey. Expanse of wings: 28 to 30 mm. Described according to several couples from Tehuacan (Mexico [Puebla]).

D. coroides Schs. (33 h) likewise greatly resembles the preceding, but it is much smaller, the hindwings *coroides*. in the ♂ dusted brownish-grey except the proximal margin, in the ♀ all brown with white fringes. Expanse of wings: 18 to 20 mm. Costa Rica, Panama.

- melinda*. **D. melinda** Schs. (33 h) is very much lighter than the preceding, light yellowish-white; the discal longitudinal stripe much broader, also the hindwings are much lighter, almost white, with a narrow, brown marginal band. Expanse of wings: 20 mm. Costa Rica.
- mandana*. **D. mandana** Dyar (33 h) is larger, the light yellow proximal margin and distal margin is at the base and before the proximal angle interrupted by dark. Expanse of wings: 24 mm. Brazil: Castro (Paraná).

8. Genus: **Rhabdatomis** Dyar.

Differs from the preceding genus merely by the presence of the middle radial of the hindwing.

- zaba*. **R. zaba** Dyar (34 m) greatly resembles *Haematomis radians* (33 c). Body yellow, on the thorax with a rosy tinge. Forewings grey with yellowish longitudinal stripes at the costal margin, on the median and at the proximal margin. Hindwings whitish, at the proximal margin yellow, at the costal and distal margins darkened brownish-grey. Expanse of wings: 24 mm. Mexico (Orizaba).

9. Genus: **Hypoprepia** Hbn.

Proboscis developed, the porrect palpi project beyond the forehead; the short, thick antennae are very finely serrate, provided with ciliary pencils. Forewings with a curved costal margin; the upper median vein and the lower radials all rise separately, the upper one below the upper cell-angle. On the hindwing the middle radial is absent, the upper one is petioled with the subcostal vein, the lower one with the upper median vein. In their colouring and habitus they somewhat resemble the Arctiid genus *Cissura*.

- miniata*. **H. miniata** Ky. (= vittata Harris) (33 i) is scarlet, on the forewings with brownish-grey longitudinal stripes, on the hindwings with a similar margin and a dorsal spot on the abdomen. — In the form: **subornata** Neum. & Dyar the hindwings are carmine at the margin. Expanse of wings: 32 to 40 mm. Canada and United States. The larva is orange with a dark, on the posterior rings double dorsal stripe, black haired. Head black.
- fucosa*. **H. fucosa** Hbn. (= tricolor Fitch.) (33 i) is smaller, pale yellow-reddish, towards the margin rosy or also entirely rosy except the orange costal margin, and with much broader grey stripes; hindwings rosy, with a broad grey marginal band which in the form: **plumbea** H. Edw. is much narrower and provided with a fine yellow marginal line. Expanse of wings: 30 to 34 mm. From Canada to Texas.
- cadaverosa*. **H. cadaverosa** Streck. is a larger species with a yellow ground-colour, otherwise with the same longitudinal stripes; hindwings quite yellow, with a blackish-brown apical spot. — **dollii** Dyar is a smaller form of only 30 mm from Texas. The type has an expanse of up to 40 mm and flies in the United States (Colorado).
- inculta*. **H. inculta** Edw. (33 i) is dark blackish-brown; shoulders grey; the forewing exhibits only one narrow, yellowish-white longitudinal stripe below the median, dying away towards the margin. Hindwings whitish, towards the margin brownish. Expanse of wings: 34 to 36 mm. Colorado.

10. Genus: **Eurylomia** Fldr.

A few large, yellow species, the ♂ being distinguished by the proximal margin of the forewing and the costal part of the hindwing being very much widened in the shape of a lobe. Veins of the forewing scarcely different from those in *Hypoprepia*; but the upper radial vein comes from the upper cell-angle. The hindwings are likewise similar; the transverse vein, however, is strongly angled, and the upper median vein comes from below the lower cell-angle; the upper radial vein comes either together with the subcostal from the upper cell-angle, or it is petioled with it.

- ochreata*. **E. ochreata** Drc. (33 k) is orange-yellow; antennae, legs, and lateral stripes on the abdomen are black like the borders of the wings. Expanse of wings: 56 mm. Honduras.
- similliforma*. **E. similliforma** Rothsch. (33 i) is extremely similar, smaller and more slender, with broader wings, deviating by the blackish-brown abdominal end; the borders of the wings are more blackish-brown, dusted grey. Expanse of wings: 48 mm. Cuba?
- cordula*. **E. cordula** Bsd. (= curvinervis Fldr.) (33 i) is likewise similar, though easily recognizable by the two black longitudinal stripes of the forewing on the discal and submedian folds; the black colour exhibits a green lustre. Expanse of wings: 50 mm. From Mexico and Honduras.

11. Genus: **Neoplynes** Hmps.

Different from the preceding genus by the antennae being long-combed in the ♂; the 1st palpal joint long haired; 2nd and 3rd joints shorter. On the forewing the two lower radial veins rise from the same place. On the hindwing the middle radial vein is present and rises above the cell-angle, from which the lower radial vein comes together with the upper median vein. 2 species known of this genus.

N. cytheraea Drc. (33 k) has grey-brown forewings with light yellow costal-marginal and inner-marginal stripes, hindwings yellow, anteriorly brownish. Body orange-yellow; spots on the shoulder-covers and the underside are black. Expanse of wings: 34 mm. Mexico. *cytheraea*.

N. eudora Dyar (33 k) is a quite unicolorously yellowish white animal; only the neck is orange, and the combs of the antennae are black. Expanse of wings: 26 mm. Texas. *eudora*.

12. Genus: **Leptopepla** Hmps.

Distinguished from the preceding by longer, erect palpi and very thinly scaled wings. On the forewing the upper radial vein rises below the cell-angle, the 4 lower subcostal veins rise from one pedicle. On the hindwing the upper median vein rises from below the cell-angle.

L. procridiformis Hmps. (33 h) is a one-coloured blackish-brown, small animal, thinly covered with diaphanous scales. Expanse of wings: 22 mm. Bolivia, Peru. *procridiformis*.

13. Genus: **Euclemensia** Hmps.

Proboscis developed. Palpi long and thin, erect, projecting beyond the vertex; ♂ antennae with ciliary pencils. On the forewing the upper median vein rises before the cell-end, the two lower radial veins from the lower angle, the upper one from the upper angle; the 3 lower subcostal veins petioled, the two upper ones likewise. On the hindwing the upper median and lower radial vein are coalescent, the middle one from the lower cell-angle, the upper one being petioled with the subcostal. The genus was based upon 1 species captured by A. H. FASSL at the Quindiu Pass in Colombia.

E. umbrata Dogn. (34 m). Body white, on the thorax mixed with red-brown. Forewings white with brown antemedian, median and postmedian transverse lines, between the middle one and distal one dusted red-brown and strewn with black, with a black cell-spot; before the margin red-brown dusting. Abdomen and hindwings white. Expanse of wings: 26 mm. Colombia. *umbrata*.

14. Genus: **Adoxosia** Hmps.

Different from the preceding genus by somewhat shorter, straightly porrect palpi; on the forewing the upper radial vein rises from below the upper cell-angle; the two upper subcostal veins rise separately, the uppermost anastomoses with the costal; on the hindwing the upper median vein and the lower radial veins all rise separately. Only 1 species:

A. excisa Hmps. (33 k) is yellowish-white, dusted brown, on the forewing with indistinct, darker lines. Hindwings yellowish-white, at the margin brownish. Expanse of wings: 20 mm. Brazil (Rio de Janeiro). *excisa*.

15. Genus: **Eutelesia** Hmps.

Differs from *Adoxosia* by combed antennae; on the forewing the middle subcostal vein is absent; on the hindwing the middle radial comes from the middle of the transverse vein, otherwise not different. Up to this day 2 dark smoky brown species are known, very much like each other, from Colombia and Costa Rica.

E. vulgaris Drc. (33 k) is light ochreous brown, on the forewings strewn with dark brown, with an indistinct, brown, oblique antemedian line, black dots at the cell-end and beyond the middle, a double ante-marginal row of dark dots, and black marginal streaks. Forewings light yellowish. Expanse of wings: 20 mm. Costa Rica. *vulgaris*.

E. phaeochroa Hmps. (33 k) is red-brown, on the forewings darker, in the basal area and at the costal margin more ochreous-yellowish. Expanse of wings: 18 mm. Colombia. *phaeochroa*.

16. Genus: **Clemensia** Pack.

Proboscis developed, palpi erect, reaching the vertex; posterior tibiae with long spurs. Abdominal end long haired. On the forewing the middle radial vein rises from the lower cell-angle or above it, or on a short pedicle with the lower one; the upper one rises from below the upper cell-angle. Hindwings like in the preceding genus, but the middle radial comes more from near the lower cell-angle. — In 1900 only one dozen species were known (according to HAMPSON). Today the number has increased to almost three times as many. The insignificant species slightly recalling *Nola* by their habitus are confined to the neotropical region except two, one of which scarcely proceeds beyond the nearctic frontier, while the other goes as far as New England. The latter species being sometimes of a pure, sometimes dull whitish-grey, clouded or speckled, has, according to its colouring, received 5 different names.

- ophrydina*. **C. ophrydina** Drc. (= *pico*a Dogn.) (33 k) is a widely distributed common species having the antennae provided with ciliary pencils, similar to the following. Forewings white, spotted black, hindwings towards the margins brownish. Beneath the ♂ has a hairy costal fold of the forewing and a hair-tuft on the inner-marginal vein, the hindwing exhibits behind the cell a fold, being on both sides hairy, between the upper radial veins. Expanse of wings: 24 mm. Mexico; Guatemala; Ecuador.
- marmorata*. **C. marmorata** Schs. (33 i) has doubly combed antennae. Body and forewings white, the latter with red-brown and bluish-grey spots and a black, distally greyish-brown, post-median undulate line. Hindwing with a brownish marginal band. Expanse of wings: 20 mm. Brazil.
- fuscipes*. **C. fuscipes** Grt. is one-coloured brownish-black, on the forewings semi-diaphanous, strewn with dark scales. Expanse of wings: 22 mm. United States, Arizona.
- acropera*. **C. acropera** Jones (36 c) has likewise eombed antennae, and is sufficiently recognizable by the apex of the forewing being pointed in the shape of a sickle, with another projection in the middle of the margin. Body greyish-brown, abdomen lighter. Forewings white, dusted brownish, at the costal margin, apex and marginal area darker, with 3 irregularly undulated, brown transverse lines and a small black discal spot. Fringes light, at the apex, the middle of the margin and the anal angle blackish. Hindwings white. Expanse of wings: 20 mm. Brazil: Castro (Paraná).
- cinnamomata*. **C. cinnamomata** Schs. (33 l) has the same scent-markings of the forewings, on the hindwing the whole cell above is covered with yellow scent-scales. Body dark brown, mixed with white on the head and thorax. Forewings white, thickly strewn with blackish-brown. Median area in the inner-marginal half more densely dusted with small black spots, and a postmedian dentate transverse line. Hindwings blackish-brown, in the costal half more yellowish-white. The ♀ with a white anal tuft has more purely white forewings, without any brown dusting, and quite dark hindwings. Expanse of wings: 20 to 22 mm. Costa Rica.
- alembis*. **C. alembis** Dyar (33 k) shows beneath the same secondary sexual marks as the preceding species and is also above very similar, but the costal margin is not so very convex. On the forewing there is a very prominently black bent antemedian band, and in the middle a band composed of spots. Expanse of wings: 21 mm. Mexico.
- leisova*. **C. leisova** Dyar (33 l) has the same under surface and likewise a similar upper surface; the forewing is very much suffused with red-brown in the inner-marginal area; here the cell of the hindwing above also exhibits yellow scent-scales; the hindwings are otherwise much lighter, almost white, only at the margin brownish. Expanse of wings: 22 mm. Mexico.
- leopardina*. **C. leopardina** Schs. (33 l) is greyish-white on the forewings, with numerous rows of black spots. The species is easily recognizable by the submedian fold being coloured orange in the middle. The whitish hindwings are brownish towards the margin. Expanse of wings: 24 mm. Costa Rica.
- reticulata*. **C. reticulata** Roths. (33 l) is easily recognized by the neat, black, postmedian venation being edged by fine black transverse lines. Abdomen dark with an ochreous-yellow anal tuft. Expanse of wings: 18 mm. Peru.
- albata*. **C. albata** Pack. (= *albida* Wkr., *cana* Wkr., *irrorata* Edw., *patella* Drc., *philodina* Drc.) (33 l) is an extremely common and widely distributed animal and very variable. White, anterior body suffused with brownish, abdomen dark-banded. Forewing with numerous small black spots being arranged to transverse lines behind the middle, before the middle with two fine black transverse lines. — In the form: **umbrata** Pack. there appears a median shade dusted dark brown. The whitish hindwings exhibit a small, indistinct discal spot, traces of a dark line behind it and small faint spots before the margin. Expanse of wings: 22 to 28 mm. Through the whole of North America and Mexico as far as Costa Rica. — The larva is whitish green, with fine hair, and a dark brown head.
- urucata*. **C. urucata** Dogn. (33 l). Forewings very prominently dusted light red-brown in the lower cell-half, below it and behind it; otherwise strewn with black scales, and with a broad, black, curved antemedian band before the black anterior transverse line; in and behind the middle there are besides brownish transverse lines, and before the margin a black macular band. Hindwings yellowish-white. Expanse of wings: 24 mm. Costa Rica.
- maculata*. **C. maculata** Roths. (33 l) is a tiny animal, easily recognizable by the broad, blackish-brown antemedian band of a silvery blue lustre, and two large, similar spots in and behind the cell. Hindwings blackish-brown. It was described as *Disoidemata*. Expanse of wings: 14 mm. Peru.
- lactea*. **C. lactea** Stretch. (33 l). This species, described as *bisthene*, was formerly inserted in *Illice*. It is quite white, palpi black, antennae brown. The forewings exhibit single, small, brownish-grey spots before, in and behind the middle. The under surface is dusted brownish-grey. Expanse of wings: 18 mm. California.
- brunneo-media*. **C. brunneomedia** Schs. (34 m) [is to be recognized by the roughly haired costal margin projecting in the middle in the ♂, below the costal margin on the upper surface a roughly haired spot; on the under surface the usual hairy subcostal fold and a long hair-pencil on the proximal margin are present. The grey forewings,

dusted reddish-brown and strewn with a dark tinge, exhibit a broad, red-brown median band between 2 irregular transverse lines. Hindwings whitish, dusted brown. Expanse of wings: 20 mm. Costa Rica.

C. roseata *Hmps.* (33 m) has beside the subcostal fold a hairy spot in the cell-end and a curved hair-stripe in the submedian space on the forewing beneath. Forewings yellowish rosy with brownish spots and transverse lines. Hindwings light yellow. Expanse of wings: 26 mm. Brazil (Petropolis). *roseata*.

C. abnormis *Schs.* (33 m). Body yellowish white, also the forewings which, for the greatest part, except the costal margin and the apical third, are dusted chrome-yellow; the light apical third is bordered by an oblique dark line; an anterior transverse line is indistinct. Hindwings yellowish-white with a large dark spot in the middle of the margin. Expanse of wings: 18 mm. French Guiana. *abnormis*.

C. subleis *Schs.* (34 m). The ♂ exhibits only a large, brown scent-scale spot at and behind the cell-end of the forewing beneath, the hindwings above a long black scent-scale stripe below the costal margin. Forewings greyish-white, dusted brownish, particularly in the middle area; before and in the middle single black dots, behind it a dentate transverse line. Hindwings brownish-grey. Expanse of wings: 16 mm. French Guiana. *subleis*.

C. inleis *Schs.* (34 m) is a similar small species recognizable by the absence of the lowest subcostal vein on the forewing. The ground-colour is a light red-brown, scantily strewn with a darker tinge, with single small black dots; before the apex with a small dark spot. Hindwings yellowish-white with a small discal spot. Expanse of wings: 16 mm. Brazil. *inleis*.

C. erminea *Schs.* (32 m). Purely white, with black costal-marginal spots and a dark, blackish marginal area. Expanse of wings: 14 mm. Brazil: Castro (Paraná). *erminea*.

C. cernitis *Drc.* (33 m) is a larger, grey species. Forewings with a blackened base of the costal-margin; before and in the middle finely dentate, dark transverse lines; between the median line and a postmedian row of dots there is, at the costal margin, a triangular dark spot; before the margin a faded, twice angled line; at the margin itself there are black streaks and small spots. Hindwings blackish-brown. Expanse of wings: 20 mm. Mexico (Guerrero). *cernitis*.

C. distincta *Schs.* (33 m) entirely resembles *acropera* by the shape of the wings. The colour is blackish-brown with a leaden lustre; faded, darker lines are before and in the middle; a postmedian row of dots is distally tinged whitish; marginal area still darker with a line of whitish dots before the fringes. Expanse of wings: 20 mm. Trinidad. *distincta*.

C. centralis *Hmps.* (33 m). Ground-colour brown, vertex, collar and anal tuft whitish. Forewings strewn with black, with a black discal dot, and finely dentate, antemedian and postmedian transverse lines being outside bordered with whitish; behind them dark dots on the veins, and before the margin a line of white dots. Hindwings blackish-brown. Expanse of wings: 16 mm. Guatemala; Panama. *centralis*.

C. quinqueferana *Wkr.* (33 m) is a very small, red-brown species with indistinct oblique transverse lines and a dark discal spot. Fringes whitish, at the apex and middle darkened. Hindwings whitish, at the margin brownish. Expanse of wings: 14 mm. Widely distributed from Mexico, Panama through Brazil as far as Peru. *quinqueferana*.

C. russata *Hmps.* (= *vulgaris* *Drc.*) (33 m) greatly resembles the preceding, but it is much larger and differs by much lighter hindwings; on the forewing the transverse lines are more distinct and more complete. Expanse of wings: 24 mm. Costa Rica. — In the form: **nigriplaga** *nov.* (33 m) there is in the middle of the proximal margin a large, black spot; **infuscata** *form. nov.* (33 m) is entirely darkened by black. *russata*. *nigriplaga*. *infuscata*.

C. nubila *Jones* (33 p). Head, thorax and forewings yellowish white, the latter dusted red-brown and strewn with black, particularly in the basal and marginal area; close behind the base a curved black line, behind it a black nebulous band, followed by a row of dots; the middle is crossed by a strongly undulate transverse line; at the cell-end a black streak with a black dot below it; beyond the middle a row of black dots, and before the margin a black macular band, on the margin black streaks. Abdomen and hindwings white, the latter at the proximal and distal margins dusted red-brown. Expanse of wings: 18 mm. Brazil. *nubila*.

C. parapatella *Dogn.* (33 m) greatly resembles *nubila*, but it is larger, more grey, dusted brown, particularly the abdomen much darker; on the forewing there is no shade behind the black subbasal line. Expanse of wings: 22 mm. Ecuador. *parapatella*.

C. mesomma *Dogn.* (33 n) is one of the largest species, the wings very large and broad compared with the slender, slim abdomen. Greyish-white, dusted reddish-brown. Very characteristic is the small eye-spot formed by the cell-end spot being encircled by the median line. Expanse of wings: 28 mm. Colombia. *mesomma*.

C. mucida *Schs.* (33 p) is whitish, dusted and strewn with dark-brown, in the distal half of the median area suffused with red-brown in the shape of a transverse band, with the usual transverse lines and dots. Hindwings blackish-brown. Expanse of wings: 16 mm. Costa Rica. *mucida*.

- leucogramma*. **C. leucogramma** Dogn. (33 n) is a very small, dark red-brown species; the anterior and posterior transverse lines are on the averted sides tinged white; before the margin there is a series of white streaks. Hindwings whitish, dusted red-brown, particularly towards the margin. Abdomen darker brown. Expanse of wings: 16 mm. Panama.
- lacteata*. **C. lacteata** Hmps. (= *lactea* Rothsch. nec Stretch.) (33 n) is one of the smallest species. Body white, above mixed with brownish, forewings white, scantily strewn with a blackish brown; at the costal margin there are 4 black spots; from the second spot there proceeds a transverse line, from the third a row of dots; before the margin some more small, black dots and streaks. Hindwings white, towards the margin brownish. Expanse of wings: 14 mm. Peru.
- irrorata*. **C. irrorata** spec. nov. (33 n). Very much like the preceding, much more intensely strewn with brown; all the transverse lines broken up into dots, the posterior line double, towards the costal margin connected to strong, double dentate lines; before the margin strong, black, wedge-shaped streaks. Forehead all white, in *lacteata* brown. Expanse of wings: 14 mm. Peru (Cuzco).
- panthera*. **C. panthera** Schs. (33 m). Forewings white with numerous black dots. Abdomen ochreous-yellow. Hindwings white, towards the margin brownish. It differs from the very similar *ophrydina* by the abdomen and by the absence of the hairy spots beneath. Expanse of wings: 22 mm. Brazil (São Paulo).
- flava*. **C. flava** Jones (33 n) is a very easily recognizable species by the yellow colour; on the unmarked forewings the costal margin is blackish-brown as far as the middle. Abdomen above and hindwings lighter yellow. Expanse of wings: 22 mm. Brazil (Paraná).

17. Genus: **Anaulosia** Schs.

Characteristic by the apex of the forewing being sharply and pointedly extended, below which the border is deeply notched. Palpi longer and more slender than in *Clemensia*; venation of the forewings like there, except the upper radial rising from the upper cell-angle; veins of the hindwings like in *Barsinella*; the middle radial comes from the middle of the transverse vein.

- impolita*. **A. impolita** Schs. (34 m) is a one-coloured, small, brown insect, dusted leaden-grey on the anterior body and forewings; abdomen more greyish-brown. Expanse of wings: 18 mm. Costa Rica. The type was brought from Guapiles by SCHAUS and is in the National Museum of Washington.

18. Genus: **Paratalara** Dyar.

Proboscis developed, palpi short, porrect. On the forewing the two lower radial veins are long petioled, the upper one with the 3 lower subcostal veins on a joint pedicle; the middle subcostal vein is absent. On the hindwing the middle radial vein rises yet above the middle of the transverse vein, the upper end of which is strongly produced. Only one very small species forms this genus; the type is in Washington in the National Museum and originates from the Maroni River in Guiana.

- inversa*. **P. inversa** Schs. (34 m). Body white, on the abdomen mixed with brownish. Forewing in the basal half of the costal margin and in the apical third white, otherwise dusted blackish-brown, with a red-brown postmedian band, distally bordered by white. Apex likewise dusted red-brown. Hindwings lighter brownish, at the costal margin whitish. Expanse of wings: 16 mm. French Guiana.

19. Genus: **Epitalara** Dyar.

Proboscis developed; palpi longer than in the preceding genus. On the forewing the upper median vein is petioled with the lower radial, the middle one from the lower cell-angle, the upper one from the upper cell-angle. Hindwings like in the preceding, but the middle radial vein is altogether absent. Only 2 species:

- reversa*. **E. reversa** Schs. (34 m). Body and forewings white, strewn with brownish; apical half quite red-brown with a white apical spot in it; before and behind the middle indistinct dark transverse lines; before the margin single small white spots, fringes white and speckled blackish-brown. Hindwings brownish-grey. Expanse of wings: 14 mm. French Guiana.
- commixta*. **E. commixta** Schs. (34 m) is distinguished by scent-scale spots in the upper cell-angle of both wings beneath; on the forewing the median is at the base very much bent upwards. Anterior body white with a brown mesothorax, abdomen greyish-brown. On the white forewing with a broad, red-brown median band there are in the basal and marginal area faded, small, red-brown spots. Hindwings white. Expanse of wings: 18 mm. Costa Rica.

20. Genus: **Palpidia** Dyar.

The long, slender palpi are obliquely turned upwards; posterior tibiae with long spurs. Antennae ciliated, forewings narrow and long, veins like in the preceding genus, the 3 or 4 lower subcostal veins on one pedicle. On the hindwing the upper median and lower radial vein are petioled; the middle radial comes from above the lower cell-angle, the upper one with the subcostal from the same spot or petioled.

- pallidior*. **P. pallidior** Dyar (33 n) resembles *Agylla* and is ochreous yellowish-white, in the cell-spaces dusted brownish. Hindwings and abdomen white. Expanse of wings: 30 mm. Florida.

P. melanotricha *Hmps.* has much broader wings and much shorter palpi. Body white, mixed with ochreous-yellow, forewings white, watered with a golden brown, with long black haired scales before, in and behind the middle; before and behind the middle one dark brown transverse line each, and before the margin a white undulate line. Hindwings white, on the veins and margin brownish. Expanse of wings: 16 mm. Jamaica.

21. Genus: **Lerina** *Wkr.*

The genus contains only one animal entirely Arctiid-like, with a stunted proboscis, long haired palpi, and doubly combed antennae. Body shaggily haired. On the forewings the venation is almost like in the preceding genus, but the upper median vein rises unpetaled before the lower cell-angle; on the hindwings likewise; the two lower radial veins from the lower cell-angle, the upper one with the subcostal from the upper angle or on a short pedicle. The larva also entirely resembles an Arctiid by its habitus. Only 1 species:

L. incarnata *Wkr.* (= *robinsonii* *Bsd.*) (34 a) is jet-black, with a bronze green reflection on the wings; head, collar and shoulder-covers, and the abdominal end deep carmine, the latter with small black dorsal spots. Expanse of wings: 46 mm. — The larva is yellowish-white with long hair of a reddish fawn tint on black warts, head light red-brownish. It lives on *Asclepias pumila*. Mexico.

22. Genus: **Neotalara** *Hmps.*

Very closely allied to the following genus and distinguished almost only by the uppermost radial vein on the forewing being petioled with the 3 lower subcostals. Only 1 species:

N. metamelaena *Hmps.* (34 h). Body greyish-white mixed with brownish. Forewings greyish-white, strewn with brown, except the light marginal area, at the base of the costal margin and at the proximal margin more densely; brown postmedian transverse shades. Hindwings black, at the base, proximal and distal margin greyish-brown. Expanse of wings: 16 mm. Ecuador.

23. Genus: **Talara** *Wkr.*

Proboscis developed; the porrect palpi project yet beyond the forehead; antennae ciliated, abdomen roughly haired. On the long, narrow forewings the upper radial vein rises below the lower cell-angle, the 3 lower subcostal veins are petioled, the 4th is separated, the uppermost anastomoses with the costal vein. On the hindwings the upper median vein rises with the lower radial from the same spot or petioled, the middle radial is absent, the upper one coalesces with the subcostal vein. Numerous, mostly variegated, yellow and red, small species.

T. ditis *Btlr.* (34 a) is orange, anterior body and veins of the forewing coloured red; small stripes at the base of the costal margin; 2 dentate transverse lines and minute spots before and behind them are black. Hindwings dusted carmine. Expanse of wings: 14 to 16 mm. Brazil.

T. esperanza *Schs.* (32 n) is very similar, on the wings much paler, the whole body light scarlet, the black transverse lines finer, the whole space in front of the anterior transverse line thickly strewn with black. Expanse of wings: 14 to 16 mm. Costa Rica.

T. subcoccinea *Schs.* (34 a) is larger than the preceding; pale reddish-brown, strewn darker with 2 indistinct dark transverse lines in the inner-marginal half. Hindwings and abdomen light carmine. Expanse of wings: 20 mm. French Guiana.

T. ornata *Schs.* (34 a). Thorax blackish, spotted white; head and collar are like the forewings whitish, dusted brown; abdomen carmine, with a black apex, beneath whitish. At the proximal margin of the forewing there is before the middle a white, oblong spot and a red-brown spot behind the middle of the costal margin; at the cell-end a black dot and in the lower marginal half a faded, blackish band. Hindwings red with a black margin. Expanse of wings: 18 mm. French Guiana.

T. lepida *Schs.* (32 n) is brown on the anterior body and forewings, strewn with greyish-white scales, in the marginal area lighter. Abdomen and hindwings carmine, the latter with a red-brown marginal band. Expanse of wings: 14 mm. Costa Rica.

T. barema *Schs.* (34 a) is whitish, densely dusted brown, and on the forewings strewn with black; in and below the cell-end a small black spot, behind it another, still more indistinct spot. Hindwings and abdomen light yellow. Expanse of wings: 18 mm. Brazil (São Paulo).

T. leucocera *Drc.* (34 a) is yellowish-white on the anterior body and forewings, dusted red-brownish with a small dark median spot on the latter. Abdomen and hindwings light red. Expanse of wings: 18 mm. Brazil (Espírito Santo).

- alborosea*. **T. alborosea** *Rothsch.* (32 n). Anterior body and forewings of a silvery white, the latter scantily strewn with coarse black scales, before the middle of the proximal margin with a small, black spot, cellular spot and longitudinal stripe from the middle of the cell to the proximal angle. Abdomen and hindwings carmine. Expanse of wings: 16 mm. Venezuela.
- albipars*. **T. albipars** *Hmps.* (32 n) resembles an *Illice*: anterior body and forewings brown, mixed with whitish and strewn with black, with 2 large white spots at the proximal margin before and behind the middle. Abdomen and hindwings carmine, the latter with a dark marginal band. Expanse of wings: 14 mm. Ecuador.
- niveata*. **T. niveata** *Btlr.* (34 a) is white on the anterior body and forewings, scantily strewn with blackish, with small faded spots below the base of the cell and behind the middle of the proximal margin. Abdomen carmine, hindwings blackish-brown with a red spot at the base of the proximal margin. Expanse of wings: 18 mm. Brazil (Espiritu Santo).
- nigroplagiata*. **T. nigroplagiata** *Rothsch.* (34 a) greatly approximates *alborosea* and differs by the dark border of the hindwings; the dark spot at the base of the proximal margin is absent. — **suffusa** *form. nov.* (= ab. 1 *Hmps.*) is almost entirely strewn brown, so that there remains only a light spot of the ground-colour before the dark inner-angular spot. Marginal band of the hindwing broader. Expanse of wings: 16 mm. Venezuela; Bolivia.
- leucophaea*. **T. leucophaea** *Dogn.* (33 o) is dirty white, scantily strewn with blackish-brown, in the apical half of the forewing more densely so. Abdomen carmine, hindwings blackish-brown, at the proximal margin light red. Expanse of wings: 16 mm. French Guiana.
- cinerea*. **T. cinerea** *Hmps.* (33 p) is quite unicolorously blackish-brown, on the anterior body dusted grey, on the forewings strewn with black. Expanse of wings: 18 mm. Colombia.
- chionophaea*. **T. chionophaea** *Hmps.* (33 o) differs by its rosy abdomen. Head and thorax are more whitish, like the forewing in the apical half of the margin; in front of it somewhat more densely dusted brown. Expanse of wings: 20 mm. Brazil.
- violaceogrisea*. **T. violaceogrisea** *Rothsch.* (32 m) is on the anterior body and forewings more red-brown, with a purple lustre, abdomen and hindwings red-brown, both towards the bases lighter. Expanse of wings: 18 mm. British Honduras, Surinam, Ecuador.
- brunnescens*. **T. brunnescens** *Rothsch.* (33 o) is extremely similar, of a purer red-brown, only on the head and forewings near the cell-end strewn with whitish. Expanse of wings: 18 mm. Peru.
- megaspila*. **T. megaspilea** *Wkr.* (34 b) is orange-red on the anterior body, first abdominal ring and forewings; on the latter there is an antemedian, black transverse band striped metallic blue, growing narrower towards the costal margin, an oblong, small spot at the costal margin before the apex and a very large marginal spot below the apex. Hindwings blackish-brown, at the base red. Abdomen brown. Expanse of wings: 20 mm. Amazon.
- ignibasis*. **T. ignibasis** *Rothsch.* (33 o) is very similar, more scarlet, the marginal spot and antemedian spot flown together. Expanse of wings: 18 mm. Peru.
- togata*. **T. togata** *spec. nov.* (33 o) has scarlet forewings, being obliquely cut off by black in the marginal halves, with metallic blue longitudinal stripes. Anterior body and the first abdominal rings red, the rest black like the hindwings the bases of which are red. Expanse of wings: 20 mm. Described according to 2 ♂♂ from the Rio Negro (Colombia) from the Coll. FASSL.
- cara*. **T. cara** *Schaus* (33 o) is orange-red on the anterior body and forewings, the latter blackish-brown at the distal margin. Abdomen and hindwings blackish-brown, both towards the bases orange-red. Expanse of wings: 18 mm. Costa Rica.
- semiflava*. **T. semiflava** *spec. nov.* (33 o) differs from *cara* by its yellow, not orange-red colour, and twice as broad black margin. Expanse of wings: 18 mm. 1 ♀ from Muzo (Colombia), Coll. FASSL.
- coccinea*. **T. coccinea** *Btlr.* Head and thorax carmine, abdomen blackish-brown; forewings scarlet, towards the margin warming into orange with a black, blue-scaled spot behind the middle of the costal margin. Hindwing blackish-brown, at the base red. Expanse of wings: 20 mm. Amazon.
- miniata*. **T. miniata** *Rothsch.* (33 o) differs from *coccinea* by its quite blackish-brown hindwings and an ante-marginal band dusted brownish on the forewing. Anterior body and forewings are uniformly scarlet. Expanse of wings: 18 mm. Venezuela; Brazil.
- rubida*. **T. rubida** *Schs.* (33 o) is likewise very much like the preceding; the oblong black costal-marginal spot is entirely absent; behind the cell there is a dark shade; hindwing at the base red. Expanse of wings: 20 mm. Costa Rica.
- rufa*. **T. rufa** *Schs.* (33 n). Anterior body and forewings red-brown, strewn with a darker tinge; from the middle of the cell to the proximal margin an oblique black line; before the fringes speckled black and white there are some small darker spots. Abdomen and hindwings orange-yellow, suffused with rosy. Expanse of wings: 20 mm. Brazil; Castro (Paraná).

T. decepta Schs. (= *aenia* Rothsch.) (33 n). Anterior body and forewings blackish-brown with a *decepta*. leaden-blue reflection; vertex, and a median band interrupted in the middle on the forewing, are yellowish-white, as well as a tiny spot above the proximal angle. Costal margin in the basal half red-brown. Hindwings brownish-black, towards the base lighter; abdomen bluish-black. Expanse of wings: 20 mm. French Guiana; Surinam.

T. rufibasis Fldr. (34 c). Anterior body and forewings brownish-black, strewn with grey; black *rufibasis*. remain the costal and proximal margins, the cellular and submedian folds, and a faded postmedian transverse band. Abdomen earmine with an ochreous-yellow anus and black venter. Hindwings blackish-brown with a red inner-marginal area. Expanse of wings: 18 mm. Panama; Colombia.

T. bicolor Rothsch. (34 c). Head and thorax dark red-brown, abdomen carmine, beneath red-brown. *bicolor*. Forewings and hindwings likewise red-brown, the latter with a red inner-marginal area. Expanse of wings: 22 mm. Colombia.

T. grisea Schs. (34 c) is similar, though smaller, more blackish-brown, hindwings much lighter *grisea*. without a red inner-marginal spot. Expanse of wings: 18 mm. Brazil (São Paulo).

T. diversa Schs. (34 c). Head and thorax brown mixed with whitish; abdomen earmine with a dark *diversa*. anal tuft. Forewings whitish, strewn with brown; near the base a red-brown costal-marginal spot, another one in the middle, being united with a blackish-brown spot near the proximal angle; a postmedian, interrupted, whitish line, behind it at the apex red-brown. Hindwing red with a dark marginal band. Expanse of wings: 16 mm. French Guiana.

T. unimoda Schs. (34 c). Anterior body and forewings dull brown, the latter with traces of undulate, *unimoda*. light antemedian and postmedian lines, and a dark cell-dot. Abdomen and hindwing earmine, the latter with a blackish-brown marginal band. Expanse of wings: 16 mm. French Guiana.

T. rugipennis Schs. (34 c) is unicolorously blackish-brown except the red abdomen, on the more *rugipennis*. greyish-brown forewings roughly strewn with black and whitish scales. Expanse of wings: 16 mm. French Guiana.

T. bombycia Schs. (33 p). Head, thorax and abdomen blackish-brown, the latter on the first ring *bombycia*. whitish. Forewings likewise blackish-brown, with whitish, dentate, ante- and postmedian transverse lines enclosing a whitish-dusted discal area with a black cell-spot. Hindwings blackish-brown. Expanse of wings: 18 mm. Brazil (São Paulo).

T. phaeella Hmps. (32 m) is similar, much smaller; the median area of the forewings is not so decidedly *phaeella*. lighter, the posterior transverse line which in *bombycia* forms distally a sharp tooth on the upper radial vein, is here uniformly bent outwards in the middle. Expanse of wings: 14 mm. Panama.

24. Genus: **Barsinella** Btlr.

In the venation of the forewings it scarcely differs from *Talara*; the wings are broader and shorter; on the hindwings, however, the upper median and lowest radial vein are coalescent; the middle radial is present and rises above the lower cell-angle, the upper one rises on a long pedicle with the subcostal vein. The ♂ exhibits beneath on the forewing a hairy costal fold ending in a thickening in the middle of the costal margin; below it, round the cell-end, long hairs turned backwards; the costa of the hindwing is long-haired. Only 1 species known:

B. mirabilis Btlr. (= *expandens* Rothsch.). Body and forewings orange-yellow; the latter with *mirabilis*. 4 black, strongly dentate, transverse lines being broken up into dots before the margin; 1 long discal streak and a line before the fringes are earmine like the hindwings. Expanse of wings: 16 mm. Brazil.

25. Genus: **Aethosia** Hmps.

Distinguished by the concave indentations of the forewings above the proximal angle, of the hindwings in the middle of the margin. The venation very much like in *Talara*. Costal margin of the forewing strongly curved, the uppermost subcostal vein only nearer to the costal-marginal vein; on the hindwing the subcostal vein rises already before the upper cell-angle. The ♂ exhibits beneath a long, elliptic scent-scale spot above and below the median on the forewing, and a similar one on the upper surface above the subcostal vein. Venation otherwise like in *Talara*. Hitherto only 1 West Indian species known.

A. ectrocta Hmps. (34 c) is yellowish-white on the body and wings, on the hindwings and abdomen *ectrocta*. with a rosy tinge. Forewings strewn with blackish scales, and with 2 blackish transverse lines. Expanse of wings: 30 mm. Hayti.

26. Genus: **Paramulona** Hmps.

Differs from *Talara* by ascending palpi, in the ♂ combed antennae; on the forewing the two lower radial veins are petioled, on the hindwing the lowest with the upper median vein; the subcostal is removed

to the upper cell-end and rises from the same place with the upper radial vein. One small, West Indian species.
albulata. **P. albulata** H.-Schäff. (34 c). Head and thorax brown and black. Forewings pale brownish-yellow, densely and irregularly dusted purple-brown. Abdomen and hindwings pale brownish-yellow; antennae whitish, spotted darker. Expanse of wings: 24 mm. Cuba.

27. Genus: **Neomulona** Hmps.

Proboscis absent; palpi more slender than in the preceding genera and longer erect; ♂ antennae ciliated. On the forewing the upper median vein and the two lower radial veins rise close together from the lower cell-angle, the upper radial from the upper cell-angle. On the hindwing the middle radial is absent, the lower one coalesces with the upper median vein; the upper radial is petioled with the subcostal vein. 1 very small species from South Brazil.

torniplaga. **N. torniplaga** Jones (32 m). Head, thorax, and forewings light yellow; the latter exhibit 3 reddish-brown, dentate transverse lines partly broken up into dots; the median area between them dusted red-brown, in it a black discal dot. Abdomen and hindwings white. Expanse of wings: 16 mm. Brazil (São Paulo).

28. Genus: **Mulona** Wkr.

Differs from the preceding genus by the proboscis being fully developed. On the forewing the upper radial vein comes from below the upper cell-angle. On the hindwing the upper median vein is on a short pedicle with the lower radial, the middle one being absent; the subcostal vein rises already before the upper cell-angle. There are 4 species known from the West Indies, Colombia, and Panama.

phelina. **M. phelina** Drc. (34 c) is yellowish-white on the anterior body and forewings, on the latter with rows of black dots; fringes orange like the hindwings and abdomen. On the hindwing a blackish spot at the costal margin before the apex. Expanse of wings: 20 mm. Panama.

lapidaria. **M. lapidaria** Wkr. (34 d) is white, dusted brown, and on the forewing with black dots partly flown together to dentate transverse lines. Hindwing towards the margin brown. Expanse of wings: 22 mm. Hayti.

nigripuncta. **M. nigripuncta** Hmps. (32 l) greatly resembles *lapidaria*, forewings more yellowish-white, more profusely strewn with black; in the cell-end a short, orange stripe; a costal-marginal stripe beyond the middle being present in the preceding is absent here. Head and thorax more red brown. Expanse of wings: 18 mm. Porto Rico; Colombia.

grisea. **M. grisea** Hmps. (32 l) differs by much darker, blackish-brown hindwings. Forewings grey, densely dusted blackish-brown, similarly marked as the two preceding. Expanse of wings: 22 mm. Jamaica.

29. Genus: **Cincia** Wkr.

Differs from the preceding by the antennae being in the ♂ serrate or combed; on the hindwing the upper radial vein is petioled or unpetholed with the subcostal. All the rest as in *Mulona*. 4 species from the West Indies and Mexico.

pallida. **C. pallida** Btlr. (= mixta *Mschlr.*). Body blackish-brown, forewings strewn with black, and with black dots; costal margin white with 6 black dots and with yellow-dusted ante- and postmedian spots. Hindwings blackish-brown. The ♀ is of a more white ground-colour, more profusely strewn with black, with larger spots. Expanse of wings: 26 to 28 mm. Jamaica.

nephelistis. **C. nephelistis** Hmps. (34 g) is light rosy on the body and forewings, strewn blackish, partly in the shape of spots; veins black; costal margin of a deeper pink colour. Hindwings in the ♂ white, at the costal margin and apex darkened, in the ♀ quite dark. Expanse of wings: ♂ 24, ♀ 26 mm. Cuba.

mülleri. **C. mülleri** Dyar (34 d) is a larger species with dark brown forewings and body; base and end of abdomen carmine-rosy, so are small spots on shoulders and base of proximal margin on the forewing. Hindwings rosy, towards the margin dusted brown. Expanse of wings: 30 mm. Mexico.

conspersa. **C. conspersa** Wkr. (= sordida *Mschlr.*) (34 d) is greyish-white on the anterior body and forewings, on the latter strewn with black and dusted brownish with black dots. Hindwings blackish-brown with light fringes. Expanse of wings: 20 mm. Jamaica.

30. Genus: **Lycomorphodes** Hmps.

Proboscis well-developed, palpi porrect, not extending beyond the forehead; antennae thickened by a cover of scales. Abdomen roughly haired. On the long, narrow forewings the venation is very similar to that

of *Ascaptesyle*; the two lower radial veins are either petioled or entirely coalescent; the 3rd subcostal vein rises farther towards the margin than the lowest, it may also be absent, and the uppermost anastomoses with the costal. On the hindwing the upper median vein is on a common pedicle with the lower radial. Numerous species, several of which strongly recall the smaller *Correbia*- or *Correbidia*-species from the family of the Amatids (*Syntomidae*).

L. bipartita Wkr. (34 e) differs from the similar forms by a big hair-tuft on the anterior tibiae. *bipartita*. The body is blackish-brown, on the vertex, collar and shoulder-covers striped orange; just so is the hairing of the abdominal base and of the anal tuft. Forewing bluish-black, in the basal half with an orange-yellow longitudinal streak and a distally dentate, light yellow, postmedian transverse band. The hindwing is yellowish in the basal half. Expanse of wings: 22 to 24 mm. Amazon.

L. hemicrocea Dogn. (34 d) is blackish-brown on the body and basal half of the forewing, with a *hemicrocea*. metallic blue lustre, the distal half of the forewing orange-red with a brown longitudinal stripe from the cell-end to the margin. Hindwings brownish with a faint blue reflection, towards the costal margin ochreous-yellowish. Expanse of wings: 22 mm. Colombia.

L. tortricina Roths. (34 d) has a yellow body, on the collar and shoulder-covers striped brown. *tortricina*. Forewings slightly reddish-yellow, with a reddish-brown, oblique longitudinal stripe near the base, and a discal shade being twice interrupted; margin likewise brown. Hindwing yellow, towards the margin brownish. Expanse of wings: 22 mm. Trinidad; Venezuela.

L. suspecta Fldr. (34 d) extremely resembles *bipartita*, on the body more bluish-black; shoulder- *suspecta*. covers not striped yellow. Hindwings almost quite black. Anterior tibiae without a hair-tuft. Expanse of wings: 20 to 22 mm. Brazil (Espírito Santo, São Paulo).

L. correbioides Schs. (32 m). Body brown mixed with yellow. Forewings yellow with a faded brown *correbioides*. median band and a broad brown margin. Hindwings unicolorously brown. Expanse of wings: 16 mm. Costa Rica.

L. aracia Jones (33 p). Head orange-yellow, on the forehead brown; thorax and abdomen chocolate- *aracia*. brown, on the shoulders striped yellow, anal tuft yellow. Forewings brown with an orange-yellow stripe at the base of the costal margin and a narrow, faded, postmedian transverse band which is interrupted on the discal fold and forms below it a dentiform projection outwards. Hindwings brown with a grey lustre. Costal margin yellowish. Expanse of wings: 18 mm. Brazil (São Paulo).

L. calopteridion Joan. (34 d). Body brownish-black, on the vertex, collar and shoulder-covers striped *calopteridion*. yellow. Forewings blackish-brown with an orange-yellow basal half of the costal margin; from the middle of the cell to the margin a dark stripe extends. Hindwings blackish-brown. Expanse of wings: 20 mm. Brazil (Novo Friburgo).

L. eptatra Schs. (34 d). Body bluish-black, on the vertex and prothorax spotted orange. Forewings *eptatra*. black with a leaden lustre and a short orange stripe at the subcostal base. Hindwings blackish-brown. Expanse of wings: 20 mm. French Guiana.

L. strigosa Btlr. (= fumata Mschlr.) (34 d). Body blackish-brown, on the vertex, collar and thorax *strigosa*. striped orange. On the orange-yellow forewing the base of the costal margin is striped black, the cell-spaces dusted brownish; the marginal third is profusely dusted black, on the two upper radial veins striped orange. Hindwings blackish-brown. Antennae particularly thickly scaled. Expanse of wings: 18 mm. Porto Rico; Brazil.

L. sordida Btlr. (= coccinea Drc.) (34 h) is orange on the head and thorax, on the forehead, collar *sordida*. and shoulder-covers striped black. Abdomen blackish with a yellow anal tuft. Forewings orange, in the marginal third scantily scaled blackish, often in the shape of small dentate spots. Hindwings orange with a blackish-brown distal- and proximal-marginal dusting, or also nearly quite darkened by blackish-brown. In the ♀ the yellow colour is more orange-red, on the middle of the costal margin with a bluish-black spot. Expanse of wings: ♂ 20 to 22 mm, ♀ 26 mm. Distributed from Mexico through Central America as far as Colombia.

L. dichroa Dogn. (34 e) is reddish-yellow on the head and thorax, forehead and abdomen are blackish. *dichroa*. On the reddish-yellow forewing the marginal area is black with a silvery lustre, the proximal bordering in the middle dentate. Hindwings brown. Expanse of wings: 20 mm. Colombia.

L. bicolor Roths. (34 e). Anterior body and forewings are yellow, with a dull orange lustre; forehead, *bicolor*. exterior margin of the collar, tips of the shoulder-covers, and abdomen are brownish-black. The forewing exhibits a blackish streak from the cell-end to the margin, which is darker in the ♀ and runs more obliquely. Hindwings blackish-brown. Expanse of wings: ♂ 16 mm, ♀ 22 mm. Colombia; Brazil (São Paulo).

L. splendida spec. nov. (34 e) is a magnificent larger species. Forewings and body with a blackish- *splendida*. blue lustre. Median and inner-marginal vein orange-red, the former towards the margin expanded like a wedge;

beyond the middle there is at the costal margin a very broad, orange spot being continued to the proximal margin as an indistinct transverse band; basal part in the submedian area likewise orange. Hindwing carmine-rosy, with a black apical spot extending narrowly to the anal angle. Collar and shoulder-covers orange. Described according to 1 fresh ♂ from the Rio Negro (Colombia) Coll. FASSL.

flavipars. **L. flavipars** *Hmps.* (34 e) is easily recognizable by the carmine hindwings; abdomen carmine. Head and thorax orange, striped brown; ventral side and abdominal end yellow. Forewings blackish-brown, proximal margin and a broad postmedian band orange. — In the form: **reducta** *form. nov.* (= ab. 1 *Hmps.*) (34 e) the forewings are preponderantly yellow suffused with scarlet, only a small stripe at the base of the costal margin and one on the median at the cell-end being blackish-brown, the apex of the abdomen being black in this form. Expanse of wings: 20 mm. Panama; West Colombia.

coccipyga. **L. coccipyga** *Dogn.* (34 h) is distinguished by the uppermost subcostal vein on the forewing terminating freely into the costal margin, and on the hindwing by the costal vein coalescing with the subcostal almost to the middle of it. Anterior body and wings are blackish-brown, intermixed with scanty silvery-white scales, and with a greenish lustre. Abdomen carmine, the apex and underside blackish-brown. Expanse of wings: 16 mm. Curacao.

circinata. **L. circinata** *Dogn.* (34 e) is a very small species with narrow wings. Anterior body and forewings blackish-brown, strewn with metallie green scales. Hindwings blackish-brown, towards the base lighter; abdomen likewise blackish-brown, the penultimate ring above carmine. Expanse of wings: 16 mm. Colombia (Rio Aguaca).

31. Genus: **Ascapesyle** *Dyar.*

Proboscis developed; the straightly porrect palpi slightly project beyond the forehead. On the forewing the two lower radial veins are longpetioled, the upper one rising from below the upper cell-angle. On the hindwing the middle radial is absent altogether, and the upper radial anastomoses with the subcostal. Differing from *Lycomorphodes* by the uppermost subcostal vein of the forewing running separately; besides, the lowest rises more towards the margin than the third from the second, and on the hindwing, the upper median and lower radial vein come unpetioled out of the lower cell-angle. Only 2 species known with dark forewings and purple, dark-margined hindwings.

submarginata. **A. submarginata** *Schs.* is reddish purple-brown on body and forewings, while the hindwings are carmine with a black marginal band. Expanse of wings: 22 mm. Trinidad.

purpurascens. **A. purpurascens** *Rothsch.* (34 e) is very similar, of a darker red-brown colour with a purple lustre. On the carmine hindwings the marginal band is red-brown and somewhat broader, ascending also at the proximal margin. Expanse of wings: 20 mm. Peru.

32. Genus: **Prolobosia** *Hmps.*

Proboscis developed; palpi long and slender, erected over the vertex; tibiae with long spurs. Forewing with a lobular projection of the costal margin before its middle, behind it with a slight indentation. Veins like in *Seripha*; but the upper radial vein rises from the upper angle, the 3rd subcostal vein is on a common pedicle with the two lower ones, and the uppermost ends separately. Hindwings almost the same as in the preceding, but the footstalk of the upper radial with the subcostal vein is much longer. The ♂ exhibits above on the submedian fold a hairy cover. Only 1 species:

schistacea. **P. schistacea** *Rothsch.* (34 e) is unicolorously brownish with a silvery bluish-grey lustre. Expanse of wings: 20 mm. Peru.

33. Genus: **Urozana** *Hmps.*

Very similar to *Seripha*; distinguished by much shorter palpi covered by a frontal hair-tuft. Antennae not thickened; on the forewing the middle radial vein rises above the lower cell-angle, otherwise the venation is exactly the same. The hindwing is extended into a long anal lobe, behind it the wing is somewhat concavely indented. Only 1 species:

cordatula. **U. cordatula** *Drc.* (34 h). Head and thorax black, with a coppery lustre; abdomen orange, on the 1st and 5th rings spotted black, ventral side black. Forewing purple brown, towards the margin striped dark green. Hindwing orange-red with a black apical spot. Expanse of wings: 22 mm. Guatemala.

34. Genus: **Seripha** *Wkr.*

Well characterized by the antennae being somewhat thickened in the middle, and by reverted subdorsal hair-tufts on the abdomen. Proboscis well developed, palpi short, porrect; posterior tarsi without any middle spurs. On the forewing the two lower radial veins rise from the lower cell-angle, the upper radial from below

the upper cell-angle; the 3rd subcostal vein is absent, the uppermost anastomoses with the costal. On the hindwing the upper median vein coalesces with the lower radial; the middle one comes almost from the middle of the transverse vein, and the upper radial is petioled with the subcostal vein.

S. pyrrhocrocis *Fldr.* (34 h) is unicolorously light metallic silvery blue, the hindwings somewhat more purple-blue; anal hairing and inner-marginal fringes of the hindwings in the ♂ orange; in the ♂ the anal angle is extended and long haired. Expanse of wings: 22 mm. Colombia. *pyrrhocrocis.*

S. coelicolor *Wkr.* is much smaller, the anal angle of the hindwing not extended. Expanse of wings: 18 mm. Venezuela. *coelicolor.*

S. plumbeola *Hmps.* (32 m) is quite unicolorously blackish-brown with a purple-grey lustre. Expanse of wings: 16 mm. Cuba; Ecuador. *plumbeola.*

35. Genus: **Nodozana** *Hmps.*

Proboscis developed, palpi anteriorly projecting beyond the forehead, antennae of the ♂ with eiliary peneils. On the forewing the median veins and lower radial veins rise separately from the lower cell-angle, the upper radial from below the upper angle; the ♂ is beneath roughly sealed on both wings. Hindwings like in *Neozana*, but the upper median and lower radial vein rise together from the same place in the lower cell-angle. 16 species, most of which have only been described in the last years.

N. thricophora *Hmps.* (= *polyzona* *Drc.* part., *lacteociliata* *Rothsch.*) (34 g) is distinguished by the hindwing beneath being below the cell provided with long-haired fringes, and by a hairy fold at the costal margin of the forewing beneath, terminating into a hairy knob in the middle of the costal margin. Forewing blackish-brown with 3 yellow spots, of which the postmedian costal-marginal spot is below spotted red. Abdomen and hindwing red, the latter with a black marginal band. Head and thorax are brown, vertex, collar, and shoulder-covers orange. Expanse of wings: 16 mm. Panama; Venezuela. *thricophora.*

N. boliviana *Rothsch.* (32 m) is considerably smaller and of a paler colouring, owing to its being thickly sealed white. The spots on the forewing are larger, the postmedian ones flown together to a band bordered by brown lines. Expanse of wings: 12 mm. Bolivia. *boliviana.*

N. coresa *Schs.* (= *prepielloides* *Rothsch.*) (34 g) greatly resembles *thricophora*, but the hindwings of the ♂ are beneath without any fringes. Colouring and marking otherwise almost the same, the postmedian spots confluent and forming in the ♀ a dentiform projection behind the red spot. Expanse of wings: 16 mm. Brazil (Amazon, São Paulo). *coresa.*

N. rhodosticta *Btlr.* (= *rubripuneta* *Rothsch.*) (34 g) is likewise very similar to the preceding, but the ♂ forewing is without the hairy fold and the knob; instead of it, the inner-marginal area of the hindwing is expanded and provided with long and rough scales and fringes. On the forewing the basal spot extends almost to the costal margin. Expanse of wings: 16 mm. Brit. Guiana (Orinoco); Surinam; Amazon. *rhodosticta.*

N. jucunda *Jones* (32 m). Head, collar, and tips of shoulder-covers light golden-yellow, thorax otherwise coppery brown; abdomen earmine. Forewings coppery brown with golden-yellow spots margined by dark brown: a large one in the basal area, extending from the proximal margin almost to the costal margin, and two flown together to a postmedian band, with a red discal spot in them. Hindwings earmine. Expanse of wings: 18 mm. Brazil (Santos). *jucunda.*

N. pyrophora *Hmps.* (34 g) is distinguished by numerous blackish-brown scent-seal spots on the underside of the forewing: one in the middle of the cell and one at the cell-end and behind it, a hairy spot below it, and fringes in the middle of the costal margin. Body and wings yellowish-white; the forewings exhibit a black discal spot and a large, orange-red spot in the middle of the wing, which is parted by a streak of the ground-colour from the cell-end to the proximal margin. Expanse of wings: 18 mm. Bolivia. *pyrophora.*

N. fifi *Dogn.* has only one large scent-spot in, behind and below the cell-end on the under surface of the forewing. Anterior body and forewings blackish-brown, head and collar, as well as the hindwings earmine, the latter with a broad black marginal band. Expanse of wings: 24 mm. Ecuador. *fifi.*

N. cocciniceps *Dogn.* differs by its almost quite red thorax; the forewings have a slight blue reflection, and the marginal band of the hindwing is narrower. Expanse of wings: 22 mm. Colombia. *cocciniceps.*

N. fifina *Dogn.* (34 f) likewise greatly resembles the two preceding, but it is smaller and of a more red-brown ground-colouring, on the forewings with a copper lustre; also the head and thorax are brown. The red hindwings are black-haired at the proximal margin. Expanse of wings: 20 mm. Panama. *fifina.*

N. xanthomela *Drc.* (34 f). Head, thorax, and the basal half of the forewing are orange-yellow, so is the basal half of the costal margin; abdomen, and rest of the wings black. Expanse of wings: 18 mm. Amazon. *xanthomela.*

N. bellicula *Schs.* (34 f) is a smaller insect with whitish forewings with a red cell-spot, a broad, greyish-brown, white-spotted median band and a black, oblique, postmedian band; from there to the margin the veins *bellicula.*

are striped black. Hindwings yellowish-red with a black apical spot. The anterior body is brown, mixed with white, the abdomen red, anteriorly more yellow. Expanse of wings: 14 mm. French Guiana.

- hieroglyphica*. **N. hieroglyphica** Rothsch. (34 f) is twice as large as the preceding. Head, thorax, and forewings light golden-yellow; abdomen and tips of the shoulder-covers red; at the base of the costal margin there is a small black spot, at the proximal margin a red one; 2 antemedian, parallel, curved, black lines, from the exterior one of which a black streak extends to the strongly curved posterior transverse line; before the margin another, oblique, black line; there are yet red spots at the cell-end and before the border at the costal and proximal margins. Hindwings red with a small black apical spot. Panama to Ecuador.
- bifasciata*. **N. bifasciata** Rothsch. (34 f). Anterior body and forewings golden-yellow, head, shoulder-covers and metathorax spotted coppery brown. Abdomen and hindwings scarlet, the latter with a minute apical spot. Forewings with 2 broad, black transverse lines suffused with a metallic blue; before and behind them the costal margin is likewise blackish-blue. Expanse of wings: 18 mm. Peru.
- picturata*. **N. picturata** Schs. (32 m) resembles *pyrophora* above, but the scent-spots beneath are entirely absent; the middle orange spot is much smaller, and before and behind it there are reddish-brown transverse lines. Hindwings of a pure white. Expanse of wings: 26 mm. Costa Rica.
- roseofuliginosa*. **N. roseofuliginosa** Rothsch. (34 f) looks like an *Illice*: anterior body and forewings blackish-brown; neck with red rings, collar white; abdomen above red with a brown dorsal stripe, beneath dark brown; forewing with 2 small, white, postmedian spots at the costal and proximal margins, the latter with a small continuation on the submedian fold, directed towards the base; at the base of the proximal margin a small red spot. Hindwings light carmine with a blackish-brown marginal band. Expanse of wings: 20 mm. Brazil.
- endoxantha*. **N. endoxantha** Jones (34 f) is a somewhat larger species with a brilliant orange-yellow body. The brownish-grey forewing exhibits a broad, orange inner-marginal stripe and a spot behind the middle of the costal margin. Hindwing orange with a rather broad, black marginal band. Expanse of wings: 24 mm. Brazil.

36. Genus: **Metalobosia** Hmps.

Differs from the multiform genus *Illice* by its shorter, porrect palpi. On the forewing the lower median vein rises nearer to the cell-end and is strongly curved, the uppermost subcostal vein anastomoses with the costal. Also on the hindwing the lower median vein is placed nearer to the cell-end; the upper one anastomoses with the lower radial vein, on the inner-marginal vein the hindwing of the ♂ is extended to a point. The abdomen shows thick hair-tufts towards the end. 11 pretty, small *Lithosiinae* are reckoned hereto, with dark forewings and mostly dark red, black-margined hindwings.

- antras*. **M. antras** Dogn. (= *posteaerulescens* Rothsch. ♀, nec ♂) is on the anterior body and forewings metallic golden green, in the ♀ bluish-green. Hindwings and abdomen blackish-brown, the latter with yellow hair-tufts. On the hindwing the ♂ exhibits beneath, above the inner-marginal vein, like in the 4 following species, a fold set with roughly sealed fringes. Expanse of wings: 24 to 30 mm. Ecuador, Peru.
- ducalis*. **M. ducalis** Schs. (34 f). Head, thorax, and forewings are blackish-brown, with a metallic green lustre; the upperside of the posterior femora and long hair-tufts on the posterior tibiae are pink. Abdomen carmine with a black apex and long, white hair-tufts on the 4th ring. Hindwings deep carmine with a blackish-brown marginal band. Expanse of wings: 18 mm. Costa Rica.
- postflavida*. **M. postflavida** spec. nov. (34 b) has, like *ducalis*, in the lobular proximal margin of the hindwing beneath, fringes of long yellow scaly hairs; besides the cell is covered with scent-scales. Forewings and anterior body unicolorously brown with a brassy lustre. Hindwing yellow with a small, black apical spot; abdomen above yellow, beneath blackish-brown like the legs. Described according to a ♂ from the Rio Negro (Colombia) from the Coll. FASSL.
- chalcona*. **M. chalcona** Dogn. (34 f). Head and thorax blackish with a bronze-green lustre, the forewing more silvery-green, at the base golden-brown. Abdomen and hindwing blackish-brown, the former with a metallic green reflection. Only 1 ♀ known. Expanse of wings: 20 mm. Colombia.
- elis*. **M. elis** Drc. (34 b) is unicolorously blackish-brown, with a slight purple lustre, the hindwings somewhat lighter brown. The abdominal hair-tufts are orange. The ♀ exhibits a bronze-green lustre in the inner-marginal half of the forewing and on the thorax. Expanse of wings: 24 mm. Guatemala, Brazil.
- holophaea*. **M. holophaea** Dogn. (34 h) has on the hindwing a deep indentation before the extraordinarily large, long fringed anal lobe, and exhibits in the cell beneath a black scent-scale spot and behind it grey scent-scales. Body and wings are blackish-brown, the latter with a green metallic lustre. Expanse of wings: 20 mm. Colombia.
- varda*. **M. varda** Schs. (34 b), like the following species, is without any fringes above the inner-marginal vein of the hindwing. Anterior body and forewings blackish-brown with a coppery and purple lustre. Abdomen

above red, beneath black; hindwings carmine, towards the proximal margin more orange with a black marginal band. Expanse of wings: 22 mm. Brazil.

M. invarda Schs. (34 b) differs by the considerably broader black marginal band of the hindwing; *invarda*. the red abdomen exhibits on the 1st ring a purple brown dorsal spot, of the same colour are the two last rings and the underside. Expanse of wings: 20 mm. French Guiana.

M. postrubida Roths. is larger, with narrower forewings exhibiting a metallic blue lustre, like the *postrubida*. whole body does. Hindwing red, with a black marginal band, proximal margin and basal part. Expanse of wings: 26 mm. Colouring similar to that of *Nodozona cocciniceps*, *Ascapterys purpurascens*, *Talara lepida* etc. Panama.

M. atriloba Dogn. (34 b) has a still broader black inner-marginal area. Body and forewings of a *atriloba*. plain blackish-brown. Expanse of wings: 18 mm. Colombia.

M. cuprea Schs. (34 b). Head and thorax dark greyish-brown, abdomen carmine, at the base more *cuprea*. orange, beneath black. Forewings coppery golden, hindwings pink, with a brown apical spot. Expanse of wings: 24 mm. Brazil.

M. similis spec. nov. (34 b) looks entirely like *postflavida* described above, but it has narrow hindwings *similis*. without any scent-distinctions and a scarcely extended anal angle, but instead the abdomen, on the first ring, exhibits lateral yellow hair-tufts. The colouring is exactly like there, but the abdomen is also above blackish-brown, and the hindwing exhibits a black marginal band. Described according to 2 ♂♂ from the Rio Negro (Colombia) from the Coll. FASSL.

M. diaxantha Hmps. (34 g) is a deviating species in which the ♂ has no extended anal angle of the *diaxantha*. hindwing. Forewing brown with a coppery lustre and with a long, irregular, yellowish-white longitudinal stripe. Hindwing brown, only at the base pink. The anterior body is brown with a coppery lustre; the only specimen known is destitute of its abdomen. Expanse of wings: 14 mm. Amazon.

37. Genus: **Neozana** Hmps.

Proboscis developed; the slender, porrect palpi project beyond the forehead. Antennae of the ♂ at the base thickened by accumulated scales, ciliated. Forewing narrow with a round apex, in the veins not different from *Arhabdosia*, except the uppermost radial vein rising from the upper cell-angle, not from below it. On the hindwing the middle radial is present, the upper one rises on a long pedicle with the subcostal vein. Only 1 species:

N. germana Roths. (34 g). Head and thorax light yellow, abdomen carmine, anteriorly and *germana*. posteriorly yellow. Forewings light golden yellow, with yellow spots and stripes; hindwing light red, at the costal margin yellowish, with a small black apical spot. Expanse of wings: 18 mm. Peru.

38. Genus: **Arhabdosia** Dyar.

Distinguished from *Metalobosia* by still shorter palpi; on the forewing the upper median and lower radial vein rise from the same place, whilst on the hindwings they are petioled; the middle radial is absent, the upper one anastomoses with the subcostal vein. Only 1 species:

A. subvarda Schs. (34 h) is dull brown on the anterior body and forewings; abdomen and hindwings *subvarda*. are carmine, the latter with a black marginal band. Expanse of wings: 20 mm. French Guiana.

39. Genus: **Illice** Wkr.

A very numerous genus of small, often very similar species, mostly marked yellow and red. Proboscis well developed; palpi slender, erect, not extending as far as the vertex. On the forewing the upper median vein rises before the lower angle, the middle radial above it; the upper radial from above the upper angle; the 3 lower subcostal veins are petioled, the two upper ones terminate separately into the costal margin. On the hindwing the upper median vein rises close at the cell-angle, the middle radial above it; the upper one is petioled with the subcostal. The larvae, as far as they are known, exhibit long hairs on tubercles, and live on lichens.

I. sexalata spec. nov. (33 a) is greatly distinguished by the inner-angular lobe being split as far as *sexalata*. the base. Forewings with a blackish-blue lustre. Median and its branches orange; behind the middle an indistinct, ochreous-yellow band, at the costal and proximal margin of a brighter orange. Hindwing carmine-rosy with a black apical spot and anal lobe. Head and thorax blackish-blue, vertex, collar, and shoulder-covers striped orange; abdomen carmine with very long, orange-yellow hair-tufts on the dorsum of the first abdominal rings. 1 ♂ from the Rio Songo (Bolivia) (FASSL).

I. dives Schs. (33 a). The ♂ has, like in the following species, the proximal angle of the hindwing *dives*. extended very long in the shape of a lobe. Anterior body brown, abdomen carmine, collar, chest and legs yellow.

Forewings purple brown with a golden lustre; beyond the middle 2 yellow spots at the costal and proximal margins, which may flow together to a transverse band. Hindwing carmine, in the costal part light-yellow with a broad, blackish-brown marginal band; fringes orange. The ♀ has only a triangular spot at the proximal margin. Expanse of wings: 20 mm. Brazil.

- mediofasciata*. **I. mediofasciata** Rothsch. (33 a) differs from *dives* by its carmine (not yellow) chest and legs, the marginal band of the hindwing being narrower; the ♀ also has on the hindwing a complete transverse band somewhat strangulated in the middle. Expanse of wings: 18 mm. Bolivia.
- trimaculata*. **I. trimaculata** Jones (33 a) is much smaller. The collar is orange, the shoulder-covers light-yellow, the ventral side orange-yellow. The forewing shows 2 separate spots beyond the middle, and a longitudinal spot at the proximal margin near the base. Hindwing pink, on the submedian fold yellowish, only the apex being brown. Expanse of wings: 16 mm. Brazil: Castro (Paraná).
- fasciata*. **I. fasciata** Schs. (34 h). A considerably larger species, distinguished by its yellow abdomen and hindwings. The forewings marked like in the preceding, the 2 postmedian spots separated or confluent to a transverse band. Anal-angular lobe and fringes there particularly long and dark brown. The ♀, like in *dives*, has only a triangular inner-marginal spot. Expanse of wings: 26 mm. Brazil: Castro, São Paulo.
- endoxantha*. **I. endoxantha** Hmps. (33 a) greatly resembles the preceding, the 2 spots of the forewing separated, abdomen and hindwings orange, the latter towards the costa of a purer yellow; before the anal-angular lobe the hindwing shows a deep indentation. Expanse of wings: 24 mm. Brazil.
- schwarziorum*. **I. schwarziorum** Dyar (33 a) initiates a group in which the ♂ has a slightly, though still distinctly extended anal angle of the hindwing. The forewing shows a longitudinal band at the proximal margin near the base, and a postmedian transverse band being spotted carmine at the proximal margin. Expanse of wings: 20 mm. Mexico.
- triplaga*. **I. triplaga** Hmps. (33 a) greatly resembles the preceding by reason of the head, collar, and shoulder-covers being light yellow; the forewings much darker blackish-brown, in *schwarziorum* more silky grey, the postmedian spots separated, the lower one likewise with a carmine touch. On the hindwing the marginal band extends farther to the proximal angle. Expanse of wings: 20 mm. Paraguay.
- unifascia*. **I. unifascia** Grt. (33 a) is orange-yellow on the head and thorax. On the blackish-grey forewing, the basal inner-marginal spot is orange; it is confluent with the narrow transverse band being widened at the costal and proximal margins. Hindwings carmine with a very variable marginal band. The species is extremely variable. In the typical form the yellow thorax exhibits a blackish-brown median spot which is absent in *texensis mexicana* nom. nov. (= ab. 1 Hmps.). — In f. *mexicana* nom. nov. (= ab. 2 Hmps.) from Mexico the basal inner-marginal spot is not connected with the transverse band. — In the form: *tenuifascia* Harvey from Texas the transverse band is very narrow, while in the form: *kentuckiensis* Dyar from Kentucky it occupies a whole third of the wing and is broadly confluent with the basal spot at the proximal margin; the marginal band is here very narrow.
- interrupta*. — **I. interrupta** nom. nov. (= ab. 4 Hmps.) (33 a) from Alabama has the transverse band separated into two spots; *barnesii*. — the same is the case in the form: *barnesii* Dyar from Colorado, in which the whole anterior body is not yellow or orange, but grey; only the interior margins of the shoulder-covers and the base of the collar are yellow. The hindwings in this form may also be orange or yellow. The otherwise typical form with purely yellow hindwings may be denominated: *flava* nom. nov. (= ab. 6 Hmps.). — *perrosea* Dyar is the form from California (Los Angeles), in which the whole anterior body and also the transverse bands of the forewings exhibit a carmine-rosy colouring. — Finally there has been found another form: *flavicosta* nom. nov. (= ab. 5 Hmps.), in which the whole costal margin, from the base to the apex, is yellow, only one inner-marginal spot being present behind the middle. Expanse of wings: 18 to 24 mm. Distributed through the whole of North America as far as Mexico and Yucatan.
- angelus*. **I. angelus** Dyar (33 a) has more stretched forewings of a light slate-coloured lustre; the yellow transverse band is uniformly broad, somewhat oblique, and flows together with the inner-marginal band. Anterior body yellow, abdomen pink like the hindwings, exhibiting a grey apical band. Expanse of wings: 23 to 28 mm. Arizona, Mexico.
- hilaris*. **I. hilaris** Fldr. (33 b) has only yellow palpi, forehead and collar, whilst the rest of the anterior body is blackish-brown. Forewings purple brown with a golden-yellow spot at the base of the proximal margin, and a broad, straight, transverse band; fringes towards the apex yellow. Hindwings carmine with a dark brown costal margin growing narrower towards the margin. Expanse of wings: 18 mm. Venezuela.
- abala*. **I. abala** Schs. (32 n) is very similar, still smaller; the yellow postmedian band is slightly curved. Hindwings with a broader marginal band. Expanse of wings: 16 mm. French Guiana.
- discistriga*. **I. discistriga** Dogn. (33 b) is well characterized by the yellow wedge-shaped spot on the discal fold towards the margin; moreover larger than *abala*, hindwing very broadly bordered with a blackish brown; shoulder-covers and collar striped yellow, the thorax otherwise dark brown; apex of abdomen and underside blackish-brown. Expanse of wings: 20 mm. French Guiana.
- metoxia*. **I. metoxia** Hmps. (34 g). Head and thorax blackish-brown, vertex and collar orange-yellow like the palpal base and the dark banded legs; abdomen above carmine, beneath yellow. Forewings blackish-brown

with an orange-yellow spot at the base of the proximal margin, next to the base spotted red; at the anal angle a round spot likewise marked red; the median and its branches striped yellow; costal margin from the middle to the apex, and the distal margin yellow. Hindwings blackish-brown, only in the inner-marginal area carmine. Expanse of wings: 16 mm. St. Vincent; Grenada.

I. phaeiceps *Hmps.* (= *unifascia* *Drc.*, nec *Grt.*) (32 n) has only one large orange spot near the proximal margin; the blackish-brown forewings exhibit besides only a narrow orange stripe at the base of the proximal margin. Abdomen and hindwings carmine, the latter bordered with black, but not as far as the anal angle. Head and thorax, blackish-brown. Expanse of wings: 16 mm. Mexico (Presidio). *phaeoceps.*

I. subrubra *Schs.* (32 n) is unicolorously olive-brown on the anterior body and forewings; palpi, hindhead, and collar are carmine like the abdomen; of the same colour are the hindwings with a blackish-brown apical spot. Expanse of wings: 16 mm. French Guiana. *subrubra.*

I. longistriga *Rothsch.* (33 b). Head and thorax white, mixed with brown; collar and abdomen carmine-rosy. Forewing white, mixed with reddish-brown, on the submedian fold and proximal margin purely white. Hindwing carmine-rosy with a blackish-brown apical spot. Expanse of wings: 14 mm. Peru. *longistriga.*

I. biota *Dyar* (33 b) is very similar, larger; distinguished by yellowish collar and shoulder-covers. Forewing more slate-coloured with a yellowish-white streak on the submedian fold, which is red in the ♀ like the hindhead and collar. Expanse of wings: 18 mm. British Guiana. *biota.*

I. polyzona *Drc.* (33 b) is a more common, widely distributed species with a whitish head and thorax; the blackish-brown forewing exhibits a yellowish-white, rosy tinted spot at the base of the proximal margin, a quadrangular costal-marginal spot and a triangular inner-marginal spot behind the middle, being often flown together to a band: *conjuncta* *form. nov.* Hindwings light carmine with a black apical spot. Expanse of wings: 16 mm. From Mexico to Brazil (Rio de Janeiro); Dominica. *polyzona.* *conjuncta.*

I. subrufa *Bs. & Mc D.* (32 n) is light ochreous-yellow on the head, collar, and shoulder-covers; the rest of the thorax is greyish-brown; abdomen carmine-rosy. Forewings yellow, thickly dusted brown with a yellowish-white spot at the base of the proximal margin and 2 triangular postmedian spots. Hindwings light pink with a blackish-brown apical spot. Expanse of wings: 14 mm. Texas. *subrufa.*

I. pygmaea *Schs.* (32 n). One of the smallest species, with a blackish-brown head and thorax; vertex, collar and shoulder-covers whitish. On the greyish-brown forewings the transverse band is somewhat strangulated in the middle; along the base of the proximal margin there is a broad whitish spot. Hindwings yellowish-pink with a blackish apical spot. Abdomen carmine. Expanse of wings: 12 mm. French Guiana. *pygmaea.*

I. rosacea *Schs.* (34 i) initiates the species in which the anal angle of the hindwing is not extended. Distinguished by long hair-tufts on the last abdominal rings and very easily recognizable by the carmine-rosy forewings being dusted brownish-grey only towards the proximal margin. Anterior body grey, collar and abdomen carmine. Expanse of wings: 22 mm. Brazil (São Paulo). *rosacea.*

I. subjecta *Wkr.* (33 b). Head and thorax blackish-brown; vertex, collar and shoulder-covers partly carmine like the upperside of the abdomen; the latter beneath brown. Forewing blackish-brown with a carmine submedian fold and proximal margin as far as the large, red, inner-marginal spot beyond the middle; costal margin likewise pink as far as a small postmedian spot. — In forma: **packardii** *Grt.* this latter spot is much larger and round. Hindwing carmine with a blackish-brown apical spot. Expanse of wings: 20 mm. Widely distributed in the United States from New York to Texas. — The larva is grey, watered black, with a white spotted band across the dorsum, and a black, undulate lateral line; blackish hairs on orange tubercles. It lives on lichens of oaks from October to April. *subjecta.* *packardii.*

I. xanthospila *Hmps.* Thorax and forewings brown, head, collar, shoulder-covers, and abdomen carmine. At the proximal margin of the forewing an orange longitudinal band being confluent with the postmedian spot; at the costal margin behind the middle a second spot. Hindwings likewise brown, with a red base. Expanse of wings: 24 mm. Brazil. *xanthospila.*

I. injecta *Dyar* (33 b) differs from the other species by a yellow costal-marginal streak; the slate-coloured forewing exhibits besides a triangular inner-angular spot which is connected with an inner-marginal spot extending as far as the base. Anterior body yellow, or pink, on the thorax mixed with grey. Abdomen and hindwings pink, the latter with a grey apical spot. — f. **gamma** *Dyar* is without the yellow costal-marginal streak, and has a broader marginal band of the hindwing. Expanse of wings: 18 to 22 mm. North America. *injecta.* *gamma.*

I. striata *Ottolengui* (33 b) is a larger species, with grey forewings being lighter striped in the cell-spaces; costal and proximal margins narrowly pink, on the latter beyond the middle a small spot. Anterior body brownish-grey; neck, ends of shoulder-covers, and abdomen pink like the hindwings; the latter show a large, brownish-grey apical spot which, however, may also be very much smaller. f. **costimacula** *nom. nov.* (= ab. 2 *Hmps.*) exhibits besides a wedge-shaped costal-marginal spot. Expanse of wings: 20 to 26 mm. Florida, Colorado. *striata.* *costimacula.*

I. roseiceps *Hmps.* (33 c) is a larger species, with about the same colours and markings as *angelus*, *roseiceps.*

though the head, collar, and shoulder-covers are carmine and the postmedian spots both separated. The hindwings are red, turning yellow towards the apex. Expanse of wings: 24 mm. Paraguay.

- flagrans.* **I. flagrans** Hmps. (32 n) Head and thorax deep orange. Forehead and shoulder-covers black, abdomen pink. Forewing blackish-brown with an orange-yellow inner-marginal band being expanded to a conical spot near the proximal angle. Hindwing yellowish-scarlet with a broad marginal band. Expanse of wings: 18 mm. Argentina.
- calochroma.* **I. calochroma** Snell. (33 c) somewhat resembles *biota* in its colours and scheme of markings, but the light yellow stripe is not situate on the submedian fold, but along the proximal margin, and terminates rather abruptly before the anal angle. Expanse of wings: 24 mm. Argentina.
- rhodoeraspis.* **I. rhodoeraspis** Hmps. (32 n) has quite unicolorously greyish-brown forewings, only the extreme costal margin being narrowly red. Head and thorax greyish-brown; palpi, collar, chest and the greatest part of the legs carmine like the abdomen. Marginal band of the hindwing narrow. Expanse of wings: 16 mm. Argentina.
- minuta.* **I. minuta** Btlr. (33 c) entirely resembles *biota*, but it has a much more extensive apical spot of the hindwing, and the submedian streak of the forewing does not grow narrower towards the margin. Expanse of wings: 16 mm. Colombia.
- griseola.* **I. griseola** Roths. (33 c) is brownish-white on the head and thorax; the collar is carmine-rosy like the abdomen. The forewings are brownish-white, towards the proximal margin of a purer brown. Hindwings carmine with a greyish-brown marginal band. Expanse of wings: 18 mm. Brazil (Rio de Janeiro, Minas Geraes).
- bisigna.* **I. bisigna** Berg (33 c). Anterior body and ventral side are brownish-grey, mixed with white, collar yellow, abdomen carmine. Forewings brownish-grey, strewn white with 2 white postmedian spots at the costal and proximal margins. Hindwings pink with a grey marginal band. Expanse of wings: 20 mm. Patagonia.
- plumbea.* **I. plumbea** Stretch. (33 c). Anterior body and forewings brownish-grey, dusted white; the latter with a triangular white spot near the proximal angle. Abdomen carmine, beneath grey. Hindwings brownish-grey with a red spot in the inner-marginal half. Expanse of wings: 22 mm. Texas.
- rubricollis.* **I. rubricollis** Schs. (33 c) has unicolorously dull olive-brown forewings, the hindwings as in *plumbea*. The anterior body is blackish-brown; collar and abdomen carmine. Expanse of wings: 16 mm. French Guiana.
- tyres.* **I. tyres** Drc. (33 c). Anterior body and forewings grey, strewn with black, abdomen pink. Forewing with a black antemedian line between the cell and proximal margin, forming an angle on the inner-marginal vein; a postmedian, irregular, white band, being on both sides dentate below the costal margin, and towards the proximal margin proximally faded; before the margin darker nebulous spots. Hindwing pink with a black apical spot. Expanse of wings: 22 mm. Guatemala, Nicaragua.
- ditrigona.* **I. ditrigona** Schs. (33 d). Body orange with bluish-black spots on the forehead, shoulders and thorax. Forewings orange, densely strewn with a purple brown, with 2 orange longitudinal stripes in the basal part, and 2 triangular, postmedian spots almost touching each other. Hindwing orange with a black apical spot. In the ♀ the ground-colour is darker, the stripes and spots lighter yellow, the latter more separated. Expanse of wings: 20 mm. Brazil (Novo Friburgo).
- blanda.* **I. blanda** Jones (32 n) is somewhat similar, but the head and thorax are chocolate-brown, only the vertex, ends of shoulder-covers, and metathorax are yellow. On the forewing, in the basal part, there is a large, golden-yellow spot, the postmedian spots are united to a transverse band. Hindwings like in *ditrigona*. Expanse of wings: 22 mm. Brazil (Santos).
- lycomorphodes.* **I. lycomorphodes** spec. nov. (33 d) has a black body and forewing, the latter particularly in the marginal area strewn with scales of a silvery blue; at the base of the costal margin a deep-yellow spot, and behind the middle, a similar transverse band projecting in the middle pointedly towards the margin. Hindwing yellow with a black marginal band. Legs black with a whitish first tarsal joint. Described according to a ♂ from the Rio Songo (Bolivia) from the Coll. FASSL.
- persimilis.* **I. persimilis** Hmps. (33 c). Head, collar, and spots on the shoulder-covers are yellowish-white, forehead and thorax purple brown. Underside and abdomen yellow like the hindwings, the latter with a small brown apical spot. Forewings purple brown with 3 yellowish-white spots: in the ♀ the posterior spot of the costal margin is absent, and the under surface is dusted red. Expanse of wings: 22 mm. Brazil (Rio de Janeiro).
- cryptopyra.* **I. cryptopyra** Hmps. (33 d) differs from *persimilis* by its orange-yellow head and collar, with red abdomen and hindwings, the latter with black fringes. The forewings are marked the same, though more orange. Expanse of wings: 24 mm. Brazil.
- triplagiata.* **I. triplagiata** Roths. (33 d) likewise greatly resembles the preceding, but the head and thorax are yellowish-white, on the forehead and metathorax spotted black. Abdomen above red, beneath yellow. The forewings exhibit a slight grey lustre, and the yellowish-white spots are bordered with black. Hindwing with a black apical spot. Expanse of wings: 20 mm. Mexico.

I. petrovna Schs. (33 d). Head and thorax grey and black, collar and 2 spots in the neck yellow, abdomen orange. Forewings grey, on the veins striped black, near the base with a faded white band; in the middle there is a white band bordered with black, with small black discal spots in it, growing somewhat broader above and below the middle; a large white subapical spot and several small, dentate, antemarginal spots. Hindwings yellowish-white with a blackish-brown margin growing much broader towards the apex. Expanse of wings: 24 mm. Brazil.

I. nexa Brd. (= grisea Pack., deserta Fldr.) (33 d) is greyish-brown on the anterior body, with a yellowish white vertex and collar. Abdomen light yellowish. Forewings blackish-grey with a basal, light yellow inner-marginal spot and a slightly oblique postmedian band not reaching the costal margin and being a little strangled on the submedian fold. Hindwing light yellow with a large, blackish-brown apical spot. Expanse of wings: 22 mm. North America, California.

I. dorsimacula Dyar (33 d) is sandy grey on the anterior body and forewings, the latter with a small, dirty white spot near the proximal angle and a very small one above it in the middle. Hindwings and abdomen yellowish, with a rosy tint; hindwing with a dark marginal band. Expanse of wings: 20 mm. California.

I. liberomacula Dyar (33 d) is quite similar, but the forewings have, behind the lower cell-end, a double, silvery white spot, above which white dots extend as far as the costal margin. Abdomen and hindwings of a more dirty yellow. Expanse of wings: 17 to 19 mm. California (Los Angeles).

I. batialis Wkr. (= stupidalis Wkr.) (33 d) is an entirely different, larger animal. Body strewn with a greyish black like the forewings; the latter exhibit 2 irregularly dentate, antemedian and postmedian transverse lines, a darker antemarginal undulate line, and a row of dots on the margin. Abdomen and hindwings whitish, the latter darkened at the apex. Expanse of wings: 25 to 32 mm. Brazil (Rio de Janeiro, São Paulo).

I. faustinula Brd. (= fusca Stretch.). Light greyish-brown, on the forewings strewn with darker scales; a postmedian transverse band of a lighter grey, growing broader at the proximal margin, above it twice strangled. Hindwings somewhat lighter. Expanse of wings: 24 mm. California. — Larva blackish, head green, spotted black; across the dorsum a reddish-yellow line bordered with grey and black; black subdorsal lines interrupted by grey, and grey lateral bands; on yellow tubercles long blackish hairs being banded grey below the lateral stripes. It lives on lichens and pupates in a silky cocoon interwoven with hair. As *nexa* was bred from the same larvae, it is probably only a form of it.

I. orbonella Hmps. (33 e) is unicolorously light greyish brown on the anterior body and forewings. Neck, collar, abdomen, and hindwings orange, the latter with a black marginal band. Expanse of wings: 24 mm. Brazil (Castro; Rio de Janeiro).

I. citrina Drc. (33 e) is very well distinguished by the light golden green colour of the anterior body and forewings; forehead, vertex, shoulders, and metathorax spotted black; the forewings exhibit 2 black, dentate, antemedian and postmedian transverse stripes, from the postmedian stripe, on the middle radial, a stripe branches off to the margin. Costal margin at the base and before the apex black, so are the fringes. Abdomen and hindwings orange, the latter with a black apical spot. Expanse of wings: 20 mm. Panama. — In the form *intacta* Roths. from Peru the apical spot on the hindwing is continued as far as the inner-marginal vein as a black marginal band.

I. tessellata Dogn. (33 e). Head and thorax yellowish-white; vertex spotted brown, collar and shoulder-covers bordered with brown; abdomen yellow. Forewings golden lustrous white with 2 brown transverse lines, the distal one of which is expanded in the middle, where it encloses a white spot; both are connected by a brown longitudinal stripe continued to the margin; costal margin at the base and before the apex brown, like the fringes. Hindwing yellow, with a brown apical spot. Expanse of wings: 16 mm. Colombia: from the Rio Dagua.

I. opulentana Wkr. (33 p). Palpi and forehead of a deep blue; vertex and collar metallic green, thorax golden yellow, anteriorly with a blue spot; abdomen yellowish-white, with lateral, orange hair-tufts. Forewings golden yellow with a dark blue antemedian band, composed of 3 wedge-shaped spots, at the lower cell-end a small blue spot. Hindwing yellowish-grey with a dark marginal band. Expanse of wings: 20 mm. Amazon, Bolivia.

I. croesus Hmps. (= opulentana Hmps. ♀, nec ♂) (33 e) differs from *opulentana* by its pale carmine abdomen and hindwings; the forewing exhibits in the ♂ a complete blue transverse band also behind the middle from the upper median vein to the proximal margin, in the ♀ only 2 spots; in the latter the marginal band of the hindwing is broader. Expanse of wings: ♂ 16 mm, ♀ 20 mm. Espiritu Santo; Colombia (Muzo).

I. ruficollis Schs. (= deceptans Dyar) (33 e) is an entirely one-coloured, small, brownish-black insect with a slight blue reflection; the first palpal joint, hindhead, and collar are orange. Expanse of wings: 22 mm. Brazil (São Paulo, Castro [Paraná]).

40. Genus: **Prepiella** Hmps.

Proboscis developed; palpi rather short, porrect. Antennae of the ♂ combed or ciliated. Spurs of tibiae of medium length. On the forewing the upper median vein rises before, the middle radial vein above

the cell-angle, the upper radial below the upper cell-angle; the uppermost subcostal vein approaches the costal, but does not anastomose with it. On the hindwing the upper median and lower radial veins are on a long footstalk, or they are entirely coalescent; the middle radial comes from above the cell-angle, the upper radial is petioled with the subcostal. The genus contains about a dozen forms distributed over Tropical America; most of them have only recently become known.

- hippona*. **P. hippona** Drc. (33 c) is dark brown on the anterior body and forewings, with a purple and coppery reflection. Abdomen orange-red, with long orange hair-tufts on the sides of the 3rd segment, the last ring brown. Hindwing red with a dark brown apical spot. Expanse of wings: 20 mm. Guatemala.
- phoenicolopha*. **P. phoenicolopha** Hmps. (32 n) is dark brown on its head and thorax with a blue reflection; abdomen of a lighter brown, the 3rd and 4th rings and lateral hair-tufts carmine. Forewings dark brown; hindwing carmine, with a dark brown marginal band. Expanse of wings: 14 mm. Ecuador.
- procridia*. **P. procridia** Hmps. (33 e). Head and thorax blackish-brown, with a metallic green reflection; abdomen blackish-brown, beneath green; the lateral hair-tufts on the 3rd ring yellowish-red. Forewings blackish-brown; at the border and costal margin suffused with golden green. Hindwings dark brownish-grey, the anal-angular lobe haired reddish-yellow. Expanse of wings: 20 mm. Paraguay.
- miniola*. **P. miniola** Hmps. (34 i). Body orange, on the abdomen above carmine. Forewings orange, with black vein -streaks in the basal and marginal areas, and 2 black, dentate, antemedian and postmedian lines. Hindwings carmine with a black marginal band. Expanse of wings: 14 mm. Amazon. — In Peru there flies
- peruana*. **peruana** form. nov. (= ab. 1 Hmps.) in which the sharp tooth outside of the anterior transverse line is absent on the median.
- strigivenia*. **P. strigivenia** Hmps. (33 e) resembles *miniola* in the marking, but the ground-colour is yellow, only in the discal area there is a line-shaped, carmine marking. Hindwings with a slight carmine tinge. Expanse of wings: 16 mm. Amazon (Ega).
- convergens*. **P. convergens** Schs. (33 e). By its larger size it differs from the preceding. Abdomen more pink. Anterior body and forewings light isabel-coloured; the forewings in the basal and marginal halves on the veins striped black; in the middle of the proximal margin rises a black line turning round the cell-end and ending again at the proximal angle; it encloses a light yellow area, with a red spot in the cell-end and some red dusting in the submedian space. Hindwing yellow with a black apical spot. Expanse of wings: 18 mm. French Guiana.
- pexicera*. **P. pexicera** Schs. (33 e) resembles *strigivenia* (33 e), but it has combed antennae, the body and forewings being of an ochraceous yellow with a similar marking; anterior and middle transverse lines are connected by a black streak; at the cell-end there is a red spot. Hindwing carmine with a black apical spot. Expanse of wings: 14 mm. Venezuela.
- radicans*. **P. radicans** Hmps. (= *strigillata* Roths.) (32 m). Head and thorax yellow; abdomen likewise, but above with a carmine tint. Forewings bright yellow, with red stripes on the cell-fold and submedian fold, the marginal area suffused with red. Basal area like in the preceding striped black, behind it a black antemedian line; the posterior transverse line is irregular, running from the costal margin obliquely to the marginal line on the lower radial, then returning as far as below the cell-end near the anterior line, then again bent outwards; marginal area in the upper half with black veins; an antemarginal curved line. Hindwings yellow, with a slight carmine tint. Expanse of wings: 16 mm. British Guiana.
- aurea*. **P. aurea** Btlr. (33 f). Body orange-yellow, on the venter with black bands. Forewings golden yellow, with a similar bluish-black marking as the preceding, and a carmine cell-spot. Hindwing carmine, with a black apical spot being in the ♀ prolonged to a marginal line. Expanse of wings: 14 mm. Venezuela; Amazon.
- sesapina*. **P. sesapina** Btlr. (33 p) resembles *aurea*, and is of a paler yellow, the abdomen above tinged red. It differs by the very strongly dentated anterior transverse line; the red median spot is generally absent, whilst
- rubripunctata*. in — **rubripunctata** form. nov. (= ab. 1 Hmps.) from Bolivia it is present. Hindwings carmine with a small brown apical spot. Fringes brown, at the proximal angle orange. Expanse of wings: 16 mm. Brazil (Espírito Santo); Bolivia.

41. Genus: **Chionosia** Hmps.

Proboscis developed; palpi slender, erect, not reaching the vertex. ♂ antennae ciliated. Veins similar as in the preceding genus, but the upper radial vein is petioled with the lower subcostal veins, the 3rd subcostal vein being absent; the middle radial vein is mostly also removed down as far as the cell-angle. On the hindwing the middle radial is absent, the rest like in *Prepiella*.

- apicalis*. **Ch. apicalis** Z. (36 d) is white, with an olive-yellowish tinge. The forewings are traversed by darker olive bands, the posterior one of which makes a large bow round a black discal spot; before the apex another oblique brown streak and below it one at the margin. Hindwings white with a small, brownish-grey subapical spot. Expanse of wings: 18 mm. Rio de Janeiro. — subsp. nov. **trinitatis** (= subsp. 1 Hmps.) is of a purer white, with a slight yellow tint. Trinidad.
- trinitatis*.

Ch. zonata *Hmps.* (32 m) somewhat resembles *apicalis*, but it is tinted more brownish, and the transverse bands are flown together to a very broad, brownish-grey median band bordered by somewhat darker lines. Expanse of wings: 16 mm. Surinam.

42. Genus: **Lamprostola** *Hmps.*

Very much like *Prepiella*. The palpi are longer, erect, the terminal joint pointed. Abdomen with long, lateral hair-tufts towards the end. Veins of the forewings like there, but on the hindwing the upper median vein and lower radial vein anastomose, the middle radial rising with them from the lower cell-angle.

L. aglaope *Fldr.* (= *hercyna Drc.*) (33 f). Head and thorax black, anal tuft and ventral side likewise black, the rest of the abdomen is above scarlet. Forewings black, with grey veins. Hindwings scarlet with a black costal margin and apical spot being continued as a narrow marginal line to the long-haired proximal angle. Expanse of wings: 20 mm. Mexico; Guatemala; Costa Rica; Amazon.

L. thermeola *Dogn.* (33 f) has much longer and narrower wings than the preceding. Body blackish-brown with a green reflection; abdomen laterally striped red. Forewings purple-brown, in the basal halves with a leaden lustre, in the marginal halves with a golden lustre. Hindwing carmine, with a blackish-brown border and proximal margin. Expanse of wings: 20 mm. Colombia.

L. unifascia *Rothsch.* (33 f). Head blackish-brown with a silvery grey lustre; collar yellowish-red, thorax dark brown, abdomen above carmine, beneath with yellow and black bands. Forewings dark brown, scaled grey, with a yellow antemedian band not reaching the costal margin. Hindwings carmine with a narrow, blackish-brown border. Expanse of wings: 16 mm. Colombia.

L. endochrysis *Dogn.* (33 f) is a pretty, greatly deviating species. Head and thorax black, with a leaden-grey lustre; abdomen blackish-brown, laterally spotted orange. Forewings leaden grey with a black, wedge-shaped spot from the cell-end to the margin; the median and its branches likewise striped black. Hindwing blackish-brown, in the proximal half orange-yellow. Expanse of wings: 22 mm. Colombia.

L. pascuala *Schs.* (33 f) is lighter greyish-brown than the preceding, with a yellow palpal base, throat and collar, the abdomen being carmine with an orange anal tuft and the ventral side whitish towards the base. Forewings with a faint purple reflection. Hindwings carmine, towards the costal margin yellow, in the cell with a fine, small hyaline stripe, below it a thick, blackish-brown stripe. Margin black. Expanse of wings: 20 mm. Brazil (São Paulo).

L. olivacea *Schs.* (34 i). Head, thorax, and forewings silvery greyish-brown, collar and neck orange, abdomen carmine like the hindwings which are bordered with a brownish grey at the costal margin, with a blackish brown at the distal margin. Expanse of wings: 20 mm. São Paulo.

L. molybdiptera *Schs.* (33 f). Anterior body and forewings of a deep black, the latter on the veins striped blue with a leaden lustre, also the apical third being suffused in the same way. Abdomen and hindwings blackish-brown. Expanse of wings: 20 mm. Mexico (Jalapa).

L. nitens *Hmps.* (33 f) is distinguished from the other species by the golden green forewings and anterior body; the latter with a coppery reflection. Abdomen and hindwings blackish-brown with a bluish tint. Expanse of wings: 24 mm. Bolivia.

43. Genus: **Callisthenia** *Hmps.*

Very closely allied to the preceding genus; the palpi are somewhat shorter, the ♂ antennae with very long bristles and ciliae. On the forewing the upper median vein rises with the lower radial from the lower angle, on the hindwing the middle radial somewhat above the lower angle; all the rest as in *Lamprostola*. The species are similarly marked as *Prepiella*.

C. plicata *Btlr.* (34 k). The body is golden yellow, on the abdomen above carmine; the collar and ventral segments finely bordered with black. Forewings golden yellow, in the basal and marginal areas on the veins striped purple black, in the discal area 2 transverse lines and a red discal spot. Hindwings carmine with a small, black apical spot. The ♂ forewing exhibits above in the cell a very thickly scaled fold. Expanse of wings: 18 mm. From the Amazon (Espiritu Santo) and Peru.

C. costilobata *Rothsch.* (34 k) is well distinguished by the costal margin of the forewing being before the middle concavely excised and behind it sinuate in the shape of a lobe. The anterior body is light yellow, mixed with brown, the abdomen is above red-brown, beneath light yellow. Forewings light yellow, in the basal part and marginal area on the veins striped dark brown, leaving a yellow, red spotted transverse band free in the disc, which is bordered by dark brown lines, the distal one of which forms a pointed tooth outwards on the discal fold. Hindwings carmine, border and proximal margin dark brown. Beneath the fore- and hindwings exhibit scent-scale spots. Expanse of wings: 18 mm. Peru.

C. lacteata *Btlr.* (34 k) is distinguished by thickly strewn, yellowish scales on the hindwing of the ♂, on the upper surface of it behind and below the lower cell-angle with a deep excision. Anterior body blackish-

brown, abdomen carmine. Forewings yellowish-white with brown striped veins and purple brown spots in the middle of the proximal margin and at the proximal angle. Hindwings carmine-rosy with a faded dark apical spot. Expanse of wings: 18 mm. Amazon.

variegata. **C. variegata** Wkr. (34 k) differs from the preceding by long, yellowish scales at the end of the abdomen. Head yellow and pink, collar carmine-rosy; thorax yellowish-white, spotted dark. Abdomen above scarlet, beneath yellow, with black bands. Forewings marked very much like in *plicata*, but of a yellowish-white ground-colour, the discal area very narrow. Hindwing scarlet with a black apical spot. Expanse of wings: 18 mm. Amazon to Peru.

angusta. **C. angusta** Schs. (34 k) is the smallest species. Head dark grey; thorax black, ends of shoulder-covers red. Abdomen above red, beneath yellowish. Forewings black, in the basal and marginal area striped in an isabel-colour between the veins, with a broad, yellow postmedian band with a red discal spot in it. Hindwing orange with a black apex. Expanse of wings: 13 mm. French Guiana.

44. Genus: **Hypermaepha** Hmps.

Proboscis well developed; the porrect palpi project beyond the forehead; antennae ciliated, above thickened by scales. Wings rather short and broad. On the forewing the upper median vein rises shortly before the lower cell-angle, the two lower radial veins from it, the upper one from the angle; the two lowest subcostal veins are petioled, the third being absent; the uppermost anastomoses with the costal. On the hindwing the upper median vein is petioled with the lower radial vein; the middle radial is absent; the upper one anastomoses with the subcostal. Only 1 species is known.

sanguinea. **H. sanguinea** Btlr. (34 k) is brown on the head and thorax; the abdomen is above carmine with a black anal apex, beneath brown. Forewings brown; hindwings carmine with brown fringes and costal margin. Expanse of wings: 12 mm. Amazon, Rio Jutahi.

45. Genus: **Chrysochlorosia** Hmps.

From the preceding genus it differs by shorter palpi, shorter spurs on the tibiae, and longer, narrower wings with a round apex. On the forewing the veins are about the same, but the upper radial comes from below the upper cell-angle, and the 3rd subcostal vein is present. On the hindwing the cell is very long; the upper median anastomoses with the lower radial vein, the upper radial is petioled with the subcostal. 4 species distributed from Colombia across Ecuador as far as Bolivia.

splendida. **C. splendida** Drc. (34 i). Body greenish-golden with a coppery and metallic blue lustre; the black antennae are white at their ends. Forewings golden green, the margins of a deep blue, a similar short stripe at the subcostal base. Hindwings thinly scaled, bluish black, in the ♂ suffused with a metallic green. The under surface is metallic green. Expanse of wings: 36 mm. Ecuador and Bolivia.

superba. **C. superba** Drc. (34 i) greatly resembles the preceding, but it is somewhat smaller, the body of a pure metallic green, also the antennae which likewise have white tips; the last abdominal ring metallic blue. The abdomen is reddish beneath. The forewings are more orange golden with blue and green reflections, at the distal margin broadly bordered with black; fringes blue. Hindwings black. The under surface is greenish-black. Expanse of wings: 33 mm. Colombia.

magnifica. **C. magnifica** Schs. (34 i). Likewise allied to *splendida*, but much smaller. Body metallic bluish-green. Forewings dark green, distal margin black, at a certain exposure to light with a blue reflection. Hindwings black with green fringes. The under surface is dark bluish-green. Expanse of wings: 22 mm. Costa Rica.

callistia. **C. callistia** Hmps. (34 i). Head, collar, and shoulder-covers golden green, thorax black, on the mesothorax with a copper spot; abdomen golden green with coppery and metallic blue reflections. Forewings golden green, towards the base more coppery, margins, veins, and folds striped deep blue. Hindwings blackish-brown with a blue reflection, at the proximal margin golden green, at the distal margin blue. Expanse of wings: 30 mm. Bolivia.

46. Genus: **Odozana** Wkr.

It contains quite a number of small, partly very similar species. Proboscis well developed; the short palpi protrude forward; antennae of the ♂ with ciliary bristles. The abdomen mostly exhibits on the sides of the second ring very long hair-tufts, on the last ring shorter ones. On the long, narrow forewings the upper median vein rises below, the middle radial vein rather far above the lower cell-angle; the upper radial comes from below the upper angle; the uppermost subcostal vein anastomoses with the costal. On the hindwing the upper median and lower radial are coalescent; the middle radial is absent, the upper one is petioled with the subcostal.

floccosa. **O. floccosa** Wkr. (= *trichiura* Fldr.) (34 i) is in the ♂ distinguished by the long black hair on the outside of the posterior tibiae. The proximal margin is strongly convex, and at the proximal margin of the

hindwings a lobular appendage. Anterior body and forewings purple brown; ends of the shoulder-covers, abdomen, and the base and proximal margin of the hindwing carmine. The lateral hair-tufts on the abdomen orange, the venter is blackish. — In the form *reducta* form. nov. (= ab. 1 *Hmps.*) only the proximal margin of *reducta*. the hindwing is red; — in *ochreivitta* form. nov. (= ab. 2 *Hmps.*) (34 k) there is an ochreous-yellow, diffuse *ochreivitta*. spot in the cell-end of the forewing. Expanse of wings: 20 mm. From Brazil (Ega).

O. obscura Schs. (34 k) is without the hair on the posterior tibiae, the forewings and hindwings *obscura*. are of a normal shape. Anterior body and forewings black, suffused with a deep green, with a purple reflection; abdomen and hindwings black; the anal hairing in the ♂ is whitish. Expanse of wings: 18 mm. Brazil (Rio de Janeiro).

O. methaemata *Hmps.* (= *floeeosa* *Drc.* nec *Wkr.*) (34 k) looks almost exactly like *floccosa* *Wkr.*, *methaemata*. but the ♂ is without the tibial hairing, the wings being normal. The thorax is more extensively carmine, all the rest like there. Expanse of wings: 18 mm. Panama.

O. sixola Schs. (34 l) resembles the preceding. Head and collar black, thorax and abdomen above *sixola*. red, beneath black. Forewings blackish-brown, with fine iridescent stripes. Hindwing black, at the proximal margin carmine. Expanse of wings: 18 mm. Costa Rica.

O. roseiceps *Rothsch.* (34 l) is very similar. Forehead and palpi pink, the latter at the ends brown; *roseiceps*. vertex carmine, like the collar, shoulder-covers and abdomen; thorax and ventral side red-brown. Forewings red-brown; hindwings carmine with a red-brown marginal band. Expanse of wings: 20 mm. Peru.

O. patagiata *Dogn.* (34 l) is brown on the body with a metallic lustre; shoulder-covers and lateral *patagiata*. stripes at the base of the abdomen scarlet. Forewings golden brown, hindwings scarlet with a narrow, blackish-brown marginal band. Expanse of wings: 20 mm. Bolivia.

O. inconspicua Schs. (34 l) is dark brown on the head, collar, and wings; the forewings with fine iridescent *inconspicua*. stripes. Thorax and the hair-tufts at the base of the abdomen carmine. Abdomen otherwise black. Expanse of wings: 17 mm. Costa Rica.

O. decepta Schs. (34 l). Head and collar bluish-black. Thorax and forewings dark brown, with iridescent stripes. Abdomen above carmine, at the base brown, beneath black. Hindwings dull dark brown. Expanse of wings: 19 mm. Costa Rica.

O. unica Schs. (34 l). Head and thorax dark brownish-grey. Abdomen above red, beneath brownish-grey. Forewings brownish-grey, at the base and proximal margin darkened. Hindwings red, at the apex and distal margin brownish-grey. Expanse of wings: 17 mm. Mexico (Cordoba).

O. cocciniceps Jones (34 l). Head brilliant rosy, on the vertex spotted dark, collar anteriorly likewise *cocciniceps*. rosy, posteriorly black; thorax, abdomen and legs sooty black; so are the forewings. Hindwings rosy, bordered with black. Expanse of wings: 20 mm. Castro (Paraná).

O. margina Schs. (34 l), like the following species, has no hair-tufts at the base of the abdomen. Head *margina*. blackish-brown, behind the antennae striped carmine. Palpi orange. Thorax black. Collar and borders of the shoulder-covers striped carmine, chest and legs the same. Abdomen carmine. Forewings purple blackish, with a yellow inner-marginal stripe. Hindwings carmine, with a black marginal band. — In *lutescens* form. nov. *lutescens*. (= ab. 1 *Hmps.*) from Peru and Bolivia the stripes on the head, collar, borders of the shoulder-covers, and legs are yellow. The type flies in Brazil, Peru and Bolivia. Expanse of wings: 16 mm.

O. endoxantha Jones has a dull yellow body; terminal joints of the palpi, and forehead black. *endoxantha*. Forewing sooty brown, with a broad, yellow inner-marginal stripe, opposite at the cell-end a yellow costal-marginal spot. Hindwings yellow, bordered with black, at the apex more broadly so. Expanse of wings: 22 mm. Castro (Paraná).

O. leucota *Hmps.* (34 l) is quite differently coloured: white, on the body with a slight yellowish-red *leucota*. tint. The forewings exhibit at the proximal angle a scaled tooth, and are likewise for the greatest part tinted reddish-yellow. An antemedian, indistinct, dark line, on the veins distally angled; in the lower cell-angle there is a black dot; a postmedian, somewhat dentate, curved line with reddish-yellow spots behind it. Margin and fringes spotted dark. Hindwings brownish-grey with white fringes. Expanse of wings: 18 mm. Panama.

O. domina Schs. (34 l) is brownish-grey, on the head and thorax with a rosy collar. Palpi and legs *domina*. orange-yellow. Abdomen carmine, with an orange anal tuft. Forewings brownish-grey, hindwings darker, the latter at the proximal margin pink. Expanse of wings: 18 mm. Brazil.

47. Genus: **Ascaptesyle** Dyar.

Proboscis developed; the correct palpi project beyond the forehead. On the forewings the upper median vein rises before the lower cell-angle, the two lower radial veins are petioled, the upper one comes from below the upper cell-angle; the uppermost subcostal vein is strongly bent towards the costal, though it does not anastomose with it. On the hindwing the upper median anastomoses with the lower radial vein, the middle radial

comes with the lower one from the same place, the upper radial anastomosing with the subcostal vein. *submarginata*. **A. submarginata** Schs. (34 n) is greyish-brown on its head, thorax, and forewings, the abdomen is dark brown. Hindwings earmine, finely bordered with black, at the apex more broadly so. Expanse of wings: 20 mm. Trinidad.

48. Genus: **Leucorhodia** Hmps.

Very closely allied to the genus *Odozana* and distinguished only by the absence of the 3rd subcostal vein on the forewing, and by the upper median vein being petioled with the lower radial vein on the hindwing. Only one species:

ragua. **L. ragua** Drc. (= *maroniensis* Schs., *roseata* Roths.) (34 m). Head and thorax are yellowish-white, the latter tinted brown. Abdomen light pink. Forewings yellowish-white, the costal-marginal base blackish-brown; of the same colour is a stripe extending from the base along the median to the margin; at the cell-end there is a dark dot. Hindwings pink. Expanse of wings: 18 mm. Guatemala.

49. Genus: **Procridia** Hmps.

Very different by the structure, and course of the veins. Proboscis developed; the haired palpi are extremely short; the antennae are likewise short, in the middle thickened and covered with scales. At the posterior tibiae there are no middle spurs, the end-spurs being extremely short. The forewings are narrow, the costal margin in the middle convex; the median veins are petioled with the lower radial vein, the middle radial is absent; the upper radial is petioled with the 2 lowest subcostal veins, the 3rd and 4th are absent, the uppermost terminating separately into the costal margin. On the hindwings the upper median vein anastomoses with the lower radial vein, the middle one being absent, the upper one being petioled with the subcostal.

metallica. **P. metallica** Dogn. (34 n) is golden green on the head and thorax, intermixed with coppery scales, the abdomen is more bluish-green. Forewings golden green, at the margins more blue; in the marginal area there is a large, orange spot. Hindwings blackish-brown with a blue reflection, with an indistinct, yellow marginal band, being narrowed towards the anal angle. Expanse of wings: 24 mm. Ecuador.

50. Genus: **Phanlosia** Hmps.

Proboscis developed; the slender palpi are ascending, rather short; abdomen with a large anal tuft. On the forewing the two lower radial veins rise from the cell-angle, the upper one being petioled with the 3 lowest subcostal veins, the two uppermost ones being separated. Hindwings like in the preceding genus.

sordida. **P. sordida** Btlr. (34 v). Head and thorax whitish, with a brown hue. Abdomen grey. Forewings white, strewn and clouded reddish-brown; in the lower cell-angle there is a dark dot; the apex is of a purer white with a black spot in it. Hindwings light brownish-grey. Expanse of wings: 14 mm. Amazon.

51. Genus: **Xantholopha** Hmps.

Proboscis well developed; the obliquely ascending palpi do not reach the vertex; antennae of the ♂ doubly combed. On the forewing the upper median and lower radial vein rise in common from the lower cell-angle, the middle radial close above it, the upper one from below the upper angle. The uppermost subcostal vein approaches the costal and is strongly curved. On the hindwing the two lower radial veins are on a long pedicle with the upper median vein, the same being the case with the upper radial and the subcostal vein.

purpurascens. **X. purpurascens** Schs. (34 n) is purple-blackish on its head, thorax, and forewings. Collar, palpal base, and throat are orange. Abdomen and hindwings black, the clasping-organs of the ♂ orange. Expanse of wings: 28 mm. Brazil.

52. Genus: **Neothyone** Hmps.

It differs from *Thyone* by somewhat longer, more slender palpi, shorter and broader wings with a rounded apex. On the forewing the upper median and the lower radial vein are petioled, the upper radial is on a common pedicle with the 3 lower subcostal veins.

xanthaema. **N. xanthaema** Dogn. (34 n). Body reddish-yellow, on the ventral side whitish. Forewings yellow, suffused with red, particularly in the discal area in which there is a brown spot in the shape of an inverted U. An antemarginal, indistinct, red line. Hindwings yellow, at the apex dusted red. Expanse of wings: 16 mm. French Guiana.

53. Genus: **Thyone** Wkr.

Proboscis and palpi very much stunted; ♂ antennae ciliated. Spurs of the tibiae short, on the posterior tibiae the middle spurs are absent. Abdomen roughly haired. The long, narrow forewings show exactly the same venation as the preceding genus, except the uppermost radial rising from below the upper cell-angle. On the hindwing the upper median and lower radial vein are petioled; the middle radial comes almost from the middle of the transverse vein, the upper one being petioled with the subcostal.

T. celenna Schs. (34 n). Body purple black, on the thorax spotted white and with a metallic green *celenna*. head and collar. Forewings white with veins striped purple black, and black spots at the costal margin, behind the cell and in the middle of the margin. Hindwings brownish black. Expanse of wings: 30 mm. Brazil.

T. dremma Dyar (34 n). Head yellow, thorax orange brown. Abdomen light yellow. Forewings *dremma*. orange-yellow, with a yellow median band, bordered with a purple brown on both sides; before and behind it the veins are striped carmine. Hindwings yellow-brownish. Expanse of wings: 17 mm. British Guiana.

T. purpurea Jones (34 n) is on the anterior body deep purple brown, with a metallic blue lustre; *purpurea*. on the metathorax there is a yellowish-white spot; abdomen dark brown, posteriorly lustrous blue. Forewings purple-brown, at the base and costal margin suffused with a metallic blue; before the middle there are below and above the inner-marginal vein oblique, oblong spots of yellowish-white; a similar one near the cell-end, and one above it; behind the middle a macular band. Hindwings dark brown. Expanse of wings: 36 mm. Brazil.

T. trimaculata Jones (34 n). Entirely white, on the forewings with a small black spot on the inner- *trimacu-* marginal vein at the end of the basal third and a second spot near the proximal angle; a 3rd spot is situate *lata*. behind the cell on the middle radial, and one or two very small ones about the middle of the subcostal. Expanse of wings: 25 mm. Castro (Paraná).

T. placida Schs. (34 b) is similarly marked as *celenna*, but of a greyish-brown ground-colour, and *placida*. much smaller expanse of wings (only 24 mm). Brazil (São Paulo, Castro [Paraná]).

T. parima Schs. (35 a) is light brown, on the body somewhat mixed with grey, with faded grey *parima*. spots on the forewing in the cell-spaces in the basal half, in the cell-end, and before the margin. Hindwings light brown. Expanse of wings: 28 mm. Brazil (São Paulo).

T. perbella Schs. (34 n) is very differently coloured. Head yellow, collar and thorax orange, abdomen *perbella*. more ochreous-yellow. The forewings are yellow at the base, and this colour passes from orange and red into brown as far as the discal area; then follows a broad, pale yellow median band, behind which the ground-colour is again brown, fading away into an ochreous yellow towards the margin; veins in the marginal area dark brown, at the base of the costal margin a small black spot. Hindwings pink-yellowish. Expanse of wings: 16 mm. French Guiana.

T. muricolor Schs. (35 a) is unicolorously leaden grey, on the forewing with a slight violet reflection. *muricolor*. Abdomen more greyish-black, like the hindwings. Expanse of wings: 18 mm. Cayenne. — A somewhat darker ♂ which, however, certainly belongs to the same species, is before me from Caparo (Trinidad), belonging to the German Entomological Museum.

T. grisescens Schs. (35 a) is very closely allied to *muricolor*, but somewhat larger, on the body and *grisescens*. wings violettish-grey, abdomen and hindwings somewhat darker. Expanse of wings: 22 mm. Costa Rica.

T. tincta Hmps. (35 a) is white, on the forehead, legs and abdomen tinted brownish-grey, antennae *tincta*. curled black. Forewing at the base of the costal margin black; inner-marginal area and under surface blackish-brown. Expanse of wings: 26 mm. Bolivia.

T. melanocera Schs. (35 a) is purely white, with quite black antennae, also the anterior legs and the *melanocera*. extreme ends of the middle and posterior tarsi are black. Expanse of wings: 22 mm. Trinidad, Venezuela, Surinam.

T. simplex Wkr. (= *alba* Drc., *parvita* Schs.) (35 a) is entirely of a pure white. Expanse of wings: *simplex*. 18 to 22 mm. From Mexico to Brazil.

54. Genus: **Afrida** Mschlr.

A doubtful genus. MOESCHLER, who founded the genus, placed it to the *Lithosiidae*, HAMPSON to the *Nolinae*; quite recently DYAR has placed it to the *Noctuidae*, since the costal vein of the hindwing, contrary to HAMPSON's assumption, does in fact not rise from the middle of the cell, but anastomoses with it only for a short distance. If we deal with the genus here, it is only not to introduce an innovation for the present. — Proboscis developed; the porrect palpi extend beyond the forehead; tibiae with long spurs. Venation of the forewings similar as in the preceding genus, but the 3rd subcostal vein is absent and the uppermost does not anastomose with the costal. Veins of the hindwings likewise the same as in the preceding except the course of the costal. Whereas HAMPSON's Catalogue mentioned only 4 species, DYAR who studied the genus very closely, increased the number to more than 2 dozen species which, however, are difficult to separate.

A. tortriciformis Mschlr. is greyish-white, beneath more blackish. Forewing with a dentate ante- *tortricifor-* median line, not reaching the proximal margin, with a black subcostal dot on its proximal side. An antemedian, *mis*.

blackish-grey band is bordered by undulate black lines; at the cell-end a black spot; marginal area clouded blackish-grey with a black, marginal row of dots, hindwings tinged brownish-grey; the anal angle somewhat produced and thickly covered with black scales; fringes black. Expanse of wings: 12 mm. Jamaica.

tortricifac-
cics. **A. tortricifacies** Dyar (35 b) is very similar, dusted more greyish-green, with purple black markings; opposite the black cell-spot, at the proximal margin, there is a triangular one with a tooth inwards on the inner-marginal vein; before the purple blackish marginal dusting in the middle a small, round, red spot. Hindwings whitish, with a blackish-brown marginal band and discal spot. The anal angle is scaled white. Expanse of wings: 11 to 13 mm. San Domingo.

mesomela-
na. **A. mesomelaena** Hmps. (35 a) from Jamaica is considerably larger and distinguished by a complete blackish-brown median band, being bordered by black lines and strangulated in the cell and on the submedian fold, whilst at the proximal margin it is much broader. Expanse of wings: 22 mm.

basipuncta-
ta. **A. basipunctata** Rothschild. (35 a) shows the broadest median band, the whole median area being suffused with a coppery brown. In the basal area there are small black spots at the costal margin and on the submedian fold; the marginal area bordered by a curved black line is also brown; before the apex there is an oblique black spot, on the discal fold another one. Hindwing silvery white with a brownish marginal line. Expanse of wings: 24 mm. Peru.

flavifera. **A. flavifera** Dogn. (35 a) is very similarly coloured and marked; the black line bordering on the brown median area towards the base, makes a strong bend towards the base at the proximal margin; behind the upper cell-angle there is yellow colouring interspersed. The white hindwings show a brown discal spot and antemarginal shades. Expanse of wings: 22 mm. Colombia.

viridifera. **A. viridifera** Hmps. (= *melicerta* Hmps. part.) (35 a) is marked by a yellowish-green spot in the basal part before the curved, black, additional basal line, another spot like it is situated above the cell-end; there is yellowish-green dusting also behind the middle below the costal margin. The marginal area is extensively purple brown, proximally bordered with black. Expanse of wings: 20 mm. Bolivia.

parvula. **A. parvula** Schs. Head and thorax violet-reddish, abdomen more brownish. Forewings reddish-grey, intermixed with an olive-ochreous colour, with a broad, curved, black antemedian shade not reaching the proximal margin; the other markings like in the preceding, but rather blurred; the dusting of the marginal area lighter brownish with a purple brown spot in the middle before it; hindwings brownish-grey, towards the margin darker, with a dark discal spot. Expanse of wings: 14 mm. Costa Rica.

basiposis. **A. basiposis** Dyar (35 b) is much smaller than the preceding, otherwise very similarly marked; it is distinguishable by almost entirely white hindwings; on the forewing, near the base, a broad, obliquely quadrangular, black spot. Expanse of wings: 10 mm. San Domingo.

interdicta. **A. interdicta** Dyar (35 b) is most easily distinguishable from the two preceding species by the red, not blackish, spot before the middle of the margin of the forewing. They are dirty white, densely dusted olive; markings otherwise similar; the discal band is dissolved into diffuse dark dusting, the border-lines indistinct, the most distinct at the costal margin; behind there are 3 costal-marginal spots. Hindwings whitish, with a dark discal spot and marginal dusting. Expanse of wings: 10 mm. Cuba (Baracoa).

minuta. **A. minuta** Drc. (35 b) is distinguishable from the preceding by only scanty olive dusting from which the transverse bands are distinctly prominent, not so hazy. A somewhat larger species with the hindwings dusted brownish-grey. Expanse of wings: 18 mm. Texas, Mexico, Costa Rica.

charientis-
ma. **A. charientisma** Dyar (35 b) greatly resembles *minuta*, being smaller, with almost white hindwings. Forewings white, only faintly tinged olive; a purple brown dentate basal spot, the base itself light; the broad, brown discal band is bordered by black lines, dentate, on the submedian strangulated. Expanse of wings: 10 mm. Cuba.

pnixis. **A. pnixis** Dyar (35 b) is without any olive on the forewing; the discal band grows much broader towards the apex and is not in the middle, like in the other species, crossed by an oblique line. Panama.

phasma. **A. phasma** Dyar (35 b). In this species and the following the dark shading of the marginal area is absent. The forewing is pointed, the discal band partly dusted dark. The white ground-colour is faintly yellowish. Hindwings whitish, unspotted. Expanse of wings: 15 mm. Brazil (Castro Parana).

sceletozona. **A. sceletozona** Schs. (35 b) resembles *phasma*, the forewings being more broadly quadrangular, not so pointed; the discal band is only denoted by the dark border-lines, without any dark dusting in the middle, Costa Rica.

gymnes. **A. gymnes** Dyar (35 b) is very well distinguished by the discal band being broadly interrupted in the middle, by which the small animal assumes a characteristic exterior.

cosmiogramma. **A. cosmiogramma** Dyar (35 b). Forewings white, in the basal area brownish, bordered by a dark demi-line; the discal band is broad, filled up with brown and bordered by straight black lines; the proximal

one on the submedian somewhat angular, the distal one on the middle radial; the proximal half is darker brown than the distal half; in the marginal area a dark, hazy shade touching the discal band in the middle. Hindwing whitish, with a grey discal spot and marginal band. Expanse of wings: 10 mm. Cuba.

A. ydatodes Dyar (35 b) is very much like the preceding, but with much hazier markings; the white *ydalodes*. ground-colour is dusted grey, the border-lines of the discal band more indistinct. Expanse of wings: 10 mm. Florida.

A. ciliata Hmps. is very much like *sceletozona*, the body entirely white, forewings tinged light orange-*ciliata*. yellow; the marking is otherwise the same. Hindwings white with traces of undulate, discal and postdiscal lines; at the margin and beneath darkened by black scales. Expanse of wings: 18 mm. Costa Rica.

A. melicerta Drc. (35 b) is the largest species of the genus and very distinctly marked. Forewing *melicerta*. silvery white, without a discal band, but instead of it in the middle of the costal margin a large, triangular spot with a round, lower point; at the distal margin a dark brown spot. Palpi, forehead and antennae black, under surface and abdomen blackish. Hindwings white with an indistinct discal spot and a slightly darkened apex, in the ♀ dusted darker. Expanse of wings: 24 mm. Costa Rica.

A. coagulata Dyar (35 c) is somewhat smaller than the preceding, the costal-marginal spot more *coagulata*. four-cornered, below not round; the black markings on the forewing very narrow, fine and dentate. Expanse of wings: 18 to 20 mm. Mexico.

A. amphithrepta Dyar (35 c) and the following are distinguished by much scantier markings. Forewings *amphithrepta*. silvery white; two thirds of the costal margin are occupied by a broad, purple-blackish shade crossed behind the base by a white streak, and bordered with black. Before the apex at the costal margin a black curved streak; at the distal margin a shade projecting in the middle as far as below the cell; above and below it one black dot each; base somewhat yellowish; an antemedian line, curved like a sling, runs from the proximal margin to the cell. Hindwing whitish, with a grey margin and discal spot. Expanse of wings: 15 mm. Province of Salta (Argentina).

A. melampages Dyar (35 c) differs from the preceding by a much larger, more distinct, four-cornered *melampages*. costal spot touching the marginal spot. Hindwings more smoky-grey. Expanse of wings: 16 mm. Brazil: São Paulo.

A. melenita Dogn. (35 c). Forewings white, with brown markings. In the first quarter of the costal *melenita*. margin there is a dot; in the middle a broad, square spot rounded below and before the apex a small moon-spot; the other marking similar as in the others. Hindwing white, at the margin blackish. Expanse of wings: 11 mm. French Guiana.

A. zoëphila Dyar (35 c) is very much like the preceding, larger, with angularly broken lines in *zoëphila*. the basal area, those of the preceding being absent. Expanse of wings: 16 mm. Mexico.

A. oligoglotta Dyar (35 c) is characterized by a semicircular yellowish costal-marginal spot bordered *oligoglotta*. dark, below it the basal area is white; there are no subbasal linear markings, only at the base of the costal margin there is a purple-brown triangular spot; the other markings similar as in the preceding; the marginal spot covers the whole proximal angle and extends proximally as far as the cell-end; in the middle of the proximal margin a black sagittiform spot. Expanse of wings: 14 to 15 mm. Brazil: Castro (Paraná).

A. polyglotta Schaus (35 c) differs from the preceding by the yellow colouring of the basal area below *polyglotta*. the costal spot in which there is a subbasal linear marking; the distal line, at its subcostal distal curve above the angle of the brown spot, forms a spot; markings well developed. Costa Rica.

A. superciliosa Dyar (= *melicerta* ab. 1 Hmps.) differs from the preceding by less developed markings; *superciliosa*. the subcostal spot is absent; at the proximal margin of the purple marginal spot there runs a narrow black line forming an incomplete eyespot-marking towards the apex; in the basal third of the proximal margin there is a dentate line forming a sling which encloses an orange spot at the base. Expanse of wings: 15 mm. São Paulo.

A. claricosta Dyar (35 c). In this species and the following the middle costal spot is entirely absent. *claricosta*. Forewings silvery white; at the costal margin 3 minute black spots and an arcuate streak before the apex. Marginal area like in the preceding; basal area unmarked. Hindwing dusted grey, margin and discal spot darker. Expanse of wings: 10 to 12 mm. French Guiana.

A. zolda Dyar (35 c) is very much like the preceding, but in the basal area of the forewing there *zolda*. is a doubly broken, blurred linear marking. Expanse of wings: 16 mm. Mexico.

55. Genus: **Euzeugapteryx** Dyar.

Proboscis stunted; palpi short and slender; male antennae ciliated. On the forewing the upper median and the two lower radial veins are all separated, the upper radial vein from below the upper cell-angle; the two lower ones as well as the two upper subcostal veins are on pedicles, the 3rd is absent. The ♂ shows beneath

a costal-marginal fold covered with hair, and near the base below the cell a prominent scent-spot. Cell of the hindwing very short; the lower radial vein anastomoses with the upper median vein; the middle one is absent, the upper one anastomoses with the subcostal; on both sides of the costal-marginal vein thick, rough scales. The margin of the hindwing is broadly excised below the apex. Only 1 species:

speciosa. **E. speciosa** Schs. (35 g). Body blackish-brown, with a yellow anal tuft, venter grey. Forewings light brown, thickly dusted blackish-brown, below the costal margin the darkest. Hindwings blackish-brown, in the costal-marginal area lighter, apex black. The scent-scales of the under surface are ochreous-yellow. Expanse of wings: 16 mm. French Guiana.

56. Genus: **Josiodes** Fldr.

One of the more numerous genera, containing mostly bright orange species marked with black, often exhibiting similarities with Aretiids and Geometrids. Proboscis developed; the short palpi are porrect; antennae of the ♂ provided with bristles and cilia. Posterior tarsi with moderately long spurs. On the mostly long and rather narrow forewing the upper median vein rises before the cell-angle, the middle radial vein above it, the upper one below the upper angle; the two upper subcostal veins come from the cell and terminate into the costal margin, the 3 lower ones on a common pedicle. Cell of the hindwing long, the upper median vein likewise rising before the cell-angle; the two lower radial veins rise from it, the upper one is petioled with the subcostal vein. The species fly in day-time and at night.

myrrha. **J. myrrha** Cr. (= *fulvia* Clerck) (35 d) is of a bright orange on its body and wings; palpi, forehead, antennae, legs, and a dorsal stripe on the abdomen bluish-black. On the forewing the costal margin and distal margin, as well as a subapical oblique band are black, like on the hindwing the distal margin which is somewhat narrowed near the median veins. Expanse of wings: 34 mm. Surinam.

suapurensis. **J. suapurensis** Roths. (35 d) resembles *myrrha*, the black colour on the wings much more extensive, the black marginal band of the hindwing projects to the cell and below the submedian fold inwards, at the latter almost to the base. The abdomen is almost entirely black, only at the base laterally somewhat orange. In the much larger ♀ the black colour is more reduced, particularly on the hindwing. Expanse of wings: ♂ 32 mm, ♀ 38 mm. Venezuela.

intensa. **J. intensa** Roths. (35 e), described according to a ♀, greatly resembles the ♀ of the preceding, though it is larger, the border of the wings more uniform. Expanse of wings: 40 mm. Surinam.

nigrobasalis. **J. nigrobasalis** Roths. (35 e). Head and thorax quite black, also the abdomen, which exhibits some orange only on the sides. Forewing at the base black, only the cell remains orange as far as the base. Hindwing in the ♀ quite black, only the proximal margin and a small spot behind the cell orange. The ♂ has orange hindwings with a black border, less black at the base of the forewing, and the orange oblique band in the apex is absent altogether. Expanse of wings: ♂ 34 mm, ♀ 46 mm. British Guiana.

indecisa. **J. indecisa** Btlr. (35 d) is similar to the preceding, but the costal margin of the forewing is only in the basal third subcostally black, the proximal margin is broader black, and in the submedian space there is in the middle above it another black stripe. Hindwings very broadly margined with black. The body is entirely black, only on the collar spotted orange, and on the abdomen with narrow lateral stripes. In *deccisa* form. nov. the proximal margin is much narrower black and the stripe above it is absent. Expanse of wings: 40 mm. Amazon.

toxaridia. **J. toxaridia** Drc. (35 d) likewise resembles the two preceding species, differing, however, by the body being all black with only orange-yellow shoulder-covers and abdominal stripes. Expanse of wings: 36 mm. Ecuador.

repleta. **J. repleta** Wkr. (= *abscissa* Hbn. p.p.) (35 d) is black on its head, thorax and abdomen, anteriorly with a blue reflection; sides and venter are orange except the 2 last rings. Forewings orange, costal and proximal margins black, like the apex and a subapical spot. Hindwings orange with a black costal margin and distal margin, with an irregularly dentate, proximal border not reaching the proximal angle. The ♀ exhibits a broader, subapical oblique band. — In *striata* form. nov. (= ab. 1 Hmps.) there occur black stripes on the hindwing in and below the cell, being confluent towards the base. The shoulder-covers sometimes exhibit small orange spots, the venter is occasionally quite black or banded black. Expanse of wings: ♂ 36 mm, ♀ 44 mm. Amazon.

immutata. **J. immutata** Wkr. (36 d) is most easily discernible from the preceding by a large, triangular, black inner-marginal spot of the hindwing, the distal margin being expanded. The body is bluish-black, on the shoulder-covers and sides of abdomen orange. Expanse of wings: 40 mm. Brazil.

fallax. **J. fallax** Btlr. (35 d) closely resembles *immutata* from which it differs by its broad black proximal margin and proximal angle, the subapical band being uniformly curved; on the hindwing the black is still broader. In the ♀ the orange lateral stripes on the abdomen broader. Expanse of wings: ♂ 36 mm, ♀ 42 mm. Brazil.

tenuifascia. **J. tenuifascia** Hmps. (35 e) is smaller, the orange colour on the forewing confined to a narrow median stripe, the subapical spot small and irregular. Expanse of wings: 30 to 32 mm. Brazil.

peruviana. **J. peruviana** Schs. Body like in the preceding. On the forewing the narrow, orange longitudinal band extends from the base to the transverse vein, then it bends round along the lower median vein almost as far as the border; the subapical spot is curved, almost transverse. On the hindwing a narrow, orange band below

the median almost extends to the margin, near which it is expanded. Expanse of wings: 40 mm. Peru.

J. semicirculata *Hmps.* (35 f) greatly resembles *peruviana*, but the subapical band is almost longitudinal and more or less parallel to the median band; besides there is a transverse streak on the forehead, the distal half of the collar and the shoulder-covers being orange. In the ♀ there appears besides an orange, ante-marginal band extending to the proximal angle. Expanse of wings: 30 mm. Ecuador, Bolivia. *semicirculata*.

J. mutans *Wkr.* (35 f) is sufficiently characterized by the absence of the subapical band; the orange basal part is broad, upwards somewhat concave owing to the rounded black costal margin. On the hindwing the proximal margin and a discal longitudinal stripe are orange. — **maculata** *form. nov.* (= ab. 1 *Hmps.*) is *maculata*, spotted orange on the collar and mesothorax. Expanse of wings: 36 mm. Amazon. *mutans*.

J. abscissa *Hbn.* (= *fixa* *Wkr.*, *inconstans* *Btlr.*) (35 d). Forewing similar like in the preceding, but besides with a subapical spot, the black with a blue reflection. The hindwing of the ♂ exhibits above below the cell-end a small orange spot being expanded beneath into a large orange spot; in the ♀ the hindwings are above quite black. Proximal margin in the ♂ orange, in the ♀ black. Expanse of wings: 34 mm. Amazon. *abscissa*.

J. clavata *Wkr.* (35 e). Forewings with a decidedly club-shaped orange spot like in *mutans*, and only traces of a subapical spot. The hindwing exhibits only beneath a faint, orange stripe at the lower cell-end. Expanse of wings: 34 mm. Amazon. *clavata*.

J. variana *Btlr.* (35 e) resembles *immutata*, but it is at once discernible by the black basal part of the forewing. The shoulder-covers are black, the orange lateral stripes very broad. Expanse of wings: 38 mm. Amazon. — **suffusa** *form. nov.* has black dusting in the disc of the hindwing and beneath quite orange abdomen. *suffusa*.

J. sexmaculata *Btlr.* (35 f). On the forewing like the preceding species, but the hindwing exhibits only an elliptic orange spot at the cell-end, being larger beneath. Expanse of wings: 40 mm. Amazon. *sexmaculata*.

J. mutata *Wkr.* (35 f). Forewings somewhat similar to *clavata*, but the base and basal inner-marginal half broadly black. Hindwings above quite black, beneath with a small orange spot. Expanse of wings: 38 mm. Amazon. *mutata*.

J. generans *Wkr.* (35 f). The orange spot of the forewing is reduced to an oblique spot in the middle, subapical spot small; hindwings quite black. — In **obscura** *Btlr.* the oblique spot is strongly narrowed and does not reach the subcostal above. Expanse of wings: 32 mm. Amazon. *generans*.

J. erythromelas *Wkr.* (35 e) exhibits on the forewing only the triangular postmedian spot reaching downwards only to the submedian fold; there are above only faint traces of a subapical spot, beneath it is more distinct. Hindwing beneath with a small orange spot in the cell-end. Expanse of wings: 36 mm. Amazon. *erythromelas*.

J. caerulescens *Hmps.* (35 e) is distinguished by an intense blue lustre; the oblique spot of the forewing is light yellow and removed more towards the margin. Expanse of wings: ♂ 38 mm, ♀ 46 mm. Colombia. *caerulescens*.

J. batesi *Fldr.* (= *entella* *Drc.*, *quadrifascia* *Rothsch.*) (35 f). From the preceding it differs by a broader orange stripe-band extending to the costal margin, and a small subapical spot. Hindwing beneath with an orange spot; abdomen laterally striped orange. Expanse of wings: 40 mm. British Guiana; Brazil. *batesi*.

J. celena *Wkr.* (= *trajecta* *Wkr.*) (35 f) greatly resembles *batesi*, but it has no subapical spot. Hindwings above and beneath quite black. In the ♀ the orange-yellow abdominal stripes only extend to the 5th segment, in the ♂ to the terminal segment. — **purpurata** *Btlr.* exhibits on the hindwing beneath a small orange spot. Expanse of wings: ♂ 30 to 34 mm, ♀ 40 mm. Distributed from Surinam, Brazil as far as Bolivia and Peru. *celena*.

140. Genus: **Marsypophora** *Hmps.*

Proboscis developed, palpi drooping and long haired; male antennae in the basal halves doubly combed, towards the tips ciliated. Posterior tibiae without any middle spurs. On the broad forewings all the subcostal veins are on a common footstalk; beneath the ♂ exhibits a small scent-scale spot above the inner-marginal vein of the forewing. The ♂ hindwing is small, exhibiting above in the cell a hairy spot and below the median a hairy fold, beneath in the cell-end a swelling; the lower radial vein is absent.

M. erycinoides *Fldr.* (35 g) is blackish-brown on its body and wings, on the venter white. The forewing exhibits in the proximal area a large, elliptic, orange spot. Hindwings light yellowish, at the border and submedianly blackish-brown. Expanse of wings: 24 mm. Colombia. *erycinoides*.

dissimilipennis. **M. dissimilipennis** Dogn. (35 g) extremely resembles the preceding. The orange colouring of the forewing is more extensive; the hindwings are black, in the costal-marginal half whitish, the hair in and below the cell yellow. Expanse of wings: 26 mm. Ecuador.

58. Genus: **Ptychoglene** Fldr.

Distinguished from the preceding genus by longer palpi, which are likewise porrect, projecting beyond the forehead and being densely scaled. Antennae rather short and stout; posterior tarsi with shorter spurs. On the forewing the venation is the same, only the uppermost subcostal vein anastomoses with the costal; the 5th subcostal vein rises nearer to the margin than the third. On the hindwing the upper median and lower radial vein are petioled, the middle radial being absent, the upper one rising with the subcostal vein from the cell-angle or on a short footstalk. A small number of species coloured red and black, most strikingly resembling certain *Syntomidae* (t. 9 a) and *Zygaenidae* (t. 26 c), so that they are partly only discernible by the venation.

pertunda. **P. pertunda** Dr. (35 g). Body black with a red collar. Forewings scarlet with a black marginal area; the red colour extends at the costal margin as far as near the apex, from where it runs obliquely proximal to the upper radial and from there vertically to the proximal margin. Hindwing black, with a narrow, red stripe at the base of the costal margin. Expanse of wings: 30 mm. Mexico.

xylophila. **P. xylophila** Drc. (35 g) is the same, but the red colour runs from the apex of the forewing in an oblique line to the base of the proximal margin; the border between red and black is irregularly dentate. Expanse of wings: 24 to 28 mm. From Mexico, Guatemala, and Nicaragua.

sanguineola. **P. sanguineola** Bsd. (35 g). A well known species with scarlet forewings distally bordered with black; the hindwings are of a lighter red. Collar black like in the following species. Expanse of wings: 30 mm. Mexico and Guatemala.

aequalis. **P. aequalis** Wkr. (= *haematodes* Dyar) (35 g) is like the preceding, but the hindwings are black with a red costal-marginal spot. Expanse of wings: 30 mm. Guatemala.

phrada. **P. phrada** Drc. (= *flammans* Dyar) (35 g) resembles *aequalis*, but the red of the forewing extends to the proximal margin; the hindwing exhibits beside the large red costal-marginal spot a red submedian stripe. In the ♀ the black border is broader. Expanse of wings: 30 mm. Distributed from Arizona to Mexico.

erythrophora. **P. erythrophora** Fldr. (35 h) is also like the preceding, but the proximal margin is much more broadly black; the red costal-marginal spot of the hindwing very narrow and small. Expanse of wings: 28 to 30 mm. Mexico.

coccinea. **P. coccinea** H. Edw. Head and thorax carmine, abdomen black, at the base red; antennae and palpal ends black. Forewing in the basal two thirds carmine, distally bluish-black with a dentate proximal border. Hindwing in the basal half red, distally black, likewise with a dentate border. Expanse of wings: 24 mm. Arizona.

stenodora. **P. stenodora** Dyar (35 h) is bluish-black on its body and wings, with a carmine longitudinal stripe on the forewing and hindwing. Expanse of wings: 28 mm. Mexico (Tehuacan, Puebla).

tenuimargo. **P. tenuimargo** Holl. (35 h). We reproduce here the figure of a butterfly from HOLLAND's „Moths-Book“, being distinguished from the other *Ptychoglene* by the narrowly margined forewings; described from Arizona; besides in Mexico. The figure with HOLLAND is most singularly labelled as „*Lycomorpha fulgens* Edw.“ which we have figured on t. 26 c and with which the species has probably been mixed up.

59. Genus: **Tuina** Btlr.

Separated from the preceding by the antennae being roughly scaled. On the forewings the uppermost subcostal vein does not anastomose with the costal; on the hindwing the pedicle of the upper median and lower radial vein is longer than in *Ptychoglene*.

cingulata. **T. cingulata** Wkr. (35 h) is deeply black on its body and wings; palpal base, shoulders, shoulder-covers, and base of forewings flesh-coloured. Expanse of wings: 38 mm. Mexico, Honduras, and Guatemala.

60. Genus: **Meterythrosia** Hmps.

Very much like the preceding, but with longer, porrect palpi. Veins of the forewings exactly like there. On the hindwing the upper median and lower radial vein is unpetioled, so is the upper radial and subcostal vein, both coming from the corresponding cell-angles. In the cell-end there is an elliptic scent-spot.

M. sangala Drc. (35 h). Body black; collar, shoulders, and a lateral spot on the 4 first abdominal rings orange, such is a short stripe at the base of the forewing. Hindwing carmine with a black marginal band. Expanse of wings: 34 mm. Guatemala.

61. Genus: **Cisthene** Wkr.

Proboscis well developed; palpi short, protruding forward. The comparatively short antennae are provided with bristles and cilia in the ♂, while in the ♀ they are thickened by rough scales. Posterior tarsi with moderately long spurs. The wings are comparatively broad. In the veins there is very little difference with *Josiodes*, on the forewing they are quite the same, on the hindwing the middle radial rises above the lower cell-angle — not together with the lower radial — and the costal vein rises much nearer to the base. The genus likewise contains quite a number of yellow and black insects which are mostly similar to each other. The ♀♀ are often considerably larger than the ♂♂.

C. lunaris Wkr. (35 i) is a small insect of pale colours, recognizable by the orange-yellow, longitudinal, diffuse spot in the base of the cell. The forewings are otherwise yellowish-grey with an orange-yellow median and marginal band and proximal margin. Hindwings orange, with a brownish-grey marginal band. Expanse of wings: ♂ 24 mm, ♀ 28 mm. Colombia.

C. prusias Drc. (35 i) is orange on its body like the preceding. Forewings black, with a very broad orange band occupying the whole middle of the wing, and a similarly coloured antemarginal band. Hindwing orange, in the distal third black. Expanse of wings: 30 mm. Mexico.

C. menea Drury (= *laetifera* Wkr., *latifasciatus* Btlr., *arctifascia* Btlr., *arida* Skinner, major *Rothsch.*) (35 i) is a very variable species differing from *prusias* almost only by the much narrower orange median band varying very much in its shape. The ground-colour is sometimes of a deep black colour, sometimes more greyish-black. The black margin of the hindwing likewise varies very much in its width. Expanse of wings: ♂ 28 to 34 mm, ♀ 40 to 52 mm. Distributed from Mexico to Colombia and Brazil, and very common. — The larva is light yellow with 4 or 5 very irregular, partly confluent, carmine transverse bands on each ring and very long yellow hair.

C. cynossema Drc. (35 i) is very much like *menea*, easily discernible by a large black spot in the basal part of the hindwing, reaching the proximal margin. Expanse of wings: ♂ 34 mm, ♀ 38 mm. Mexico and Guatemala.

C. quadrifasciata Wkr. (35 i) is smaller than the preceding, more blackish-brown in its ground-colour, and distinguished by quite blackish-brown hindwings with an orange spot from the middle of the costal margin to the median. Expanse of wings: 30 mm. Mexico.

C. praxis Drc. (35 k). This species initiates the series of species having the abdomen black above. The forewing is similarly marked as in the preceding species, the discal band is narrow, of an orange-yellow, on the median somewhat angled. Hindwing in the basal half orange-yellow, distally black. Expanse of wings: 28 to 34 mm. Mexico.

C. cypris Drc. (35 i) differs from *praxis* by its broader median band, the colour is a deeper orange. The black abdomen is orange towards the base and at the anal tuft. Expanse of wings: 30 to 38 mm. Mexico, Guatemala.

C. uncinata Hmps. (35 k) is distinguished by the entire absence of the orange median band on the upper surface; beneath there are traces of it noticeable. Hindwings quite blackish-brown. Expanse of wings: 36 mm. Colombia.

C. ruficollis Hbn. (35 k) exhibits a broad median band; the antemarginal band is divided into 2 spots: a triangular spot below the apex, a smaller one between the median veins. Hindwings dull black with a broad, orange median band. Abdomen black, the rings 2 to 6 orange with a black macular stripe. In the ♀ the markings are more yellow. Expanse of wings: 38 to 50 mm. Brazil.

C. argentinensis Rothsch. (35 k) resembles the preceding and differs by the abdomen being beneath spotted black, the lower marginal spot extending to the proximal angle of the forewing; the hindwings are mostly more extensively yellow, but the basal black may also increase and be connected with the marginal band by stripes. Expanse of wings: ♂ 36 mm, ♀ 30 mm. Argentina.

C. cynara Drc. (35 k) exhibits, instead of the orange median band, a broad longitudinal stripe from the base as far as beyond the cell; a narrow antemarginal band like in the others. Hindwing black with an orange-yellow stripe in the basal half of the costal margin. Expanse of wings: 36 mm. Mexico.

C. trisigna Wkr. (35 k) is the smallest species. Markings on the forewing similar as in *cynara*, but the longitudinal stripe is divided into 2 small spots. Hindwings orange, with a black margin. Expanse of wings: 24 mm. Venezuela.

C. triplaga Hmps. (35 k). Forewings similarly marked as in *cynara*, but the marginal band is divided into 3 small spots. Hindwing black, with an orange spot in and below the cell. The body is black, the collar orange; abdomen on the 2nd ring subdorsally spotted orange, the others exhibiting orange lateral stripes except the last ring. Expanse of wings: 30 mm. Paraguay.

62. Genus: **Gnamptonychia** Hmps.

Proboscis developed; palpi short, porrect; forehead roughly haired; ♂ antennae serrated and ciliated; anterior tibiae very short with a long, bent hook inside and a shorter one outside; base of abdomen roughly haired. On the forewing the upper median vein rises close at the cell-angle, out of which the two lower radial veins rise, accessory cell present, from the lower bordering of which the upper radial vein rises; the uppermost subcostal vein terminates into the costal margin. On the hindwing the upper median vein is petioled with the lower radial, the middle one is absent, the upper one on a common footstalk with the subcostal.

flavicollis. **G. flavicollis** Drc. (= *tiria* Drc.) (32 i). Dull black, head and collar orange-yellow, so is the last abdominal ring and stripes on the femora. Expanse of wings: ♂ 46 mm, ♀ 34 mm. Mexico.

orsola. **G. orsola** Dyar (32 i) is smaller than the preceding and differs by quite ochreous-yellow ventral side. Thorax and forewings are more slate-coloured, abdomen and hindwings blacker. Expanse of wings: 38 mm. Mexico.

63. Genus: **Inopsis** Fldr.

In its exterior very closely allied to the preceding; the palpi are beneath more strongly haired, the ♂ antennae partly double-combed, partly simply ciliated; anterior tibiae very much like in the preceding genus, posterior tibiae with longer spurs. On the forewing the upper median vein is more remote from the cell-angle; the middle radial rises in the ♂ above the cell-angle, in the ♀ out of it, or petioled with the lower one. On the hindwing the two lower radial veins are petioled and rise with the upper median vein from the lower cell-angle.

Sect. I. ♂ antennae combed.

imitata. **I. imitata** H. Edw. (= *flavicollis* Drc., *tiria* Drc. p. parte) (35 l). Black with a faint blue reflection; palpi, forehead, spots on the collar, hips, venter, and anal tuft in the ♂ orange, in the ♀ the whole collar, vertex, and the greatest part of the legs are orange. Expanse of wings: 36 to 40 mm. Mexico.

catoxantha. **I. catoxantha** Fldr. (= *tiria* Drc. part.) (35 l) is orange on its head and collar, the ventral side, in the ♂ except the abdominal end, likewise. The forewings are more bronze-greenish or greenish-blue than in the preceding; hindwings black with a blue reflection. Expanse of wings: 42 mm. Mexico.

scylla. **I. scylla** Drc. (35 l) differs by its black forehead from the preceding; black with a dull blue shine. The ventral side is likewise orange, in the ♂ not quite to the end. Expanse of wings: 42 mm. Mexico to Panama.

Sect. II. ♂ antennae ciliated.

modulata. **I. modulata** H. Edw. (32 i). Body and forewings metallic bronze-green; head, collar, hips, femora, and venter orange. Hindwings black with a bluish-green shine. Expanse of wings: 40 to 46 mm. Mexico.

metella. **I. metella** Drc. (35 l) differs from the preceding by its black femora; the forewings are of a duller bronze green, the hindwings more blue with a small whitish stripe below the cell-end. Expanse of wings: 48 mm. Guatemala.

64. Genus: **Cyptonychia** Hmps.

Closely allied to the preceding genus; the forehead with a large, round projection, the anterior tibiae only on the inside with a long, bent spine. On the forewing the venation is almost the same, only the upper radial vein rising from below the upper cell-angle, on the hindwing the middle radial vein from above the lower cell-angle.

flaviceps. **C. flaviceps** Drc. (35 l) is orange-yellow on its head and thorax; palpi, chest, legs, and abdomen are brownish-grey. The wings are yellowish-white, the forewings with a basally black costal margin. Expanse of wings: 30 to 34 mm. Mexico.

65. Genus: **Nyctosia** Hmps.

Very similarly built as *Inopsis*, but different by the stunted proboscis and longer palpi. Head, thorax, and base of abdomen are roughly haired; the ♂ antennae serrate and ciliated; on the posterior tarsi there are no middle spurs. Venation likewise similar, but the accessory cell of the forewing is absent, the 4 lower subcostal veins all on a common pedicle, only the uppermost rising from the cell and terminating freely into the costal margin. On the hindwing the upper radial and the subcostal vein rise unpetioled.

coccinea. **N. coccinea** Schs. (35 l). Body black with a faint blue reflection; forewings dull blackish-brownish, hindwings carmine, costal margin and fringes black. Expanse of wings: 38 mm. Mexico.

poecilnotus. **N. poecilnotus** Dyar (35 m). Forehead dark grey, vertex orange, also the thorax; collar and shoulder-covers grey, thoracic sides orange-pink like the first abdominal ring; the rest of the abdomen is bluish-black except the orange anal tuft. Forewings leaden grey, hindwing with a narrow, grey costal margin and border. Expanse of wings: 40 mm. Mexico.

N. tenebrosa Wkr. (= proxima H. Edw.) (35 m). Head, thorax, and the anal tuft of the ♂ orange- *tenebrosa*. yellow, the rest of the body inclusive of the palpi, collar and shoulder-covers bluish-black. Forewings black with a bronze-green lustre, hindwings with a dull blue shine. Expanse of wings: 48 to 52 mm. From Mexico to Guatemala.

66. Genus: **Pygoctenucha** Grt.

Proboscis well developed; palpi rather long, beneath hairy, protruding forward; ♂ antennae with short double combs. Anterior body and base of abdomen roughly haired. The ♀ has dense, woolly hair on the anus. Veins of the forewings as in *Nyctosia*, but with an accessory cell. On the hindwing, in *enna*, the lower radial veins and the upper one are petioled with the subcostal, in the other species not. — 5 species known hitherto.

P. enna Drc. (35 m) has a black body with orange forehead, palpal base, collar, and shoulder- *enna*. covers. In the ♂ also the hair on the 2 last abdominal rings laterally and beneath are orange, in the ♀ whitish. Forewings black with a bronze-green shine. Hindwings hyaline diaphanous with a broad, blackish-green border. Expanse of wings: 40 mm. Mexico.

P. azteca Schs. is smaller and distinguishable by black, not red forehips. The collar, shoulders, *azteca*. anal tuft, and a small spot at the base of the costal margin on the forewing are in the ♂ carmine, in the ♀ orange. Fringes in the ♂ white. Expanse of wings: 38 mm. Mexico.

P. terminalis Wkr. (= pyrrhoura Hulst., votiva Edw., bolteri Edw., harrisii Bsd.) (35 m) is a well *terminalis*. known, common species, on the body black with a metallic blue lustre, and scarlet forehips, collar, shoulders, and anal tuft; the latter is in the ♀ whitish at its extreme end. Forewings black with a green lustre and white fringes; hindwings more bluish lustrous. Expanse of wings: 46 mm. Mexico, common.

P. funerea Grt. (35 l) is a minute, dull black animal, with a very faint blue reflection; lateral spots *funerea*. on the collar, and the abdominal end are yellow. Expanse of wings: 28 mm. United States, Mexico.

P. clita Drc. (35 m) is an entirely different, unicolorously orange-yellow species with longer palpi, *clita*. much more slenderly built, the wings broader, with a narrow accessory cell. Palpal ends and antennae are black. Costa Rica.

67. Genus: **Pronola** Hmps.

Proboscis well developed; palpi erect, not reaching the vertex; ♂ antennae ciliated; tibiae with long spurs. Forewings short and broad, with a strongly curved costal margin. The lower median vein is strongly curved at its rise, the upper one rises before the cell-angle, from which the two lower radial veins rise; the upper one rises below the upper cell-angle, the 4 lower subcostal veins petioled, only the uppermost separately from the cell. On the hindwing the upper median anastomoses with the lower radial vein; the middle radial rises above the lower cell-angle, the upper one anastomoses with the subcostal. The ♂ exhibits beneath in the cell-end and on the lower median vein long scent-hair and above a scent-spot in the cell-end of the hindwing. 5 species are described.

P. magniplaga Schs. (32 h). Head and thorax orange-yellow, abdomen reddish-brown. Forewings *magni-* pinkish-brown with a yellow base, costal margin and border. Hindwing light red-brown, in the costal half *plaga*. light yellow, in the ♀ darker. In the latter the apex is broader yellow. Expanse of wings: 20 mm. Brazil, Bolivia.

P. fraterna Schs. is very similar, smaller, and the reddish-brown parts of the preceding are here *fraterna*. violettish-black. Expanse of wings: 16 mm. French Guiana (Maroni River).

P. diffusa Schs. (32 h) is likewise similar, paler yellowish, the greyish-brown inner-marginal area is *diffusa*. in the cell deeply incised by the yellow costal margin and has a yellow middle-spot. Hindwings pale yellow. Peru.

P. ectrocta Dogn. (32 h). Head, thorax, and abdomen yellow, the latter two above mixed with brown. *ectrocta*. Forewings yellow with a large, U-shaped brown spot broadly bordering on the proximal margin. Hindwings light yellow. Colombia.

P. perdifusa Dogn. (32 h) is more slenderly built, with more extended forewings exhibiting in the *perdifusa*. ♂ beneath in the cell a roughly haired excavation; above it there are black scent-scales, in the cell-end a silvery lustrous, black hair-tuft, and a hairy oblique stripe crosses the lower median vein. The body is yellow-brownish, the forewings yellow with reddish-brown nebulous bands before and behind the middle. Hindwings light yellow. Colombia.

68. Genus: **Eugonosia** Hmps.

Distinguished by the entirely stunted proboscis and palpi; posterior tarsi with moderately long spurs. On the forewing the upper median vein rises petioled with the lower radial from the lower cell-angle; above it the middle radial comes forth; the upper one is petioled with the 3 lower subcostal veins, the two upper ones terminate into the costal margin. On the hindwing there are quite the same conditions, the upper radial on a very long footstalk with the subcostal vein. Only 1 species known.

E. angulifer Schs. (36 a). Head and thorax orange, overflowed with pink, abdomen rosy red; antennae *angulifer*. blackish-brown, curled white. Forewings orange, tinted rosy, with black margins and a black angular marking being open downward. Hindwings rosy with orange fringes. Expanse of wings: 24 mm. Brazil: Castro (Paraná).

69. Genus: **Rhodographa** Hmps.

Differs from the preceding only by the fully developed proboscis and somewhat longer, porrect palpi. Venation on the whole the same, but on the forewing the lower median vein is placed somewhat nearer to the lower cell-angle, and on the hindwing the footstalk of the lower radial vein is longer.

phaeoplaga. **R. phaeoplaga** Schs. (= *schistaceoplagiata* Rothsch.) (36 a) is a very small, orange-yellow animal with a carmine head and thorax. The orange-yellow forewings, being dotted carmine at the base and before the margin, exhibit in the middle a very large, blackish-brown spot margined with carmine. Hindwings orange, slightly tinted red. Expanse of wings: 18 mm. Known from Brazil and Bolivia. For the synonym the genus: *Neothyone* was established, the description of which corresponds in the venation to *Rhodographa*, comp. p. 266.

70. Genus: **Nudosia** Hmps.

Proboscis absent; palpi very short; ♂ antennae finely serrate and ciliated; posterior tibiae without any middle spurs. On the forewing the median and radial veins rise all separately; only the two lowest subcostal veins are petioled, the 3rd is absent, the 2nd comes from the cell, and the uppermost anastomoses with the costal. On the hindwing the upper median and lower radial vein are anastomosing, like the upper radial and the subcostal vein.

fuscifusa. **N. fuscifusa** Hmps. (36 a). The only small species looks very much like the *Pronola*-species in its exterior. Light orange-yellow, with a large, blackish-brown discal spot as far as the proximal margin, projecting distally in the middle of the distal margin and being finely veined yellow. Hindwings light yellow, in the disc tinted greyish-brown. Vertex whitish. Expanse of wings: 18 mm. Peru.

71. Genus: **Achroeosia** Hmps.

Very much like the preceding; antennae in the ♂ doubly combed. The venation almost the same, on the forewing the 3rd subcostal vein is present and petioled together with the lower ones. On the hindwing the lower radial vein is likewise present and rises separately from the cell-angle, the middle one above it; the rest as in *Nudosia*. Only one, insignificant species:

nuda. **A. nuda** Hmps. (36 a). White. The wings very thinly scaled and diaphanous; margin of the forewing ochreous-yellow, brownish towards the base. Antennae and legs yellowish. Expanse of wings: 18 mm. Brazil.

72. Genus: **Castronia** Jones.

Proboscis stunted; palpi very short, porrect; male antennae long-combed; posterior tibiae with 2 pair of very short spurs. On the forewing the venation is like in *Nudosia*, on the hindwing all the veins are present separately, the lower radial vein comes from above the lower cell-angle. Likewise only 1 species:

apostata. **C. apostata** Schs. (= *collaris* Jones) (36 a). Body blackish-brown; 2 spots on the hindhead, and the collar are yellow, so are lateral stripes and the apex of the abdomen. Forewings diaphanous brown, the veins and a fine marginal line darker. Hindwings blackish-brown. Expanse of wings: 32 mm. Brazil: Castro (Paraná).

73. Genus: **Comacla** Wkr.

This otherwise palearctic genus contains in America only 2 representatives very much like each other, with doubly combed antennae, stunted proboscis, and longer palpi than the preceding genera. The abdomen is roughly haired. Veins of the forewings exactly like in *Achroeosia*, but the uppermost subcostal vein runs separately and does not anastomose with the costal. On the hindwing the upper median vein rises far before the cell-angle, out of which the lower radial rises, the middle one above it; the upper one rises with the subcostal vein from the upper cell-angle.

simplex. **C. simplex** Wkr. (= *murina* Wkr., *clarus* Grt., *texana* French) (36 a) is light brownish on its body and wings, the latter being very thinly scaled and diaphanous, the forewing at the base with a small yellow spot; small, orange-yellow spots are also on the head and shoulders. Abdomen above yellow. Expanse of wings: ♂ 22 mm, ♀ 28 mm. United States: Florida.

fuscipes. **C. fuscipes** Grt. differs from *simplex* by its grey abdomen, broader forewings strewn more profusely dark, more shortly combed antennae. Expanse of wings: 22 mm. Arizona.

74. Genus: **Balbura** Wkr.

Proboscis developed; palpi erect, reaching to the vertex, and hairy below at the basal joint. Antennae of the ♂ doubly short-combed, towards the tips serrate. On the forewing the upper median vein rises before the cell-angle, out of which the two lower radial veins rise, the upper one from the upper angle; the uppermost subcostal vein anastomoses with the costal. On the hindwing the two lower radial veins and the upper one are petioled with the subcostal or also unpetholed. Hitherto 3 species have been described:

B. dorsisigna *Wkr.* (32 i) is a widely distributed and common insect, with greyish-brown, darker *dorsisigna*, veined forewings with an orange-red base; the collar and thorax are orange-red, too. Expanse of wings: 30 mm. Honduras; Panama; Venezuela.

B. fasciata *Schs.* (32 i). Body black, with red shoulder-covers and base of forewing. Forewings *fasciata*, otherwise light brownish, at the costal and proximal margins, and on the cellular and submedian folds striped black; at the cell-end there is a broad, blackish-brown transverse vein; in the marginal area long, black internerval stripes; the one between the upper radial veins extends to the cell. Hindwings dark brown. Expanse of wings: 34 mm. Costa Rica.

B. intervenata *Schs.* (36 a). Body black with a red thorax; shoulder-covers outside bordered with *intervenata*, black. Forewings blackish-brown, with a broad, black proximal margin; in the marginal area black intermediary stripes, like in the preceding, and the third uppermost likewise extends as far as the cell. Hindwing black, in the disc diaphanous. Expanse of wings: 27 mm. Costa Rica.

75. Genus: **Lithoprocris** *Hmps.*

Differs from the preceding by shorter, porrect palpi covered below with long scales. Antennae above in the middle covered with scales. On the forewing the middle radial vein rises above the lower cell-angle, the upper one below the upper cell-angle; all the rest like in *Balbura*.

L. methyalea *Hmps.* (36 a). Anterior body and forewings of a metallic bluish-green; abdomen and *methyalea*, hindwings more blue, the latter in the basal half of the proximal margin hyaline. Expanse of wings: 30 mm. Bolivia.

L. hamon *Drc.* (36 b) is no *Syntomida*, but belongs hereto. Head and thorax are coppery brown, the *hamon*, abdomen metallic blue. Forewings coppery golden, at the base suffused with purple. Hindwings purple blue, at the costal margin brown, in and below the cell there is a hyaline spot. Expanse of wings: 32 mm. Peru.

L. postcoerulescens *Rothsch.* (36 b) deviates by the peculiar formation of the hindwing: the costal *postcoerulescens*, margin is very convex, on the upper surface there is below the cell a fold with a hyaline border on both sides, the proximal margin is provided with very long brown fringes, on the under surface an ochreous-yellow scent-scale spot extends from the lower cell-angle to the margin, the proximal margin is turned over, covered with brown scales of a silvery gloss, below the median there is another roughly scaled, oval, black spot. Body and wings are metallic green, the forewings towards the margin blue. Perhaps it is the ♂ of *jason*. Expanse of wings: 22 mm. Peru.

L. jason *Dogn.* is much smaller, on the body metallic blue, forewings golden green, at the base, costal *jason*, margin and distal margin lustrous blue; hindwings greenish black. Expanse of wings: 26 mm. Ecuador.

76. Genus: **Dipaena** *Wkr.*

Proboscis developed; the erect palpi extend to the vertex, below long haired except the terminal joint. The antennae are often thickened in the middle, mostly here on top covered with long scales, otherwise with ciliary bristles. Spurs of tibiae short. On the forewing the upper median vein rises below the cell-angle, out of which the lower radial vein rises, the middle one above it, the upper one below the upper angle. The subcostal veins like in the preceding. The proximal margin exhibits in the ♂ in the middle long hair. On the hindwing the two lower radial veins rise from the lower cell-angle, or the middle one also from above it, the upper one being petioled with the subcostal vein. 6 species are known so far:

D. acharon *Wkr.* (= *ferruginosa* *Wkr.*, *rhodura* *Btlr.*) (32 h) is on the body blackish-brown, with *acharon*, a blue and purple reflection, the 3 last abdominal rings above scarlet, in the ♀ less so; the anal tuft of the ♂ is only below red. Forewings with a purple reflection, at the costal and proximal margins suffused with a metallic bluish-green. Hindwings diaphanous, in the ♂ with a reddish-yellow scent-spot in the cell-end, at the margin broadly purple blue. Expanse of wings: 30 mm. Amazon District.

D. contenta *Wkr.* (= *lateralis* *Wkr.*, *squamicornis* *Fldr.*) (32 h) is similar, but the abdomen is above *contenta*, scarlet in its whole length, on the sides of the middle rings the ground-colour projects somewhat into the red. On the hindwing the diaphanous basal part is greatly confined; the ♂ is without the scent-spot. Expanse of wings: 28 mm. Amazon.

D. incontenta *Schs.* (36 b) is much smaller, on the wings dark red-brown, suffused with violet, parti- *incontenta*, cularly at the proximal margin. Hindwings greyish-black, towards the margin dark blue. On the abdomen only the 2 last rings are red above and laterally. Expanse of wings: 22 mm. Colombia.

D. eucera *Fldr.* (36 b). In the following species the antennae are not thickened, and the scaly cover *eucera*, is only short. Head and thorax black, palpi, collar and shoulder-covers orange-yellow; abdomen orange with a black dorsal stripe, the last rings quite black. Forewings black with a coppery lustre. A spot at the base of the proximal margin, and an oblique postmedian band are orange. Hindwings orange with a black margin. Expanse of wings: 22 mm. Colombia.

moesta. **D. moesta** Wkr. (36 b). Body and forewings blackish-brown with a faint blue shine. Hindwings blackish-brown. Anal tuft earmine. Expanse of wings: 28 mm. Habitat unknown.

salcedo. **D. salcedo** Dogn. (36 b) deviates from the other species by the broad shape of its hindwings which are in the ♂ greatly prolonged at the anal angle, as well as by long, orange-yellow hair-tufts on the 2nd abdominal ring. The ♀ is unicolorously black with a blue and purple reflection; in the ♂ the hindwings are diaphanous below the base of the cell, and the 4 last abdominal rings beneath banded orange. Expanse of wings: 30 mm. Panama, Ecuador.

77. Genus: **Cloësia** Hmps.

Very much like the preceding genus, the palpi shorter, the antennae not thickened and without any scales. On the forewing the venation is almost the same as in *Dipaena*, but the two lower radial veins rise from the same place. On the hindwing the middle radial comes from above the lower cell-angle; the costal vein is strongly curved.

parthia. **C. parthia** Drc. (36 b). Head and thorax dark metallic bluish-green, the abdomen more purple blue. Forewings metallic golden green, hindwings bluish-green. Expanse of wings: 34 mm. Known from Nicaragua, Panama and Brazil.

digna. **C. digna** Schs. (36 c) is much smaller, on its body and forewings metallic blue. The hindwings are thinly scaled, brownish-black with metallic blue stripes at the proximal margin, along the lower median vein and below the apex. Expanse of wings: 28 mm. Costa Rica.

normalis. **C. normalis** Dogn. (36 c). Body deep metallic green, the shoulder-covers with long pale green hair. Forewings above dull violettish-blue; hindwings and under surface metallic blue. Expanse of wings: 35 mm. Colombia.

78. Genus: **Eudolie** Mschlr.

Proboscis stunted; the short palpi porrect. ♂ antennae sealed; legs and abdomen roughly haired. Veins of the forewing similar as in *Dipaena*, but the upper radial vein is petioled with the 3 lower subeostal veins, the uppermost of which does not anastomose with the costal. On the hindwing the middle radial is absent. Only 3 species:

vittata. **E. vittata** Mschlr. (= *achatina* Btlr., *rufitineta* Rothsch.) (36 e) has a white body, the abdomen posteriorly darkened by brownish-grey; on the metathorax red-brown. Forewings white, in the whole disc as far as the proximal margin clouded red-brown with a white discal spot which is absent in the ♀, some dots at the costal margin, and before the apex at the margin 2 small spots. At the proximal margin of the ♂ a brownish-grey stripe. Hindwings white, in the ♂ before the margin darkened. Expanse of wings: 20 mm. Surinam. to the Amazon.

longa. **E. longa** Schs. (36 c). Head and thorax white, abdomen tinted reddish-yellow. Forewings white; at the base of the proximal margin a brown shade, one in the middle of the cell, one below it cohering with another, postmedian shade, which touches neither the costal margin nor the proximal margin; at the margin there are 3 small, brown spots: at the apex, in the middle, and at the proximal angle. Hindwings and fringes white. Expanse of wings: 22 mm. French Guiana.

major. **E. major** Rothsch. (36 c) almost looks like an *Areva*. The body is white, mixed with reddish-brown. Forewings whitish with faded red-brown spots. Hindwings with a very faint, reddish-brown tinge. Expanse of wings: 34 mm. Peru.

79. Genus: **Dolichesia** Schs.

Proboscis well developed; the porrect palpi project beyond the forehead; ♀ antennae flattened, scaled. The posterior tibiae are without any middle spurs. Forewings long and narrow with a falciformly curved costal margin. The upper median vein rises far before the cell-angle, out of it the lower radial vein and a little higher up the middle radial; the upper one comes from the upper cell-angle; the 3 lowest subeostal veins on one footstalk, the uppermost anastomoses with the costal. On the hindwing the middle radial is absent, the upper one anastomoses with the subcostal.

falsimonia. **D. falsimonia** Schs. (36 c). Head and thorax greyish-brown, abdomen pink. Forewings greyish-brown with a curved, light-grey shade from the middle of the costal margin almost to the base of the proximal margin, behind it a dark brown, oblique streak from the cell to the proximal margin; a light red-brown line runs from the costal margin before the apex to the margin at the lower radial; at the margin there are small black spots which flow together towards the proximal angle and pass over to the fringes; fringes otherwise white, at the apex black. Hindwings pink with a broad black border growing narrower towards the proximal angle. Expanse of wings: 16 mm. Costa Rica.

lignaria. **D. lignaria** Rothsch. (33 g) has not the falciform apex of the forewing as the preceding. Anterior body light reddish-brown, abdomen carmine with a black anal tuft. Forewings light reddish-brown, strewn darker, with indistinct, darker, antemedian, median and postmedian nebulous lines. Hindwings carmine-rosy with a blackish-brown marginal band. Expanse of wings: 20 mm. Peru.

80. Genus: **Macroptila** Dogn.

The 7 species known hitherto of this genus approximate the *Agylla* already by the shape and thereby our *Lithosia*; the forewings are almost lancet-shaped, and the hindwings in some species, such as *antonia* and *extensa* extraordinarily large. Proboscis developed. Palpi erect, beneath covered with hair which is turned downward. On the long, narrow forewing the lower median vein rises behind the middle of the cell; the upper one before the cell-angle; the two lower radial veins are petioled, the upper one either from the upper cell-angle or from below it; the uppermost subcostal vein is curved and terminates into the costal vein; in the ♂ the costal margin beneath is hairy. Hindwings very broad and round; the lower median vein from the middle of the cell; the upper one close in front of the lower angle; the two lower radial veins petioled or unpetioled, similar as the upper one with the subcostal.

M. monstralis Schs. (36 i). Head and thorax grey, forehead brown; abdomen whitish; legs white, *monstralis*. anterior tibiae above with ochreous-yellow hair. Forewings light grey, towards the proximal margin darker grey, costal margin and the veins above the median veins white; costa itself ochreous-yellow. Hindwings in the costal-marginal half light brown, towards the proximal margin white; margin dark grey from the lower median vein to the apex. In the base of the cell a small scent-scale spot. The costal margin of the forewing is straight and exhibits before the apex a small, lobular embayment. Expanse of wings: 30 mm. Costa Rica.

M. antonia Dogn. Body yellowish-white. Forewing of the ♂ in the disc with a scent-scale spot, at *antonia*. the lower cell-end a tuft of long white hair, lustrous silvery white, costa finely ochreous yellow. Hindwings above white. Under surface white, in the marginal area of the forewing and in the costal half of the hindwing with a grey tinge. In the ♀ also the proximal margin of the forewing is above tinged grey. Expanse of wings: ♂ 38 to 40 mm, ♀ 31 to 33 mm. Colombia.

M. crinada Dogn. (36 i) has a greyish-brown head and thorax; antennae red-yellow; abdomen yellowish *crinada*. white with an orange anal tuft. The white forewings are tinged purple grey towards the proximal margin and exhibit a similar stripe above the lower median vein; costal margin yellowish, towards the base darkened. Hindwings yellowish-white, towards the margin tinged greyish-brown, in the ♂ with a large scent-scale spot in the costal area. The ♀ is of a purer white with a decidedly darker inner-marginal band. Expanse of wings: 44 mm. Ecuador.

M. laniata Dogn. (37 l). Body white, tinged greyish-brown; antennae, legs, last abdominal ring, and *laniata*. ventral side ochreous-yellowish. Forewings silvery white, dusted darker; the ♂ exhibits beneath in the disc tufts of very long yellowish-white hairy scales. Hindwing in the costal half greyish-brown, in the inner-marginal half white. Expanse of wings: 34 mm. Ecuador.

M. nubecula Schs. (37 l) deviates from the other species by the narrower cell of the forewing and curved *nubecula*. median; the uppermost radial vein rises far below the upper cell-angle. The hindwing exhibits in the ♂ a large, brown scent-scale spot in the cell; the upper median vein is petioled with the lower radial veins; the costal margin is concavely excised before the apex. Head and thorax are lilac grey, the abdomen reddish-white. Forewings in the costal-marginal half silvery white, delicately laid on with yellow-reddish, below the cell lilac grey, with a yellow-reddish hue. Hindwings yellow-reddish white, towards the apex dusted grey. Expanse of wings: 32 mm. Costa Rica (Sixola, Tuis, Esperanza).

M. extensa Roths. (37 l) is described according to 1 female specimen. Body light red-brown, mixed *extensa*. with whitish. Forewings silvery white, proximal margin tinged reddish-brown. Expanse of wings: 42 mm. Peru.

M. fuscilaniata Hmps. (37 l) is distinguished by very broad wings. Body ochreous-yellow, on the *fuscilaniata*. head and thorax brownish. The ochreous-yellowish forewings are tinged blackish-brown at the proximal margin, costal margin towards the base blackened. Hindwings ochreous-yellow, towards the costal margin brownish. Beneath the forewings exhibit above the proximal margin a blackish-brown scent-spot, above it yellow spatulate scales. The ♀ has plain white wings with a brownish proximal margin. Expanse of wings: ♂ 40, ♀ 46 mm. Colombia.

81. Genus: **Hypareva** Hmps.

Proboscis well developed. Palpi rather short, covered with hair turned downward; ♂ antennae at the base thickened, with long ciliary bristles. Anterior femora long-haired. The venation differs little from that of the preceding genus; the two upper subcostal veins of the forewing rise freely from the cell and run into the costal margin. The upper radial vein and the subcostal of the hindwing are unpetioled. The ♂ exhibits beneath on the forewing long hair in the cell and in the submedian space, and a large pouch in the basal part of the median of the hindwing. Only 1 species is known:

H. pogonoda Hmps. (= *laticilia* Drc. part.) (37 l). Body and wings white, the head ochreous yellow, *pogonoda*. Forewings at the costal margin brownish, at the proximal margin dusted more purple blackish, in the ♀ more intensely than in the ♂. In the latter the hair on the under surface are ochreous-yellow. Expanse of wings: 32 mm. Distributed from Mexico through Guatemala, Panama as far as Guiana (Cayenne).

82. Genus: **Aptilosia** Schs.

Proboscis developed. Antennae in the ♂ with short cilia. Abdomen with rough hair. Forewings rather broad. Venation similar as in the preceding; on the forewing the two lower radial veins rise from the same place

of the lower cell-angle, the uppermost subcostal vein anastomoses with the costal. Hindwings broad, costal margin very convex, apex rounded; the margin runs almost in a straight line to the proximal angle. In the cell of the ♂ a large scent-scale spot; the middle radial rises separately from the lower one above the cell-angle, the upper radial anastomosing with the subcostal vein. Only 1 small species.

crocea. **A. crocea** Schs. (371). Head and thorax lilac-grey; the abdomen like the wings yellowish-white, the proximal margin of the forewing broadly lilac grey; on the hindwing a stripe of long yellow hair runs along on the median. Expanse of wings: 29 mm. Costa Rica.

83. Genus: **Tricharesa** Hmps.

Distinguished from the preceding genus by the somewhat rounder shape of the wings and, above all, by the lower radial veins being rather long petioled on all the wings; on the hindwing the upper radial vein is present separately. The ♂ exhibits on the forewing beneath hairy fringes in a costal fold, and long erect hair along the submedian fold, on the hindwing above in the cell-end a tuft of fluffy hair.

fulvilaniata. **T. fulvilaniata** Dogn. (371) is on its body white, with a brownish hue, the antennae more red-yellow. Forewings silvery white, at the proximal margin light brown, the costal margin towards the base blackened; hindwing white with a red-yellow woolly hair-spot. Expanse of wings: 28 mm. Panama.

84. Genus: **Hyperthagylla** Hmps.

Likewise closely allied to the preceding genera. Forewings narrower, with a narrow discocellular, beneath without any hair; a small accessory cell is present and is produced by the 3rd subcostal vein anastomosing with the 4th; the 1st subcostal vein is separated. Hindwings more rounded, the two lower radials on a short pedicle; in and behind the cell-end of the ♂ a large scent-scale spot. On the last abdominal ring of the ♂ very long lateral hair-tufts. Contains but 1 species.

mira. **H. mira** Btlr. (361). White, on its body, costal margin and proximal margin of the forewing tinged lilac grey. The scent-spot of the hindwing red-brown. Expanse of wings: 26 mm. Amazon District.

85. Genus: **Metagylla** Hmps.

Only 1 species. Distinguished from the preceding genus by the palpi being provided with hair turned downward, and still longer hairing, also on the dorsum of the anal segment of the ♂. The venation is likewise very similar; on the forewing the upper median vein is removed to the cell-angle, so that it rises from the same place with the two lower radials; the accessory cell is absent. On the hindwing the upper median vein is on a short pedicle with the two lower radials. The other venation and the scent-spot as in *Hyperthagylla*.

miroides. **M. miroides** Hmps. (361) is coloured almost exactly like *mira*, only the dorsal anal tuft is reddish-yellow, the lateral ones being blackish-brown. The red-brown scent-spot is distally bordered with ochreous-yellow. Expanse of wings: 28 mm. Costa Rica.

86. Gattung: **Agylla** Wkr.

Proboscis developed; the erect palpi do not reach the vertex; posterior tarsi with spurs of medium length; abdomen at the base covered with rough hair. Forewings rather narrow; the lower median vein rises close behind the middle of the cell, the upper one rather far before the lower angle; the two lower radial veins either on a short footstalk, or from the cell-angle; the upper radial comes out of the upper cell-angle or the accessory cell which is produced by the 3rd subcostal vein anastomosing with the 4th; the uppermost subcostal vein separately from the cell and terminating in to the costal margin. On the hindwing the upper median vein rises from the cell-angle or close before it; the two lower radials like on the forewing; also the upper one is either petioled with the subcostal or it comes separately out of the cell-angle. As to further particulars about this genus comp. Vol. II, p. 64, and Vol. X, p. 199.

A large genus, distributed in all parts of the globe, except Europe. The American representatives are preferably coloured white, often with a darkened proximal margin of the forewing. Many species are distinguished by secondary sexual marks, mostly consisting in the ♂♂ of scent-scale spots or varied hairing. ♂ antennae either doubly short-combed, or also with ciliary bristles. Of late a great number of species have been described, all of which are mostly very much like each other and make it difficult to define them; this is particularly the case in the ♀♀, since the ♂♂ can be better distinguished by the various hairy spots on the wings or tufts on the abdomen etc. In the neotropical region they represent our *Lithosia* which they also resemble on the whole in their habits. Like them, they have the narrow long forewings turned round the mostly much too large hindwings being folded together and round the abdomen. The species come to the lamp.

Sect. A. ♂ antenna doubly combed. towards the apex dentate.

A. foyi Dogn. (36 l). An easily recognizable, large species. Head, collar and anterior half of the thorax *foyi*. metallic green, thorax posteriorly silvery white; palpi orange with a black terminal joint; chest, legs and abdomen orange; anterior tibiae and tarsi striped green. Forewing silvery white with an orange-yellow costa and a fine blackish green stripe on the inner-marginal vein; hindwings dull white. Expanse of wings: 50 mm. Ecuador.

A. argentifera Wkr. (37 a) is quite silvery white with orange palpi, legs and antennae, the palpal *argentifera*. terminal joint and forehead being black. Collar blackish, abdomen above tinted ochreous-yellowish; in the ♂ the costa of the forewing is orange and a dark spot at the proximal margin, both being absent in the ♀. Expanse of wings: 46 to 52 mm. Mexico, Costa Rica, Venezuela, Brazil.

A. marcata Schs. (37 a) resembles *argentifera*, though it is smaller; thorax darker; shoulder-covers *marcata*. with an orange spot. Abdomen orange, only above in the middle white. The dark inner-marginal spot of the forewing is in the basal half divided by a white longitudinal stripe. In the ♀ the abdomen is almost white and above the dark inner-marginal spot there is an orange stripe. Expanse of wings: 40 mm. Brazil to Peru.

A. fusciceps Hmps. (37 a). Head and collar blackish-brown, thorax white, antennae reddish-yellow; *fusciceps*. abdomen white, with a brownish hue; palpi and the whole underside, inclusive of the legs, orange, anterior tibiae and tarsi anteriorly brown. Forewings white, at the proximal margin light brown with an orange proximal margin. Hindwings white, with a faint yellowish hue. The ♀ differs by its white head and collar, the latter showing only one dark median spot. Forewings all white, also the costal margin, only the inner-marginal vein is somewhat brownish. Expanse of wings: ♂ 40 mm, ♀ 44 mm. Colombia, Peru.

A. fulvithorax Hmps. (37 b). Head white, with orange-yellow antennae and a blackish-brown streak *fulvithorax*. between them; palpi, collar, and shoulder-covers orange. Thorax white, anteriorly brownish; legs and abdomen orange. Forewing silvery white, with an orange costal margin. Expanse of wings: 44 mm. Colombia.

A. subochrea Dogn. (37 a) differs from the preceding by its orange-yellow head, with a brown vertex *subochrea*. and entirely white thorax; the abdomen is above lighter yellowish. Wings like in the preceding. Expanse of wings: 46 mm. Colombia.

A. nitidalis Maass. (= *nochiza* Hmps. p. part.) (37 b) is somewhat smaller than *nochiza*; only the *nitidalis*. head and collar are blackish-brown, the thorax white, with a faint yellowish tint. Abdomen above brownish, beneath ochreous-yellow. Wings as in *nochiza* (37 b), but the blackish-brown stripes on the median and its branches, as well as of the costal base are absent. Expanse of wings: ♂ 40 mm, ♀ 44 mm. Colombia, Ecuador, Bolivia, Peru.

A. eriodes Hmps. (37 b) is a large species, with very broad wings, the body white, with a brownish *eriodes*. hue, beneath orange haired. Forewing above silvery white, with an orange costal margin and a faintly brownish proximal margin, beneath with woolly hair on the submedian fold and a longhaired cell. Hindwing white, above the cell is covered with orange-yellow woolly hair. Expanse of wings: 46 mm. Peru.

A. delicia Schs. Much smaller than the preceding. Head and thorax dark grey, abdomen whitish, *delicia*. with a yellow-reddish anal tuft. Forewings white, the proximal half as far as the median smoky grey. Hindwings yellow-reddish, proximal margin and the space before the margin white, distal margin grey, towards the costa darker. Beneath the forewings are grey, the hindwings white, the basal costal-marginal half of both wings reddish-yellow. Expanse of wings: 23 mm. French Guiana.

A. zucarina Dogn. (37 b) has an entirely black head with orange palpi, also antennae, collar and *zucarina*. shoulders are orange, like the chest and legs; the rest of the thorax is white, the abdomen ochreous, above towards the base with grey hair. Hindwings lustrous silvery white, with an orange costa, hindwings lustreless white. The under surface is tinged greyish-brown. Expanse of wings: 34 mm. Ecuador (Loja).

A. nivea Wkr. (= *monoleuca* Wkr.) (37 c) is a very common and widely distributed species. Body *nivea*. and wings silvery white. Palpi orange, with a black terminal joint; forehead blackish, vertex white or orange-yellow, antennae orange, so are the legs, which are partly striped black. Abdomen white, light yellow or orange-yellow. Costa of the forewing in the ♂ orange, in the ♀ white. — The form in which the collar and anterior half of the thorax, inclusive of the anterior half of the shoulder-covers, are tinged brownishgrey, is called: **argentea** Fldr. (= *virginea* Schs.), if the vertex is orange-yellow, — **floreccilla** Dogn. if it is coloured brownish-grey. — **plateada** Dogn. is quite a different form, in which the collar and anterior half of the thorax and shoulder-covers are coloured metallic green. Expanse of wings: 30 to 48 mm. Distributed from Mexico through the whole of Central America as far as Ecuador and Bolivia. *argentea*. *floreccilla*. *plateada*.

A. nochiza Dogn. (37 b) is white, tinted ochreous; forehead and thorax suffused with blackish-brown. *nochiza*. Forewings with blackish-brown stripes on the costal base, the median and its branches; of the same colour a spot at the cell-end and 2 spots at the proximal margin. In the ♀ the ground colour is white, dusted dark brown, the inner-marginal spots more faded. Expanse of wings: 48 to 56 mm. Ecuador, Bolivia.

A. zopisa Dogn. (37 c) has a brown body, being orange-yellow beneath and at the end; palpi orange, *zopisa*. with a black terminal joint. The grey forewings are very densely strewn with blackish-brown scales, the base whitish. Hindwings yellowish-white. Expanse of wings: 42 mm. Ecuador (Loja).

Sect. B. ♂ antenna with ciliary bristles.

- perpensa*. **A. perpensa** Schs. (= *laticilia* Drc. part. nec *Wkr.*) (36 k) is white on its body and wings, abdomen beneath with orange hair-tufts; palpi and legs blackish-brown, the costa of the forewing is covered with short red-yellow hair, the inner-marginal half dusted blackish-brown, the same on the under surface the marginal area of the forewing and the costal-marginal part of the hindwing. The under surface of the forewing shows in the cell a large, orange scent-scale spot and below it tufts of long, orange, rough scales; a similar spot on the hindwing above in and behind the cell. Expanse of wings: 36 mm. From Mexico (Jalapa, Misantla, Vera Cruz).
- tumidicosta*. **A. tumidicosta** Hmps. (= *laticilia* Drc. part. nec *Wkr.*) (36 k). Similarly coloured as *perpensa*, but the under surface brown, only the anal tuft orange. The costal margin of the forewing in the ♂ is bulged out near the base, in the middle turned over downward, and thereby appearing concave, towards the base with short blackish hair. Underneath the forewing exhibits a stripe of long, erect, orange-yellow hair below the cell and the hindwing similar hair above along the subcostal. The ♀ has narrower wings and a narrower brownish-grey proximal margin. Expanse of wings: 32 to 36 mm. Guatemala.
- argentea*. **A. argentea** Wkr. (37 c). White, head and thorax blackish-brownish, abdomen tinted ochreous-yellow; long hair-tufts on the anterior femora and on the ventral side orange. Forewing white, in the inner-marginal half blackish-brown, in the ♂ the costa with orange hair. Beneath the forewing is covered at the end of the median with long, dark brown, towards the base more orange-yellow hair, the marginal area blackish-brownish. Hindwing white, in the disc ochreous-yellow, the cell covered with orange-yellow, woolly hair. In the ♀ the dark inner-marginal area is narrower. — **A. vestalis** Schs. has the marginal area of the forewing beneath all white, and mostly an orange-yellow hair-spot in the disc of it. Expanse of wings: 36 to 46 mm. Brazil.
- oediphebia*. **A. oediphebia** Hmps. (37 c) is marked by a round, knob-like, brown swelling on the median of the forewing beneath near the cell-end and ochreous-yellow scent-scales in the inner-marginal half, on the hindwing above in the costal half. The body is moreover white, with a brown hue; the wings silvery white, at the proximal margin broadly brown. Expanse of wings: 30 mm. Ecuador.
- megasema*. **A. megasema** Hmps. (37 c) is very similar, larger. The swelling on the median is elliptic, much larger, extending from the discal fold to the lower median vein. Body and wings are likewise similar, but the hindwing above, in the costal half, light orange brownish. Expanse of wings: 34 mm. Peru.
- exscissa*. **A. exscissa** Schs. (37 c). Head and thorax smoky grey, forehead and abdomen more yellow-reddish grey. Forewings distally narrow; in the basal two thirds the proximal margin is strongly lobed as far as the retracted inosculature of the lower median vein; the distal third runs straight to the proximal angle, into which the upper median vein terminates; the colour is a silvery white, the inner-marginal lobe brownish-grey, the costa ochreous-yellow. The hindwings are broad, with a rounded margin, silvery white; a large, yellow scent-scale spot in the cell-base is covered by the inner-marginal lobe; below and behind the cell the wing is yellow-brownish, with a brownish-grey postmedian shade above the lower median vein. Beneath the discal part of the forewing is covered with rough, yellow scales, below the cell a cinnamonbrown scent-scale stripe extends; distal margin brownish-grey. Under surface of hindwings blackish-brown; proximal margin and border whitish. Costa Rica.
- barbicosta*. **A. barbicosta** Hmps. (36 k) has no scent-scale spots, only the costal margin of the forewing is blackish-haired in the ♂. White; head and thorax smoky grey; the larger, basal part of the forewing is tinted yellow-brownish, in the terminal third of the proximal margin there is a blackish-brown spot. Hindwings white, in the basal half yellowish. Expanse of wings: 32 mm. Brazil (Rio de Janeiro).
- albivenis*. **A. albivenis** Schs. (36 k). Head and thorax are dark greyish-brown, the forehead yellow-reddish; palpi dark brown, white haired. Abdomen above grey, hairtufts beneath and laterally reddish-white. Legs white, partly striped grey; anterior tibiae black with white rings. Forewings light grey, the veins and discocellular silvery white, the inner-marginal area smoky grey; at the cell-end and between and above the median veins the grey colour is darker; in the ♂ the costal margin exhibits brownish hair. Hindwings white, at the costal margin and border tinged smoky grey. Beneath the forewings are smoky grey, distally lighter, hindwings white, at the costal margin yellow-reddish. In the ♀ the forehead is white, also the forewings entirely white, only between the median veins near the cell tinted grey; the proximal margin dark brownish-grey. Expanse of wings: 26 to 28 mm. Costa Rica.
- polysemata*. **A. polysemata** Schs. (37 d) has much broader wings than the preceding. White, the body with a smoky grey tinge; proximal margin of the forewing dusted smoky grey. Costa towards the base blackish. The ♂ shows beneath a hairy costal fold, below the cell a light reddish-yellow hair-stripe, being still much longer haired on the lower median vein. Hindwings towards the margins somewhat brownish, beneath with white, woolly hair in the cell and with brown hair above it, and a black scent-scale spot below it. The ♀ has more purely white wings. Brazil.
- auranticaria*. **A. aurantaria** Schs. (36 k). Body above grey, beneath yellow-reddish white. Forewings white, at the proximal margin faintly grey. Hindwings white, with a large scent-scale spot in the basal half of the cell, and a grey shade on the lower median vein at the margin. Beneath the forewing exhibits below the cell a stripe of hair which grow much longer between and above the median veins, like in the preceding species. Expanse of wings: 26 mm. French Guiana.
- fasciculata*. **A. fasciculata** Wkr. (= *hypotricha* Fldr.) (36 l) is purely white; palpal terminal joint black; legs brownish. The ♂ exhibits beneath on the median of the forewing rough, ochreous-yellow hair, on the upper surface of the hindwing in the cell and somewhat behind it woolly, yellow hairing. Expanse of wings: 30 mm. Venezuela.

A. barbula Dogn. (37 d) is distinguished by much longer discocellulars of both wings; on the hind- *barbula*. wing the two lower radial veins rise from the same place. Head and thorax brownish yellow, abdomen above more white; beneath the body is paler ochreous-yellow; palpi, forehead and hips blackish. Forewings narrow, with a rectangular apex; white, with a pale ochreous-yellow tinge, in the inner-marginal area brownish. Beneath the ♂ forewing shows short hair in the whole lower half of the cell and between the median veins and lower radial veins. The costa of the hindwing is provided with hair growing longer distally; the colour is on both sides a very pale yellowish white. Expanse of wings: 33 mm. Colombia.

A. trichosema Dogn. (37 d) is similar, larger, the hairy spot of the forewing beneath is much shorter *trichosema*. and situate only below the cell near its end, between the median veins and radial veins. The forewings are silvery white with a brownish proximal margin, only the hindwings yellowish. Expanse of wings: 44 mm. Colombia.

A. rotunda Hmps. (37 d) is easily recognizable by very narrow forewings and almost 3 times as *rotunda*. large round hindwings. Head and thorax brownish-grey, neck and antennae ochreous-yellow, so is the abdomen. Forewings silvery white, in the inner-marginal half purple blackish, also the cell-spaces above it towards the margin, as far as the middle radial. Beneath the ♂ shows very long hair on the forewing in the cell and behind it. Hindwings white, tinted ochreous-yellow. Expanse of wings: 46 mm. Colombia, Bolivia.

A. pseudobisecta Rothsch. (37 d), described according to a ♀, is reddish-brown on its head and thorax, *pseudobi-* the base of the collar orange; abdomen light orange, above brownish. Forewings lustrous light yellow, the proxi- *secta*. mal margin reddish-brown as far as the submedian fold, and forming a projection to the rise of the lower median vein. Hindwings yellowish-white. Expanse of wings: 44 mm. Colombia.

A. meteura Hmps. (36 k) in the ♂ is distinguished by a slight concavity of the distal half of the *meteura*. proximal margin of the forewing which is beneath covered with erect hair. Hindwings very broad. Head and thorax are yellowish-white, tinged brownish, the abdomen of a purer white. Forewings yellowish-white, strewn with reddish-brown scales, which are behind the cell condensed to an oblique shade from the costal margin to the middle radial vein at the margin. Proximal margin of a deeper brownish colour. Hindwings yellowish-white. The ♀ is less densely dusted brown, and the abdomen likewise tinged brown. Expanse of wings: 38 mm. Colombia.

A. brunneostriata Hmps. (37 c). Head and thorax reddish ochreous-brown, abdomen yellowish-white. *brunneo-* Forewings ochreous-yellowish white, in the proximal half with dusted red-brown stripes in the cell-spaces, *striata*. also in the cell-end, below the costa and at the apex brownish spots. Hindwings white, tinged somewhat brown, towards the margin more intensely so. Beneath the costal half is dusted brown. Expanse of wings: 44 mm. South East Peru.

A. nubens Schs. (37 d) has, like the preceding, no hair on the wings. The ♂ shows 4 or 5 bent *nubens*. spines on the basal part of the antennae, on the abdomen lateral long hair-tufts. Head and thorax smoky grey, antennae orange, like the anterior chest, hips and abdomen. Forewings silvery white, at the inner-marginal part smoky grey with a yellow costa. Hindwings white, proximally yellowish, at the margin more or less tinged grey. The ♀ has white anterior chest and hips, the abdomen being also white with a very faint yellowish tinge, also the costal margin white. Expanse of wings: 38 to 42 mm. Mexico.

A. involuta Hmps. (= *albotestacea* Rothsch.) (36 l) greatly resembles *nubens*; the ♂, however, is *involuta*. without the spines on the antennae, the costal margin of the forewing being turned over and roughly scaled, the hindwing beneath showing a large, reddish-yellow scent-scale spot below and behind the cell. Abdomen brownish-grey, with brown anal tufts; costa of the forewing in the middle ochreous-yellow, towards the base blackish. Expanse of wings: 36 mm. Brazil: Castro (Paraná).

A. revoluta Dogn. (36 l) has, like the preceding, an inverted and roughly scaled costal margin, *revoluta*. but the androconium is entirely absent. Head and thorax blackishbrown mixed with grey; chest and legs ochreous-yellow. Abdomen blackish brown, beneath white. Forewing silvery white, at the proximal margin tinged brown, the costal margin orange-yellow; hindwing white, in the costal half yellowish. Expanse of wings: 30 mm. Colombia.

A. submacula Schs. (37 f). Head and thorax dark grey, abdomen light grey; shoulder-covers outside *submacula*. and at the apex white. Forewing silvery white, the inner-marginal area brownish-grey. Hindwing white, at the anal angle dusted grey. Forewing beneath white, with a grey inner-marginal area and a large, greyish-brown postmedian spot, also the margin being greyish-brown. Expanse of wings: 37 mm. Costa Rica.

A. marginata Drc. Beginning from this species, the ♂♂ are without any secondary sexual marks except *marginata*. the anal tufts. Body purple-blackish, palpi yellowish, forehead and antennae whitish; anal tufts black. Forewings white, at the costal margin tinted yellow, the inner-marginal area purple-blackish; beneath with an ochreous-yellow spot in the middle of the costal margin. Hindwings white. In the ♀ the under surface of the forewing and the costal part of the hindwing are brownish-grey. Expanse of wings: 26 to 34 mm. Mexico, Guatemala, Costa Rica.

A. barbipalpia Schs. (37 e) is distinguished by the palpi being covered with long hair turned downward. *barbipal-* Head and thorax brownish-grey and white. Abdomen above dirty white, beneath ochreous-yellow, anal tufts *pia*. brownish-grey. Forewings silvery white, tinted ochreous-yellow; costa ochreous-yellow, towards the base blackish; inner-marginal area purple-grey. Hindwings dirty white. Under surface of forewing ochreous-yellow, towards the margin tinged grey. Hindwing tinted yellow at the costal and distal margins. Expanse of wings: 36 mm. Brazil.

- hampsoni*. **A. hampsoni** Dogn. (37 e). Palpi, like in the preceding, hairy. Head and thorax steel-grey, forehead more brownish; antennae and anterior border of the collar yellow; abdomen above light grey, beneath yellow; legs yellow, at the tarsi blackened. Forewing white, in the proximal half steel-grey, the costal margin fine yellow. Hindwing entirely white. The under surface of the forewing in the ♂ blackish-brown with a broad yellow costa, hindwing white, in the costal part brownish. In the ♀ the underside is unicolorously greyish-white without the yellow costal part. Expanse of wings: 36 to 40 mm. South East Peru.
- erigone*. **A. erigone** Schs. (37 c) differs from *hampsoni* by its longer size, the abdomen being beneath light grey, not yellow. In the ♂ there is, besides, the underside of the forewing lighter grey, along the costal margin, at the cell-end and below the cell reddish-yellow, whilst in the larger ♀ these parts are white. Expanse of wings: 40 to 44 mm. Costa Rica.
- asra*. **A. asra** Schs. (37 f) differs from *erigone* by its much smaller size, the forewings being grey; instead of white, with broadly white veins and a darker grey inner-marginal area. Hindwing likewise grey, at the base and proximal margin white, with a black spot at the costal base. Beneath similar to *hampsoni*. Expanse of wings: 20 mm. Costa Rica.
- tobera*. **A. tobera** Dogn. (37 e) is easily recognizable by the collar being orange-yellow in the anterior half. Head and thorax otherwise brownish-grey. Antennae, chest, legs, and palpi orange, the latter with a black terminal joint. Abdomen orange, towards the base brownish. Forewings silvery white, costa orange, inner-marginal area brownish-grey, beneath tinted orange with a brownish-grey marginal area. Hindwings white. The ♀ is without any orange. Expanse of wings: 38 mm. Ecuador, Bolivia.
- maasseni*. **A. maasseni** Dogn. (= *argentea* Maass., *umbrifera* Drc.) (37 e) is much larger than *tobera*. Body white, tinted brownish-grey, palpi and forehead darker. Anal tuft yellowish. Forewings yellowish-white, inner-marginal area light brownish-grey; beneath orange-yellow, at the margin greyish brown. Hindwings white. In the ♀ the abdomen is darker and beneath the orange colouring is absent. Expanse of wings: 44 mm. Panama, Colombia, Venezuela, Ecuador.
- endoloba*. **A. endoloba** Hmps. (37 e) is distinguished by the very convex, almost lobular proximal margin. Body white, tinted smoky grey, abdomen somewhat lighter; antennae reddish-yellow; underside yellowish. Forewing white, in the proximal half smoky-grey, the costal margin reddish-yellow. Hindwings white. Under surface of the forewing yellowish-white with a large smoky-brown spot at the proximal angle. Expanse of wings: 34 mm. West Colombia (Rio Dagua).
- dognini*. **A. dognini** Hmps. (37 e). Head and thorax smoky-grey, antennae orange; abdomen yellowish-white, above grey with very long anal tufts. Forewings white, in the inner-marginal area grey, the costal margin ochreous-yellow, towards the base blackish. Hindwings yellowish-white, with a strongly extended apex and below it a concave excision. Forewings beneath yellowish, more or less dusted grey, in the ♀ also the hindwings white. Expanse of wings: 48 mm. Bolivia.
- subvoluta*. **A. subvoluta** Schs. (37 f) is very closely allied to *dognini*, but much smaller. The body is above more unicolorously grey. The grey inner-marginal area is below the submedian much darker than above it; at the base of the fringes there is a dark grey line. Hindwings white, at the margin, particularly at the apex tinged grey. Forewings beneath dark grey; hindwings like above, at the apex darker grey. Expanse of wings: 30 mm. French and Dutch Guiana.
- sanctaejohannis*. **A. sanctaejohannis** Schs. (37 f). Body above grey. Abdomen at the end darker. Forewings white, the extreme proximal margin grey. Hindwings white, thickly dusted grey, particularly at the margin. A very small species of an expanse of wings of only 19 mm. French Guiana.
- subcinerea*. **A. subcinerea** Schs. (37 f) is allied to the preceding, but larger. Head and thorax brownish-grey with whitish hair on the basal joint of the antennae; abdomen above dark grey, at the base and end lighter. Forewings white; costa in the ♂ in the basal third finely dark grey, behind it reddish-yellow; proximal margin below the fold dark grey. Hindwings grey, at the base and proximal margin white. Under surface of forewings dark grey. In the ♀ the costa is white, and on the white hindwing only the apex shows a grey tinge. Expanse of wings: 27 to 28 mm. Costa Rica.
- poasia*. **A. poasia** Schs. (37 f) is allied to the following species, but larger. Head and thorax smoky-grey, shoulder-covers with white apices; abdomen dark grey, at the base lighter, at the end brownish. Forewing silvery white, with a smoky-grey proximal margin. Hindwing white, tinged yellowish. Forewings beneath smoky grey, with a white subcostal stripe and a white proximal margin. Hindwings white. The ♀ has more purely white hindwings, and a lighter under surface of the forewings. Expanse of wings: 38 to 36 mm. Costa Rica.
- sericea*. **A. sericea** Drc. (= *galactina* Maass., *limpida* Mschlr.) (37 f) is a very common and widely distributed species, from Mexico through the whole of Central America, Brazil, Colombia, as far as Bolivia and Peru. The ♂ is above white, on the body slightly tinged brownish-grey, with yellowish anal tufts; forewing with a narrowly blackish-grey costal margin and a slightly darker inner-marginal area, which is still darker in the ♀. The abdomen is white in the ♀. — In Brazil and Bolivia there flies a form: **petrola** Schs. with a darker grey thorax and proximal margin of the forewing. Expanse of wings: 30 to 34 mm.
- endocapnia*. **A. endocapnia** Hmps. (37 f). Head and thorax blackish-brown, antennae brown; abdomen white, above brownish. Forewings silvery white, at the proximal margin tinged deep blackish-brown. Hindwings white, under surface white, forewing in the marginal area brownish. Expanse of wings: ♂ 38 mm, ♀ 40 mm. Peru.

A. phaeopasta Dogn. (37 h). Smaller than the preceding, and with more pearl-coloured forewings; *phaeopasta*. hindwings white, the margin finely blackish towards the apex. Forewings beneath brownish-grey, so are the hindwings, though with a whitish costal part. Antennae yellowish. Expanse of wings: 25 mm. South East Peru.

A. auraria Dogn. (= *rubrofasciata* Rothsch.) (37 g). This species and the 2 following ones are distinguished *auraria*. by red stripes on the submedian fold of the forewing; the present species differs from the following by the slate-grey colour of the proximal margin being extended also across the brick-red stripe up to the cell. The rest of the forewing ochreous-yellow, the hindwing lighter. Anterior body slate-coloured, on palpi, forehead, collar, and shoulder-covers spotted brick-red; the under surface and the abdomen ochreous-yellow. Expanse of wings: 50 mm. Ecuador. — In **fuscifusa** nom. nov. (= ab. 1 *Hmps.*) from Bolivia the abdomen and the proximal margin *fuscifusa*. of the hindwing are suffused with a brownish-black colour.

A. umbrifera Fldr. (37 g) differs from *auraria* by the slate-colour of the proximal margin of the fore- *umbrifera*. wing being only visible below the orange-red submedian stripe; forewings otherwise light orange-yellow, hindwings somewhat lighter. Anterior body slate-grey, spotted orange-yellow; abdomen orange. Expanse of wings: 42 to 54 mm. Known from Colombia, Venezuela and Bolivia.

A. sanguivitta *Hmps.* (37 g) is recognizable by the silvery white forewings with a purple-blackish *sanguivitta*. proximal half and a hemochrome stripe above the submedian fold; the costa is orange-red. Hindwings semi-diaphanous white. Anterior body blackish-brown, spotted hemochrome, abdomen ochreous-yellow, above tinged grey. Expanse of wings: 42 to 46 mm. South East Peru.

A. hermanilla Dogn. (37 g) is ochreous-yellow; palpal terminal joint, vertex and thorax dark slate- *hermanilla*. coloured; collar and shoulder-covers distally brick-red. On the forewing the inner-marginal half as far as the submedian fold slate-grey. Expanse of wings: 38 mm. Ecuador (Loja).

A. flavitincta Dogn. (37 g) is a quite monotonously light ochreous-yellow insect, only the inner-marginal *flavitincta*. half of the forewing is purple-blackish. Expanse of wings: 42 mm. Ecuador (Loja).

A. ochritincta Dogn. (37 g) has a yellowish head with orange antennae; palpi with hair turned *ochritincta*. downward; thorax reddish-brown, abdomen ochreous-yellow, above whitish. Forewings ochreous-yellow, in the marginal area chalky white, at the proximal margin brownish. Hindwings yellowish-white. Expanse of wings: 42 mm. Colombia.

A. strigula *Hmps.* (37 g) has a blackish-brown forewing with an orange stripe at the costa, median and *strigula*. base of the submedian; hindwings orange-yellow, dusted brownish, in the ♀ more purely yellow. Anterior body brownish-black with a blue lustre; palpi, collar, hips and abdomen orange. Expanse of wings: 50 mm. Bolivia.

A. normalis Dogn. (37 h). Head white with orange-yellow antennae and blackish-brown palpi; thorax *normalis*. light reddish-brown, abdomen brownish-yellow. Hindwing silvery white, tinged brownish, at the proximal margin deeper reddish-brown. Hindwings white, faintly tinted yellowish. Expanse of wings: 32 mm. Colombia.

A. idolon Dyar (36 m) is dull ochreous-yellow on its head and collar, the thorax, abdomen and wings *idolon*. white. The under surface of the forewing is grey. Expanse of wings: 27 to 30 mm. Mexico.

A. brunneipennis Dogn. (37 h) is a unicolorously red-brownish animal, only the hindwings are white, *brunneipennis*. with a faint yellow tinge. Expanse of wings: 38 mm. Colombia.

A. abrosa Schs. (37 h). Anterior body and abdomen above light brownish-grey, forehead darker; *abrosa*. venter white like the abdominal sides. Forewings silky lustrous white with a narrow light brownish-grey proximal margin. Hindwings white, rather broad, the margin from the apex to the upper median vein cut off, farther below rounded off. Forewings beneath thickly dusted brown, with a reddish white inner-marginal area. Costa of the hindwing dusted brown. Expanse of wings: 33 mm. Costa Rica.

A. nigritia Dogn. (37 h) is distinguished by long, narrow, blackish-grey forewings, in the inner-marginal *nigritia*. area still more darkened; costal margin somewhat lighter. Hindwings in the disc semi-diaphanous white, distally blackened. Body likewise blackish-grey, antennae ochreous-yellow. Expanse of wings: 34 mm. Colombia (Quindiu).

A. separata Schs. (= *umbrifera* Drc. nec Fldr.) (37 i) has in the ♂ uncommonly large, developed *separata*. valves without any lateral hair-tufts. Thorax blackish-brown, forehead black, vertex, collar, shoulder-covers, abdomen and underside orange, forewing silvery white with a narrow, blackish-brown inner-marginal area, only up to the inner-marginal vein, above it tinted somewhat orange, like the costal margin. Hindwings yellowish-white with a dark apical spot. The ♀ is without the orange colouring of the wings and the dark apical spot of the hindwing. Expanse of wings: 34 mm. Distributed from Panama through Brazil as far as Bolivia. FASSL found the ♂ in copula with *D. laudamia*-♀.

A. ampla spec. nov. (37 i) is allied to the two following species by the reverted appendage of the *ampla*. inner-marginal stripe, which, however, is less developed. Forewing with a yellow costa; hindwing ochreous-yellowish. Forewing beneath brownish-grey. Described according to 2 ♂♂ from Bolivia (Cuesta of Cillutincara) from the Coll. FASSL.

A. dentifera *Hmps.* (37 h). Head and thorax dark brown; palpal base, abdomen and underside orange. *dentifera*. Forewing silvery white with an orange costal margin; inner-marginal area purple-brown, in the middle with a reverted continuation as far as the cell. Hindwings yellowish-white. Expanse of wings: 36 mm. Ecuador.

A. obliquisigna Schs. (37 h) has a broader shape of wings than the preceding, similarly marked, though *obliquisigna*. light ochreous forewings, with a much narrower and longer, reverted spot beyond the middle of the proximal margin as far as the cell. Inner-marginal area and thorax are of a lighter reddish-brown. Expanse of wings: 34 mm. Colombia.

- steniptera*. **A. steniptera** Hmps. (37 i). Forewings very narrow, silvery white with a blackish-brown inner-marginal band, above it tinted ochreous-yellow. Costa ochreous, towards the base blackened. Hindwings yellowish-white, towards the margin darkened. Forewing beneath yellowish, at the margin darkened, with a tooth projecting into the cell. Anterior body blackish-brown, vertex, collar, shoulder-covers and abdomen ochreous-yellow. Expanse of wings: 30 mm. Colombia.
- flavicornis*. **A. flavicornis** Rothsch. (37 i). Head blackish-brown, vertex and antennae orange; collar white, at the apex brownish; thorax above blackish-brown, shoulder-covers orange, at the ends white; abdomen orange-yellow. Forewings silvery white, at the proximal margin with a narrow, blackish-brown, grey-lustrous stripe; costal margin yellow, towards the base brownish. Hindwings white, at the apex tinted brown. Expanse of wings: 32 mm. Peru.
- sordida*. **A. sordida** Rothsch. (37 i) is light reddish-brown on its head and thorax, on the abdomen yellowish-white. Forewings yellowish-white, at the proximal margin brownish with a faded, blackish-brown oblique shade along the lower median vein. Hindwings white. The ♀ is scantily strewn with red-brown scales and without the oblique shade. Expanse of wings: ♂ 36 mm, ♀ 38 mm. Colombia.
- tolteca*. **A. tolteca** Schs. (36 l). Body brownish-grey; palpal base, antennae, legs and anal tuft ochreous-yellow. Forewings silvery-white with a brownish-grey, darkened inner-marginal area and a yellowish costal margin. Hindwings dull ochreous-yellow. Under surface of forewings blackish-grey with a large, yellowish postmedian spot. Expanse of wings: 34 mm. Mexico, Brazil.
- corcovada*. **A. corcovada** Schs. (= *postimparilis* Rothsch.) is much smaller than the preceding, otherwise somewhat similar, but the abdomen is whitish and the proximal margin of the forewing blackish-brownish, in the basal half quite black. On the under surface yellow dusting extends close to the apex. Expanse of wings: 26 mm. From Brazil and Bolivia.
- umbrosa*. **A. umbrosa** Dogn. Head and thorax blackish-brown; palpi, legs and abdomen ochreous-yellow, the latter above darkened; forewings ochreous-yellow with a blackish-brown inner-marginal half. Hindwings lighter. Expanse of wings: 32 mm. Ecuador (Loja).
- ochrota*. **A. ochrota** Dogn. (36 l) is a very small species, on the body and wings light ochreous-yellow, the proximal margin of the forewing of a somewhat deeper yellow. Hindwings somewhat lighter, with a faint grey tinge. Forewings beneath tinted more grey. Expanse of wings: 22 mm. Colombia (2000 m).
- venosa*. **A. venosa** Schs. (37 i). Easily recognizable by the grey forewings striped white on the veins; the costal margin is blackish. Hindwings white, with a darkened costal area. The body is grey with a white spot on the metathorax; palpi, forehead, base of antennae, and hips are orange. Expanse of wings: 32 mm. Brazil.
- crassa*. **A. crassa** Dogn. (37 i). The apex of the forewing is similarly cut off in a right angle as in *marcata* (37 a), but the venation is quite different, the two lowest subcostal veins of the forewing rising petioled from the third, in the ♂ the upper radial vein comes from the middle, in the ♀ from the apex of the accessory cell. Body greyish-black, long-haired, abdomen with more ochreous-yellow hair; palpi black. Forewings lustrous silvery white, with a broad blackish inner-marginal area; costa ochreous-yellow, towards the base black. Hindwings white. On the under surface the forewings are grey with a yellow costal area. The ♀ is of a somewhat lighter colouring. Expanse of wings: 35 to 38 mm. Colombia (Quindiu, at an altitude of 3800 m).

87. Genus: **Neagylla** Hmps.

Separated from the preceding genus by the absence of the accessory cell; on the forewing the two lowest subcostal veins rise, like in *A. crassa*, on a footstalk, from the latter the 3rd and 4th also rise petioled, the uppermost rising freely from the cell; the transverse vein is very strongly curved, above its lower angle the middle radial rises. On the under surface the ♂ shows in and behind the cell-end thick woolly hairing, at the proximal margin long hair being turned upward. Hindwings very broad; the two lower radial veins are on one footstalk with the upper median vein. The palpi exhibit hair which is turned downward; the anterior tibiae and femora show thick hair-tufts, the roughly haired abdomen long lateral anal tufts. Only 1 species:

- nevosa*. **N. nevosa** Dogn. (36 m) is a silvery white species well characterized by the peculiar shape of the wings. Head and thorax are tinted blackish-brownish; the hair-tufts on the legs and the hairing of the abdomen are yellow in the ♂, like the costa of the forewing, white in the ♀. Costal area of the hindwing in the ♂ tinted blackish-brownish. Expanse of wings: 40 to 46 mm. Ecuador (Loja).

88. Genus: **Paragylla** Hmps.

Very closely allied to the preceding, but with much narrower forewings and still larger hindwings. Veins of the forewings and hairy spots like in *Neagylla*. On the hindwing the upper median vein rises before the cell-angle, the two lower radial veins petioled, the upper one with the subcostal vein unpetioled from the upper cell-angle. The palpi are not bearded, the anterior legs without any hair-tufts. The two species known of this genus are:

- amourel*. **P. amourel** Dogn. (36 m), a unicolorously orange-yellow insect with somewhat lighter hindwings. Expanse of wings: 44 mm. Ecuador.
- endophaea*. **P. endophaea** Dogn. (37 m) has whitish forewings, tinged grey in the cell-spaces; the inner-marginal area darker; costal margin towards the base blackish. Hindwing in the costal and marginal areas darkened.

The body is tinged whitish-grey and in the ♂ beneath and on the last ring also above reddish-yellow. In the ♂ the wings are of a pure white, only the proximal-marginal part being blackish-grey. Expanse of wings: 34 mm. Ecuador.

89. Genus: **Nephelosia** Hmps.

Proboscis fully developed; the short palpi are straightly porrect; forehead rounded. Forewing narrow with a rounded costa and oblique margin; the upper median vein and the two lower, long-petioled radial veins rise from the lower cell-angle; the upper radial vein on a common footstalk with the 3 lower subcostals; the 1st subcostal vein anastomoses with the costal. On the hindwing the upper median and lower radial vein are on a very long footstalk, the middle radial being absent, the upper one anastomosing with the subcostal vein. The costal vein rises pretty close to the cell-angle. The genus contains only 1 species:

N. caecina Drc. (36 g). Head and thorax blackish-brownish, mixed with grey. Abdomen blackish-brown with a yellow anal tuft. Forewing whitish, in the basal half tinged brownish and strewn with black; in the inner-angular area there is a large, blackish spot. Hindwings blackish-brown. Expanse of wings: 20 mm. Guatemala. *caecina*.

90. Genus: **Areva** Wkr.

Separated from the preceding genus by the upper median, resp. upper radial veins of the forewing rising below the corresponding cell-angles; the transverse vein runs very obliquely. On the hindwing the upper median and lower radial vein are on a shorter footstalk, the middle one being absent, and the upper one petioled with the subcostal vein. 4 species are known of this genus:

A. laticilia Wkr. (= *jubata* Fldr.) (37 k) is distinguished from the other species by long hair in *laticilia*. the lower cell-half of the forewings beneath; the costal margin of the hindwing is lobularly convex and covers these hair. The transverse vein of the forewing runs so obliquely that it appears in one line with the median. The forewings are white with a darker, brownish-grey inner-marginal half and a brown costa; hindwings tinted yellow, with a brownish margin. In the ♀ the proximal margin is brown only as far as the submedian fold. Expanse of wings: 40 mm. Venezuela.

A. subfulgens Schs. (37 k). Vertex and thorax yellowish-white, the rest of the body brownish-grey. *subfulgens*. Forewing blackish-brown, with a coppery lustre, with a yellowish-white inner-marginal stripe, median and marginal bands. Hindwing brownish-grey, in the basal and inner-marginal half whitish. Expanse of wings: 30 mm. Brazil.

A. trigemmis Hbn. (= *ziza* Drc.) (37 k) has a darker blackish-brown body with whitish spots on *trigemmis*. its collar, shoulder-covers and mesothorax. Forewings blackish-brown with a purple and coppery lustre; small whitish spots at the base of the proximal margin, below the middle of the costal margin, above the submedian fold and below it near the proximal angle, and in the middle of the margin. Hindwings blackish-brown, towards the base whitish. Expanse of wings: 32 mm. Known from Mexico, Brazil and Hayti.

A. albogrisea Roths. (37 k) differs from the preceding by much lighter markings. On the purple- *albogrisea*. brownish forewings are whitish: the base of the proximal margin, a costal-marginal spot above the cell-end, a band behind the cell, and a longitudinal diffuse patch on the upper radial, a band from the cell-end to the proximal margin, and a longitudinal diffuse patch towards the proximal angle; besides there are small whitish spots close in front of the margin. Hindwings light brown, towards the base whitish. The body is light brown, collar and shoulder-covers white. Expanse of wings: 30 mm. Ecuador.

91. Genus: **Metareva** Hmps.

A large accessory cell of the forewing separates this genus from the preceding; the upper median vein is removed to the lower cell-angle. Hindwings like in *Areva*.

M. aenescens Hmps. greatly resembles *A. trigemmis* (37 k), but it is bigger with larger, more clearly *aenescens*. white spots. Head and shoulder-covers with a blue lustre. Expanse of wings: 40 mm. Bolivia.

M. flavescens Dogn. (= *semidivisa* Roths. (37 k). Body yellow, on the vertex, thorax and shoulder- *flavescens*. covers tinted lilac-grey; wings above and beneath straw-coloured, the forewing at the costa finely bordered with yellow, and along the proximal margin with a broad, lilac-grey band. Expanse of wings: 37 mm. Tucuman (Argentina). — **albescens** Dogn. (37 k) from the same habitat is the ♀ of it and differs by all the straw-coloured *albescens*. parts in the ♂ being silvery white here; only the antennae, palpi, forehead and collar above are yellow. Expanse of wings: 39 mm.

M. endoscota Hmps. differs, according to the description, only by its smaller size and the absence *endoscota*. of the yellow of *albescens*: head and thorax white, tinted blackish-brown; abdomen white. Forewings silvery white with a blackish-brown inner-marginal stripe. Hindwings purely white. Expanse of wings: 34 mm. South East Peru.

92. Genus: **Procrimima** Hmps.

On the narrow forewing the upper median vein rises before the cell-angle, the 1st radial vein from the upper angle, the 3rd subcostal vein being absent, the 1st subcostal vein anastomosing with the costal. On the

hindwing the upper median vein anastomoses with the lower radial in the ♂, while in the ♀ they are petioled. All the rest like in the preceding genus. 2 tropical species:

procris. **P. procris** *Fldr.* (36 d). Head, thorax and forewings metallic bluish-green; all the rest blackish-brown in the ♀, in the ♂ with a purple blue, on the ventral side green reflection; the hindwings are rather thinly scaled. Expanse of wings: ♂ 24, ♀ 32 mm. Colombia, Peru.

viridis. **P. viridis** *Drc.* Body greenish black, antennae black. Wings above quite black, beneath light metallic bluish-green. Expanse of wings: 29 mm. Brazil.

93. Genus: **Ardonissa** *Dogn.*

Proboscis well developed; the erect, long-haired palpi project beyond the head; ♂ antennae ciliated, not thickened; forewings rather long and narrow; the upper median vein comes from the lower cell-angle, from which also the two lower radial veins rise petioled; the upper one comes from below the angle; the uppermost subcostal vein does not anastomose with the costal. Hindwings similar as in the following, but the upper median vein is petioled with the lower radial. Based upon 1 species from a lofty habitat in Peru.

adscitina. **A. adscitina** *Dogn.* (36 d). Body black with a dull bluish-green reflection. Forewings above metallic bluish-green, at the base brighter green, peacock-blue or coppery-bronze in a variable extent, sometimes also in the shape of stripes as far as the margin. Hindwings bluish-black. Expanse of wings: 23 to 24 mm. Peru (Cuzco).

94. Genus: **Ardonea** *Wkr.*

Separated from the preceding genus by shorter, roughly haired palpi not reaching the vertex, and the antennal shaft being thickened before the middle, in the ♂ doubly combed, in the ♀ set with ciliary bristles. On the forewing the lower median vein rises behind the middle, the upper one before the lower cell-angle, from which the two lower radial veins rise unpetioled; the upper radial comes from the cell-angle; the 3 lowest subcostal veins rise on a joint footstalk, the 2nd freely from the cell, the uppermost anastomoses with the costal. On the hindwing the upper median and the lower radial vein come from the lower cell-angle; the middle radial is absent, the upper one on a short footstalk with the subcostal. The genus contains 5 forms from the northern parts of South America.

tenebrosa. **A. tenebrosa** *Wkr.* (36 d) is a very peculiar animal. The ♂ has the antennae above provided with thick hair, the abdomen is roughly haired, and the anal angle of the hindwing extended to a long lobe. Forewings yellowish-white, with blackish-brown veins, and in the marginal area internerval stripes, blackish-brown spots near the base, behind the cell, towards the proximal angle, at the apex and at the margin; hindwings diaphanous brownish-white, at the costal margin and apex more darkened. Collar and shoulder-covers spotted yellowish-white, anal tuft orange to carmine. In the ♀ the dark colour is much more extensive. Metathorax with an orange spot. — In the form **peculiaris** *Drc.* the hindwings are much more darkened. Expanse of wings: 32 mm. Peru, Colombia.

nigella. **A. nigella** *Dogn.* (36 d) is a minute, dark brown insect with a coppery-purple reflection; the hindwing is but slightly produced at the anal angle, the antennae only ciliated. The ♂ exhibits on the sides of the 5th abdominal ring long red-brown hair-tufts. Expanse of wings: 20 mm. Ecuador.

morio. **A. morio** *Wkr.* (= *coracina* *Bsd.*, *unicolor* *Fldr.*) (36 d) is an extremely common animal of a very vast range. Body and forewings are of a deep bluish-green, hindwings of a purer blue. Expanse of wings: ♂ 34 mm, ♀ 40 mm. From Mexico through the whole of Central America as far as Colombia and Venezuela.

judaphila. **A. judaphila** *Schs.* (36 h) is a very small species of an expanse of only 21 mm. Head dark brown; collar and thorax orange-red. Abdomen violettish-black. Forewings greyish-brown; costal and proximal margins shaded with violet, similar internerval stripes are in the marginal area; at the base an orange-red patch. Hindwings brownish-grey. From French Guiana.

95. Genus: **Apistosia** *Hbn.*

Very closely allied to the preceding genus and differing in the veins almost only by the presence of an accessory cell; the uppermost subcostal vein terminates freely into the costal margin and does not anastomose with the costal. The antennae are not thickened in the middle, in the ♂ combed or ciliated. The 1st abdominal ring shows strong, lateral tubercles. This genus belongs to the few *Lithosiinae*-genera that are represented on the eastern and western hemispheres. *Comp. Vol. II, p. 63, and Vol. X, p. 198.*

judas. **A. judas** *Hbn.* (36 e) is orange on its head and thorax; palpi, antennae, legs, and abdomen are brown with a blue reflection. Forewings dull bronze-green with a feeble brownish coppery lustre, in the marginal area more bluish. Hindwings brown. In the ♀ the abdomen shows orange sublateral spots on the last ring. Expanse of wings: ♂ 46, ♀ 56 mm. Known from Mexico, Guatemala, Honduras, Nicaragua, and Panama.

A. phaeoleuca Dogn. (36 e) looks like an *Agylla*: white with a brownish-grey inner-marginal stripe *phaeoleuca*. on the forewing; similar internerval stripes are in the cell and marginal area. Beneath in the lower half of the cell of the forewing covered with hair. Expanse of wings: 38 mm. Ecuador.

A. pogonoprocta Dogn. (36 e) greatly resembles the preceding and differs above all by the absence of *pogono-* the hair on the under surface of the forewings, as well as by the ochreous-yellow costal margin and long, yellowish *procta*. hair-tufts on the abdominal end of the ♂. The ♀ is of a much purer white, only the proximal margin of the forewing is brownish-grey. Ecuador (Loja).

A. humeralis Grt. (36 e) greatly resembles *judas* (36 e), but it has only ciliated antennae in the ♂. *humeralis*. Head and thorax are orange, like the anterior and middle hips and femora, as well as the anal tuft. Shoulder-covers, legs and abdomen are of a brighter metallic bluish-green than in *judas*, so are the wings, too. The ♀ is without the orange anal tuft, but instead it shows an orange transverse band before the end. Expanse of wings: 38 to 46 mm. Cuba.

96. Genus: **Glaucosia** Hmps.

Proboscis developed; the short, porrect palpi do not project beyond the forehead. ♂ antennae with ciliary bristles; tibiae with short spurs; abdomen roughly haired. On the forewing the two lower radial veins rise separately, the upper one from below the upper cell-angle; the 2 lowest and the 2 middle subcostal veins are each on a separate footstalk, only the uppermost being free. On the hindwing the upper median vein comes out before the cell-angle; the two lower radial veins are petioled, so is the upper one with the subcostal vein. The proximal angle is long-haired.

G. agyllia Hmps. (36 e) is a minute insect resembling an *Agylla*, with greyish-white forewings, dusted *agyllia*. brown on the proximal margin. Hindwings brownish-grey, like the head and thorax, whilst the abdomen is blackish-brown; chest and legs whitish. Expanse of wings: 24 mm. Brazil (Espiritu Santo).

97. Genus: **Parapalosia** Dyar.

Differs from the preceding by 2 pair of long spurs on the posterior tibiae, by the presence of an accessory cell on the forewing, on which the uppermost subcostal vein anastomoses with the costal. All the rest as in *Glaucosia*. Likewise only 1 very small species, with much shorter and broader forewings than in *Glaucosia*, shaped like a small European *Lithosia*.

P. cinderella Schs. (36 e). Head and thorax reddish yellowish-grey; abdomen grey, towards the end *cinderella*. darker. Forewings light grey, with a very broad, darker grey transverse shade from near the base to the cell-end. Hindwing whitish, towards the margin tinged grey. Expanse of wings: 19 mm. The tiny, insignificant animal was described from French Guiana.

98. Genus: **Euryptidia** Hmps.

Of this genus 4 black and yellow species are known, closely approximating the *Josiodes* (35 d—f) in their habitus and colouring. Proboscis developed. The erect palpi do not reach the vertex and are below long-haired on the basal joint. Posterior tibiae with moderately long spurs. Forewings broad, the venation very much like in *Glaucosia*, but the two uppermost subcostal veins terminate freely from the cell into the costal margin, and the 3 lower ones are on a joint footstalk; no accessory cell. The venation of the hindwing similar, but the two lower radial veins may be petioled or also run separately.

E. univitta Hmps. (36 f) is the only species the ♂ antennae of which are provided with ciliary tufts, *univitta*. almost combed. Body black; forewings orange, costal margin, proximal margin, and inner-marginal vein black, distal margin and apex broader black; hindwings entirely black. — **discalis** *nom. nov.* (= ab. 1 Hmps.) *discalis*. has a black discal spot on the forewing also above, whilst in the typical form it is visible only beneath. Expanse of wings: 46 mm. Distributed from Brazil to Argentina.

E. trifera Wkr. (= *striata* Btlr., *laeticolor* Fldr.) (36 f) has, like the following, simply ciliated *trifera*. antennae. Body and hindwings black. The forewing in the basal half orange with black-striped veins and folds, and an oblique, orange postmedian band. Hindwing beneath with an orange oblique band from the submedian fold to the lower cell-angle. — In (♂) *form. nov. extensa* the orange colour shows through also above *extensa*. and is beneath much more extensive. In the ♀ there is always a broad orange band on the hindwing, extending from the base of the proximal margin to the lower cell-angle and into the cell. Expanse of wings: ♂ 38, ♀ 46 mm. Amazon, Espiritu Santo.

E. basivitta Wkr. (36 f) greatly resembles *univitta*, but it has simply ciliated antennae, and the black *basivitta*. of the inner-marginal vein extends as far as the proximal margin itself, but it ends behind the middle. Expanse of wings: 44 mm. Brazil (Rio de Janeiro). It almost resembles *Josia auriflamma* Hbn. with which it flies in common.

ira. **E. ira** Drc. (36 f) is the smallest species of an expanse of only 26 mm. Body black with a blue reflection; neck and spots on the shoulders orange. Forewing in the basal half orange, at the costal base a black spot. Hindwing with an orange spot at the base from the proximal margin to the costal margin. Mexico.

99. Genus: **Antona** Wkr.

Palpi much longer than in the preceding genus and roughly scaled; abdomen roughly haired. On the forewing the venation is very much like in the preceding; the upper radial vein comes from below the upper cell-angle, and the uppermost subcostal vein anastomoses with the costal. Hindwings likewise similar.

subluna. **A. subluna** Wkr. (36 f) is bluish-black on its body and wings; spots on the shoulders and the margins of the shoulder-covers are scarlet, like a minute spot at the base of the forewing. The hindwings are thinly scaled in and below the cell towards the base, beyond they exhibit a white hyaline spot. In the ♀ the last abdominal ring is beneath spotted red. ♂ antennae combed. — **major** *form. nov.* (= ab. 1 *Hmps.*) is much larger, up to 52 mm, the red spots are larger, on the hindwing the hyaline spot is extended to the base. The type has an expanse of wings of ♂ 40, ♀ 44 mm. Brazil (Rio de Janeiro).

diffinis. **A. diffinis** Wkr. (36 f) has in the ♂ the antennae only with ciliary bristles, and a long-extended and roughly haired anal angle of the hindwing. The body is blackish-brown with a blue reflection, the shoulder-covers and metathorax spotted orange-red. Hindwings semi-diaphanous, with bluish-black hair. Expanse of wings: 32 mm. Known from Trinidad, Brit. Guiana, and Brazil.

100. Genus: **Progona** Berg.

Proboscis stunted, palpi very short; antennae ciliated. Spurs of tibiae very short; abdomen roughly haired. In the venation separated from the preceding genus by the lower radial anastomosing with the upper median vein on both the wings; on the forewing the upper radial vein rises below the upper cell-angle; an accessory cell may be present or absent; on the hindwing the upper radial and the subcostal vein are on a much shorter pedicle. The genus contains few species somewhat resembling our *Lithosia*.

xanthura. **P. xanthura** Schs. (36 g). Body blackish-grey; hindhead, anterior half of the collar, and anal tuft orange. Forewings light greyish-brown with a coppery lustre, with a costal-marginal streak being pointed towards the apex; costa towards the base blackish. Hindwings blackish-grey. Accessory cell absent. Expanse of wings: 22 mm. Brazil, Castro (Paraná).

luridipennis. **P. luridipennis** Burm. is well characterized by the red-brown forewings with whitish veins; hindwings still darker brown. Anterior body whitish, abdomen dark brown. Expanse of wings: 26 mm. Argentina.

sadima. **P. sadima** Schs. (36 g) is larger than the preceding, lighter brownish-grey with a reddish-yellow costal margin, with a whitish streak below it; hindwings yellowish-white, towards the margin and costa blackish. Accessory cell present. Expanse of wings: 26 to 30 mm. Brazil.

pallida. **P. pallida** Mschl. (36 g) is the smallest species, of a very light, reddish-brown colouring with a faded white costal-marginal streak. Hindwings white, at the apex brownish. Expanse of wings: 18 mm. Porto Rico.

101. Genus: **Crambidia** Pack.

Hereto belong a dozen species greatly approximating our *Lithosia* in the habitus and chiefly representing this genus in North America, where the real *Lithosia* are absent. The genus is very closely allied to the preceding and differs only by the lower radial vein of the hindwing being petioled with the upper median vein. An accessory cell of the forewing may be present or absent. They are pale animals with narrow wings, recalling the *Crambus* only by the shape of the wings and the size, but not by the palpi, which are even very short.

pallida. **C. pallida** Pack. (36 h) is quite monotonously greyish-brown with somewhat lighter hindwings. Expanse of wings: 28 mm. United States.

lithosioides. **C. lithosioides** Dyar (36 g) is darker slate-coloured with an anteriorly yellow collar. The forewing exhibits a very narrow, light yellow costal stripe. Hindwings towards the base lighter. Expanse of wings: 21 mm. United States as far as Texas.

uniformis. **C. uniformis** Dyar (36 g) differs from the preceding by the veins being striped dull ochreous-yellow, and is somewhat smaller. United States.

roberto. **C. roberto** Dyar (36 g) has an ochreous-yellow head; thorax and forewings are whitish, the latter with a black costal base. Abdomen and hindwings as well as the under surface blackish-grey; fringes of the hindwings white. Mexico (Tehuacan).

casta. **C. casta** Pack. (= *candida* H. Edw.) (36 g) is a larger species of 26 to 34 mm. Body and wings are white, dusted greyish-brown; base of costal margin on the forewing black. Legs blackish-brown. — In the

form **cephalica** Grt. & Rob. the head and anal tuft are yellow, the hindwing often darkened; it is of late considered *cephalica*. as a distinct species. United States.

C. scoteola Hmps. (36 g) has more ochreous-brownish wings with a whitish costal-marginal streak; *scoteola*. the costa itself is orange-yellow, in the basal third black. Hindwings blackish-brownish, fringes and border in front of them yellow. Expanse of wings: 26 mm. Bolivia, from the Rio Songo.

C. suffusa Bs. & McD. is a larger species, having recently been described as a novelty from California, with white forewings, tinted brownish, with a purely white subcostal stripe; the costal margin is blackened towards the base. Hindwings light brown with white fringes. Head and anal end are light reddish-yellow, anterior body whitish, with a pale brownish tinge, the abdomen more grey. Legs blackish-brown. Expanse of wings: 34 mm.

C. pura Bs. & McD. shows a purely white body, only the ventral side and the legs are anteriorly *pura*. blackened. Forewings silvery white, hindwings likewise white. Expanse of wings: 26 mm. Carolina, Texas.

C. impura Bs. & McD. (= casta, ab. 2 Hmps.) is much larger than the preceding and besides *impura*. different by the hindwings being tinged blackish-brownish, also the head and thorax being slightly brownish. Expanse of wings: 34 mm. Colorado, Arizona.

C. dusca Bs. & McD. has a light grey body, the head being darker grey. Forewings grey, with *dusca*. a slight ochreous-yellowish tinge; by the cell-spaces being striated brownish-black the veins are set off in a lighter shade. Expanse of wings: 26 mm. California.

C. allegheniensis Holl. is slate-coloured on its thorax and abdomen, the head, collar, and shoulder-*allegheni-* covers being light yellow. Forewings likewise slate-coloured with a light yellow costal-marginal streak. Hindwing *ensis*. semi-diaphanous white. Expanse of wings: 30 mm. Pennsylvania.

102. Genus: **Phaeosia** Hmps.

Very closely allied to the preceding genus and chiefly distinguished by the developed proboscis and rounder forehead. The palpi are somewhat longer. In the veins no difference. So far only the typical species is known.

P. lutea Drc. (36 h) is whitish on the body, dusted blackish-brown. Forewings brownish-grey, at *lutea*. the costal margin lighter; the latter exhibits towards the base a black streak. Hindwings darker. Expanse of wings: 26 to 30 mm. Described from Guatemala. — The form: **intermedia** Drc. (36 h) from Mexico is on *intermedia*. the forewings much lighter.

103. Genus: **Agkonina** Dogn.

This genus contains 3 very peculiar species differing very much in the venation and with greatly differentiated secondary sexual marks. Proboscis well developed. Palpi erect, on the 2nd and 3rd joints laterally covered with long hair turned downward, projecting beyond the forehead. Antennae with ciliary bristles. Abdomen roughly haired. On the forewings the lower median vein rises behind the middle of the cell; the middle radial is absent, the upper one is petioled with the subcostal veins, the 3rd and 4th of which anastomose and form the accessory cell; the two uppermost subcostal veins terminate into the costal. The costal margin shows in the ♂ near the base a lobe with a hair-tuft.

A. ovifera Dogn. (36 h) is light ochreous-yellow on its body and wings. Head, thorax, and interior *ovifera*. side of the forehips brownish, posterior tibiae with a black hair-tuft. Forewings similar as in the following species with a V-shaped dark band; costal base brownish. The ♂ exhibits on the median of the forewing an oviform androconium. Expanse of wings: 30 mm. From South East Peru.

A. pega Dogn. (36 h) greatly resembles *ovifera*, but it is somewhat larger, and the androconium *pega*. is situate in the cell of the hindwing beneath, whereby the venation is greatly changed, being crowded together in the costal-marginal half, the larger inner-marginal half being almost void of veins. Expanse of wings: 36 mm. Ecuador (Loja).

A. miranda Hmps. (36 h) is yellowish-white on its body and wings; head and thorax are brownish; *miranda*. a tuft of scales on the posterior tibiae black. The costal lobe of the forewing is black with a round spot of reddish-brown scales in it, connected with a large, blackish-brown inner-angular spot; at the margin and before it there are accumulations of dark scales, forming indistinct transverse bands. The elliptic androconium is placed on the footstalk of the upper radial vein with the subcostal. The shoulder-covers are greatly prolonged by hair-tufts. Expanse of wings: 30 mm. Bolivia (Rio Songo), Peru (Marcapata).

104. Genus: **Disoidemata** Hmps.

Proboscis well developed. Palpi shorter than in the preceding and without hair. Spurs of posterior tibiae longer. Forewings short and broad. The middle radial vein is present, rising with the lower one from the cell-angle. The ♂ exhibits above a round androconium below the middle of the cell, and in the middle of the proximal margin a long tuft of black hair. Cell of the hindwing short; the lower median vein rises from

the middle, the upper one close before the angle; the two lower radial veins and the upper one with the subcostal vein are extremely long-petioled. Costal vein feeble. The distal margin is in the ♂ very concavely excised; above at the cell-end a round scent-spot. The genus only contains two very small species:

osmophora. **D. osmophora** *Hmps.* (36 h). White with ochreous dusting. Costa of the forewing towards the base black; in the basal and marginal areas disperse darker scales and a large, postmedian horseshoe-spot of black colour. Expanse of wings: 18 mm. Mexico (Vera Cruz).

quadriplaga. **D. quadriplaga** *Dogn.* is smaller, the spot of the forewing is distally almost square; besides there are a fine marginal line dotted black and in some places black speckled fringes. Hindwings brown. Expanse of wings: 14 mm. French Guiana.

105. Genus: **Cyclosticta** *Hmps.*

Rather closely allied to the preceding and chiefly distinguished by the non-excised margin of the hindwing in the ♂. On the forewing the two lower radial veins are petioled. The ♂ shows beneath in and below the cell-end a large, reddish-yellow androconium. Veins of the hindwings similar as in *Disoidemata*, but the footstalks of the radial and subcostal veins much shorter. Only 1 species:

discata. **C. discata** *Schs.* (36 h). On body and wings white, dusted yellowish; the costal margin of the forewing ochreous-yellow, proximal margin dusted brownish-grey. Hindwing white with a yellowish-white scale-spot in the cell-end. Expanse of wings: 28 mm. Brazil (Rio de Janeiro).

106. Genus: **Mintopola** *Hmps.*

In the venation different from *Cyclosticta* by the upper radial vein of the forewing rising from below the upper cell-angle. Palpi shorter, more slender; forehead rounder. The ♂ exhibits above in the subcostal space and in the upper half of the cell rows of scent-scales. The roughly haired proximal margin of the hindwing is inverted. Only 1 species:

braziliensis. **M. braziliensis** *Schs.* (36 i). Head and thorax light-brown, abdomen more grey, with a brownish anal tuft. Forewings light brown, in the median area and proximal angle dusted blackish-brown. Hindwings whitish, towards the base brownish. Expanse of wings: 28 mm. Brazil (Petropolis, Rio de Janeiro).

107. Genus: **Disaulota** *Hmps.*

The only species forming this genus derives its name from the resemblance to the Pierid genus *Leptalis*, caused by its white colour as well as by the abnormally large hindwings. Proboscis developed; the erect palpi do not reach the vertex. ♂ antennae ciliated. Forewing short with a curved costal margin, the apex and distal margin uniformly rounded. The venation is very peculiar from the circumstance that, beside the usual accessory cell, another one is effected by the anastomosing of the upper and lower radial vein, in the first third of the two beyond the discocellular; the middle radial is absent. The hindwings are larger and longer than the forewings; the lower radial anastomoses with the upper median vein, the middle one being absent; the upper radial vein and subcostal unpetioled. Costal margin long-haired.

leptalina. **D. leptalina** *Drc.* (36 i) is white, on its head, thorax, as well as the discal area and base of proximal margin of the forewing dusted purple-blackish. Hindwing below the middle of the margin blackish-grey. The ♂ shows beneath in the discal area a very large androconium, the costal margin is beneath hairy. Expanse of wings: 40 mm. Costa Rica.

108. Genus: **Tigrioides** *Btlr.*

Proboscis fully developed; palpi stretched forward. ♂ antennae with ciliary bristles; posterior tibiae with short spurs; abdomen roughly haired. Forewings long and narrow, the costal margin towards the apex curved, with a short distal margin. The lower median vein emerges at the base curved from the middle of the cell, the upper one is on a long footstalk with the lower radial vein; the middle radial is absent, the upper one is petioled with the 3 lower subcostal veins; the first subcostal anastomoses with the costal vein. The lower median vein of the hindwing rises far before the cell-angle, the upper one on a long footstalk with the lower radial vein, the middle radial is absent, the upper one is petioled with the subcostal vein; the costal rises from the middle of the cell.

To this genus being sometimes also denominated *Lexis* belong about 20 species mostly rather similar to our *Lithosia*. In the Old World the genus is widely distributed and particularly numerous in the Malayan Archipelago. In America there is only 1 species looking something like a much-flown *Lithosia deplana* or *cereola*. As to further particulars about the genus see Vol. X, p. 214.

T. bicolor Grt. (= *argillacea* Pack.) (36 i). Body and wings are blackish-brown; collar, anal tuft, *bicolor*. and a costal-marginal streak being pointed towards the apex are yellow. Expanse of wings: 30 mm. Canada; United States, Colorado.

Correction and Additions to the Lithosiinae.

P. 265. In the 47th genus *Ascapesyle* is mentioned once more. This genus is identical with the 31st genus *Ascapesyle* Dyar on p. 254.

P. 272. To the genus *Tuina* Btlr. add yet the following species: **T. maurella** sp. nov. (38 a). Velvety *maurella*. black, collar, abdominal sides, a small basal spot of the forewing, and the basal two thirds of the hindwing are of a deep rosy-red. From Costa Rica (Orosi); 2 specimens from the Coll. A. H. FASSL.

III. Micrarctiinae.

It has already been stated in Vol. II (p. 71), when introducing this name, that this division does not represent the establishing of a systematically definable subfamily, but a heading into which those Arctiid genera are ranged which are not easily inserted in the *Nolinae*, *Lithosiinae*, *Nyctemerinae*, *Hypsinae* etc. The genera united here also exhibit of course great differences, as for instance the single genera of the *Spilosominae*, *Callimorphinae* etc., and beside the *Apantesis* closely allied to our European *Orodemnias* and *Parasemia* there are *Hoplarctia* recalling the palearctic *Ocnogyna*, moreover the *Phragmatobia*, the *Argina* forming the transition to the *Hypsinae*, and others. We place here also those genera forming, so to speak, the point of junction between the *Lithosiinae* and the other Arctiid branches. These are the *Gnophria*, considered by some systematizers as *Lithosiinae*, by others as *Arctiinae*. The *Atolmis*, as this genus is denominated in Vol. X, are still kept separated from the *Gnophria* in KIRBY's Catalogue, to which genus, beside the *Gn. rubricollis* (Vol. II, p. 70), some Americans are yet placed, which we have dealt with as indisputable *Lithosia*, such as *Gnamptonychia flavicollis*, which also greatly approximate the typical *Lithosiinae*-genera, such as the *Macropstila*, *Agylla* and *Ilema* (*Lithosia*). We cannot expect many common features from a group of animals purely formed by exclusion. The deviations from the typical *Arctiinae*, by which its separate position is effected, do not move in the same direction. We observe the *Eubaphe* and *Virbia* forming the transition to the *Lithosiinae*, the *Haploa* to the *Callimorphinae*, the *Argina* to the *Hypsinae*, the *Hoplarctia* to the *Spilosominae*, the *Orodemnias* and *Apantesis* to the genuine *Arctia*. Some forms also recall the *Phaegopterinae*, so that we find resemblances to all the larger groups of *Arctiidae*.

More constant than the imagines are the larvae, in which we do not meet with any deviations as exhibited in the *Spilosominae* by the larva of *Isia isabella* being armed with dorsal brushes, or by the *Phaegopterinae* with even long hair-pencils. Nor do we scarcely find in this group any real tree-larvae, as for instance in the *Hyphantria*, *Aganais* etc.

As to the colouring, a bright red and orange-yellow are the usual colours, being set off by black spotting like in most of the *Arctiidae*. Even in the *Utetheisa*, which in the Old World almost all exhibit a purely white ground-colour, in certain American forms the red colour of the hindwings appears yet distinctly, though in certain local forms it fades in the same way as in the allied *Haploa*, where the orange colour of the hindwings gradually disappears together with the black spotting and the entirely white forms get the upper-hand, so that in most of the *Spilosominae* the whole surface is already white and only the end of the abdomen shows yet some of the warning colour.

We may presume that nearly all the *Micrarctiinae* occur in great numbers of specimens. If, as we see in some *Eubaphe*, *Virbia* or *Apantesis* species, some are more rarely met with in collections, and are more highly estimated on account of their supposed rareness, we may be certain that the reason of this symptom is the inaccessibility of the habitats or the greater capability of hiding. The *Parasemia*, *Leptarctia*, nearly all the more widely distributed forms of the *Apantesis*, the *Phragmatobia* etc. are almost all just as common insects as most of the *Spilosominae* are, the *Callimorphinae*, or even the *Phaegopterinae*, which may sometimes grow extremely troublesome when capturing them by the lamp; and if the food-plants would not be throughout futile weeds, many a larval species of this group would be able to grow as pernicious as the *Spilosomina Hyphantria cunea*.

1. Genus: **Eubaphe** Hbn.

This genus which in conjunction with *Crocota* Hbn., is often mentioned by the more recent name of *Holomelina* H.-Schäff., is composed of about 2 dozen mostly North American species exhibiting yet so many resemblances to the *Lithosiinae* in their shape and habits, that older authors inserted them in the *Lithosiinae*. They are all small butterflies, with greyish-brown forewings, suffused with yellow or reddish, and red or yellow hindwings, mostly margined black. Proboscis absent; the long palpi in the resting imago drooping, somewhat beak-shaped. Head woolly, thorax with appressed scales, abdomen obtuse. In the triangular forewing the subcostal is 4-branched, the first branch forking close before the cell-end, the last close before the apex of the wing. On the hindwing veins 5 and 4 come from the lower cell-angle. Little is known of the larvae; they are reported not to live on lichens, but on low plants, having in their juvenile state a cordiform head; when grown up, they show tubercles haired with short, uniform, stiff bristles, of which only those at the anterior and posterior ends exhibit longer hair-tufts; they hibernates and yield the imagines in June and July in the northern parts of the United States, whilst to the south they seem mostly to have 2 generations (in June and August). In day-time the larvae are met with freely on the soil, the imagines in the grass on pastures or in cleared woods; at night they come to the lamp. In most of the places of the United States there are always only 1 or 2 species, however often in various forms. Most of them occur in Mexico and the Antilles; only few go as far as Central America, and only 1 to Colombia or Peru. Opinions differ greatly as to whether the single forms are entitled to be called species.

- aurantiaca*. **E. aurantiaca** Hbn. (38 b). Forewings brown. Hindwings rosy-red, both slightly tinted yellow. Along the costa of the forewing a red stripe. Eastern United States, to the west as far as the Rocky Mountains and to the south as far as Mexico, to the north as far as Canada; mostly not rare. — On the hindwing there are sometimes faint blackish shades flowing together to a marginal band in the form **brevicornis** Wkr. (= *marginata* Drc., *belfragei* Stretch) (38 b), before which band in the ♀ there is besides a dark discal spot. This form is often considered as a distinct species; it is common in the Gulf States, particularly Louisiana and Texas. —
- brevicornis*. **rubicundaria** Hbn. is almost the same, the marginal band of the hindwing very broad, the hindwings themselves often orange instead of rosy. — **ferruginosa** Wkr. has no black band of the hindwing, but dark spots (mostly 2) before the margin of the hindwing, and the forewings show dark brown transverse shades; it is always larger than *aurantiaca* and, according to ROTHSCILD, a distinct species. — **quinaria** Grt. (= *choriona* Reak.) has on the forewings 4 or 5 creamy-white, small spots, of which in **bimaculata** Sndrs. only 1 is noticeable. — Larva emerging from low, flatly spherical, pale yellow eggs, is light brown, with a black head, black hair and dark tubercles partly with light apices. Across the dorsum a dull orange-coloured dorsal line. Eggs deposited in June yielded the imago in August. Pupa in a light silky web.
- rubicundaria*. **E. diminutiva** Graef. (38 b) is perhaps only a unicolorous pygmean form of *aurantiaca*, according to HOLLAND, however, constant, yellowish-brown, unmarked, the hindwings somewhat redder than the forewings. Florida, very common.
- ferruginosa*. **E. opella**. It occurs in lighter and darker to almost black (**belmaria** Ehrm., 38 a) specimens, and *nigricans* Reak., *nigrifera* Wkr., *obscura* Stretch are only names referring to such entirely or partly darkened specimens.
- quinaria*. Typical **opella** Grt. have reddish-brown forewings and almost black hindwings being reddle-coloured only in the inner-marginal area. — **rubricosta** Ehrm. are specimens being quite black, except the middle of the costa of the hindwing. Rather common in the Eastern United States, to the south as far as Georgia. — Larva when grown up dark grey with black tubercles, a black head and black hair. On low plants, very polyphagous.
- bimaculata*. **E. immaculata** Reak. (38 a) is allied to the light specimens of the preceding species, also similar to typical *aurantiaca*, but larger than the latter; rarely spotted (= **trimaculosa** Reak.), mostly the forewings unicolorously yellowish-brown, hindwings dull vermilion. Texas, Colorado; rarer.
- diminutiva*. **E. intermedia** Graef. (38 b) has brown forewings and purple hindwings, with such a broad black margin that the marginal black takes up two thirds of the whole hindwing. Costa of the forewing usually scarlet. Texas. — **cocciniceps** Schs. from Manitou (Colorado) has a narrower black margin of the hindwing; — **parvula** Neum. & Dyar is coloured like the latter, but smaller, the wings not so pointed. The marginal black of the hindwing occupies $\frac{1}{3}$ of the wing at most. Apparently rarer.
- belmaria*. **E. polyphron** Drc. (38 b). A southern species. Hindwings like those of the preceding species, purple-pink with a moderately broad, black marginal band, the forewings recognizable by the thick, creamy-white basal ray over the proximal margin and a shorter, postcellular, parallel stripe. Mexico, not rare.
- opella*. **E. feronia** Drc. (38 b). Forewing with a similar, white basal ray as in *polyphron*, though it is interrupted below the cell-end by the ground-colour. Hindwings yolk-coloured, broadly margined with black. Mexico (Guerrero).
- rubricosta*. **E. lata** Grt. from Cuba is similar, the basal ray of the forewing not interrupted, but at the cell-end darkened. Hindwings orange. Type in the National Museum of Washington.
- immaculata*. **E. arbela** Drc. (38 c) is larger than the preceding. Forewings wood-coloured, without the basal ray or any other marking, hindwings yolk-coloured, with a blackish-brown margin. Mexico, not rare.
- trimaculosa*.
- sa*.
- intermedia*.
- cocciniceps*.
- parvula*.
- polyphron*.
- feronia*.
- tata*.
- arbela*.

E. metazonata *Hmps.* (38 a). Hindwings of a bright orange-red, the black marginal band narrower *metazonata*, in the middle of the margin. Abdomen bright orange with a black dorsal stripe. Volcans Chiriqui, and Colombia.

E. rogersi *Drc.* undoubtedly approximates the form *brevicornis* of *aurantiaca*, but it is much larger, *rogersi*, almost the size of *metazonata*. Forewings brown, tinted yellow; on the rosy-purple hindwing there is a black spot in the disc and one above the proximal angle. Costa Rica.

E. esula *Drc.* (38 b) is almost like *arbela*, but smaller, the marginal band of the hindwing broader *esula*, and of a deeper black; the brown forewing with an orange-coloured costa. Mexico; apparently rare or very local.

E. fragilis *Strech.* (= *costata* *Stretch*, *opelloides* *Graef*) (38 c). Forewing brown with a reddish-yellow *fragilis*, costal stripe; hindwing unicolorously orange, without the black marginal band. Texas.

E. semirosea *Drc.* (38 a) is one of the largest species; forewing brown with a scarlet costa, hindwing *semirosea*, rosy-red with a broad black distal band being at the middle of the margin sometimes a little notched. Mexico.

E. mathani *Rothsch.* (39 e) from Cundinamarca in Colombia resembles *semirosea*, the forewing deep *mathani*, wooden-brown; hindwings brick-red, the black marginal band narrower near the middle of the margin.

E. laeta *Guér.* (= *treatii* *Grt.*, *rubropicta* *Pack.*) likewise resembles *semirosea*, also with brown *laeta*, forewings and a red costal margin, the hindwings crimson with a black distal half; but the abdomen is likewise dark red with a dorsal row of black spots. South eastern parts of the United States (Florida); distributed also in Arizona.

E. ostenta *H. Edw.* (= *calera* *Barnes*) (38 a). Forewings like in *semirosea*, but the hindwings are *ostenta*, carmine only in the costal areas, otherwise quite black. From Colorado through New Mexico as far as Mexico and Arizona.

E. pomponia *Drc.* (38 a) differs from *ostenta*, which it resembles extremely, by the palpi being black *pomponia*, (not carmine) at the base, and by the carmine costal spot of the hindwing being defined towards the black margin of the hindwing not in a uniform bow, but somewhat angularly. Mexico; very closely allied to *ostenta* as well as *mirma*.

E. mirma *Drc.* (38 b). Above almost exactly like *pomponia*, the red of the hindwings somewhat more *mirma*, extensive; different by the strong black marginal band beneath. Mexico.

E. cetes *Drc.* (38 b) from Oaxaca (Mexico) has the marking and shape of *mirma*, though the bright *cetes* red parts of the latter are here orange-coloured.

E. trigonifera *Schs.* (38 c). The hindwings almost entirely like *cetes*, the costal part more reddish- *trigonifera*, than orange-yellow. Besides, however, the forewing exhibits the whole basal half reddish-yellow, except the blackish-brown proximal margin. Mexico.

C. pamphyllia *Drc.* (38 b) is also from Mexico and similar to *trigonifera*, but the golden yellow extends *pamphyllia*, farther distally at the costa of the forewing.

E. tenuicincta *Hmps.* (38 c). Forewings wood-coloured, the golden yellow hindwings only very *tenuicincta*, narrowly bordered with black. Peru. The southernmost species known of the genus.

E. disparilis *Grt.* (38 d). From Cuba; on the brown forewing some white spots, on the yolk-coloured *disparilis*, hindwing black spots.

E. heros *Grt.* (38 d) likewise from Cuba, is the largest species, quite golden yellow, the forewing with *heros*, duller, the hindwing with somewhat more distinct, dark nebulous spots.

E. pallicornis *Grt.* is another Cuban species, the size of which is between *heros* and *disparilis*. The *pallicornis*, brown forewings are speckled and spotted white, between and towards the margin shaded dark; the hindwings are reported to be dull pink or reddish-orange, with dark spots at the cell-end and above the proximal angle. The butterfly is certainly very rare, unless it be an aberration of *disparilis*; it is not represented in any museum; the type does not exist anymore.

2. Genus: **Virbia** *Wkr.*

This genus with about 20 species is distributed more to the south than the preceding, but it does not occur anymore in the United States. The species are throughout yellow and black, or yellow and dark brown, just like those of the preceding genus were preponderantly carmine. In the structure the *Virbia* are very much like the *Eubaphe*, but they differ by the upper median vein of the forewing branching off with the lower radial from the same place, the lower cell-angle, whereas in the *Eubaphe* the uppermost median vein (which is nowadays often denoted as the lower radial vein) rises far before the lower cell-angle. — Most of the *Virbia* are rather rare butterflies which are nearly exclusively taken by the lamp, only *V. subapicalis* and *medarda* being more

common; most of the species live in Mexico and Central America; nothing is known about their early stages.

I. Forewings unicolorously brown.

- lehmanni*. **V. lehmanni** Rothsch. somewhat recalls *Eubaphe tenuicincta* (38 c), the forewings being also blackish-brown and the hindwings yellow with a uniform black marginal band, but the abdomen is above orange with a broad black dorsal longitudinal stripe, and the distal band of the hindwing is broader. Colombia.
- hypophaea*. **V. hypophaea** Hmps. (38 d). The moderately broad black distal margin of the golden yellow hindwing does not quite reach the anal angle. Forewings bright dark brown; abdomen black with yellow sides. From Costa Rica.
- sanguicollis*. **V. sanguicollis** (= mentions Druce nec Wkr.) (38 d) is like *hypophaea*, but the black distal band runs round the whole hindwing, so that only an orange yellow disc remains below the middle of the costa. Costa Rica.
- subapicalis*. **V. subapicalis** Wkr. (= egaca Wkr.) (38 c) is darker than *sanguicollis*, which it otherwise resembles, but the oval orange spot of the hindwing is not situate below the middle of the costa, but more in the apical part of the wing. Amazon Valley (Ega, Itaituba, Fonteboa etc.), Guiana, Ecuador, to the south in the east as far as Sa. Catharina, in the west as far as Peru; not rare.
- ovata*. **V. ovata** Rothsch. (38 e) greatly resembles *subapicalis*, but it is larger, the yellow spot of the hindwing forms a more oblong oval and is more removed from the apex of the wing. In the ♀ it flows out along the costal margin towards the base. Sa. Catharina.
- medarda*. **V. medarda** Stoll (38 d) is larger than *ovata*. The marginal band of the hindwing does not reach the proximal angle, but it turns round, before it, in a wedge-shaped point, towards the base of the wing.
- minuta*. Distributed in South and Central America and mostly not rare. — **minuta** Fldr. is scarcely more than half as large as *medarda*; the black distal band of the hindwing sometimes extends yet to the proximal margin, after having deposited the black wedge-shaped ray on the base of the hindwing. Mexico, through Central America
- parva*. as far as the Amazon. — **parva** Schs. from Colombia and Ecuador differs from this small form by the black of the marginal band outweighing the orange of the hindwing, so that the latter runs through the hindwing almost like a broad median band. — In the form **mentiens** Wkr. the marginal band of the hindwing is angled at the end of the proximal margin, and the yellow median spot of the forewing beneath is distally cut off
- mentiens*. in a straight line. — **flemmingi** Rothsch. from Ecuador has longer and narrower wings than *mentiens*, the black distal band of the hindwing is of a constant width and the yellow part of the proximal margin does not
- flemmingi*. exactly reach as far as the anal angle, but the marginal band extends as far as the latter. — In **luteilinea** Wkr. (38 e) from Mexico, the size of which is between *medarda* and *minuta*, the yellow inner-marginal part of the ♂ is very broad and cut off quite straight towards the black wedge-shaped ray. This form is presumably identical with *Josiodes inversa* H. Edw. HAMPSON takes most of the forms of this species to be synonyms, whereas according to ROTHSCILD some are of different species. In fact specimens from Muzo differ from those from Villavicencio, the latter from those from Ecuador, Panama or Bolivia in the marginal band of the hindwing and on the under surface, but there are almost everywhere transitions to be found.
- luteilinea*. **V. affinis** Rothsch. resembles *parva* Schs. from Colombia, but the wings are shorter and broader, the yellow occupies almost the whole hindwing and leaves only a marginal band black. The ♀ also exceeds the *parva*-♀ considerably in size.
- affinis*. **V. divisa** Wkr. (38 d) is still larger than *affinis*; the forewings are very dark sepia-brown, almost black; on the hindwing the orange is confined to a broad wedge-shaped spot below the costa and to a minute inner-marginal stripe near the base. Distributed from Nicaragua over Guiana as far as South Brazil and Paraguay; near Rio de Janeiro and Santos not rare.
- divisa*. **V. fasciata** Rothsch. (38 e) from Ecuador and Colombia is considerably larger than *divisa*, with broader forewings, the orange stripe in the hindwing being narrower and beneath not so sharply defined.
- fasciata*. **V. zonata** Fldr. (= distincta H. Edw.) (38 e). On the orange-yellow hindwing a black spot, being in the ♀ below somewhat lobate, in the anal part of the distal margin, and a black stripe from the costal margin round the apex. Mexico.
- zonata*. **V. ampla** Wkr. (38 e). In the place of the black lobate spot there are in the hindwing only some dispersed black, diffuse patches. Likewise from Mexico; *zonata* may be only a form of this species.
- ampla*. **V. rosenbergi** Rothsch. (38 d) is smaller than the preceding are, particularly the ♀♀. All the margins of the hindwing, except the proximal margin, broadly black; this marginal band is very much expanded above the proximal angle. Mexico and Colombia.
- rosenbergi*.

V. satara *sp. nov.* (38 c). Larger than the preceding; the orange spot in the apical part of the hindwing *satara*. is extended in the shape of a crescent. The under surface differs more: the forewings are here not yellow with a broad dark margin as in the preceding species, but black, traversed by a golden yellow transverse band being joined to that of the hindwing, thus producing the design of colours of the Celebes butterfly *Pericallia aequata* Wkr. (Vol. X, t. 24 h) having formerly been denoted as *Satara*.

V. palmeri *Drc.* Forewings dark brown strewn with yellow atoms; hindwings chrome-yellow, with *palmeri*. a broad black marginal band from the apex to the proximal angle, where it is the broadest and deeply notched. Size of the following species. Colombia.

V. epione *Drc.* has an expanse of 36 mm; the forewings are light brown like the thorax, the hindwing *epione*. exhibits a yellow, streak-shaped, distally forked proximal spot and yellow proximal margin. Peru, taken at an altitude of 6000 ft.

V. birchi *Drc.* from Colombia has dark, almost black forewings, and on the black hindwing a central, *birchi*. yellow, wedge-shaped streak from the base to the cell-end. Larger than the preceding.

V. underwoodi *Drc.* is still larger than *birchi* (48 mm). Forewing black, towards the base the darkest. *underwoodi*. Hindwings pale yellow; marginal band in the apical half of the wing quite narrow, in the anal half broad. Costa Rica.

V. rosenbergi *Rothsch.* (38 d) is smaller than the preceding, particularly the ♀♀. All the margins of *rosenbergi*. the hindwing, except the proximal margin, broad black; this marginal band is strongly expanded above the proximal angle. Mexico and Colombia.

V. xanthopleura *Hmps.* (42 h). Chest and abdomen laterally with yolk-coloured stripes. Forewing *xanthopleura*. blackish-brown, strewn ochreous. Hindwing in the ♂ in and below the cell as far as right behind its end with an orange band; another yellow streak at the proximal margin. — In the ♀ there are yellow stripes at the proximal margin, at the base and in the cell. Grenada.

II. Forewings brown, marked creamy-white or orange.

V. thersites *Drc.* (38 e). In the forewing a short, white basal ray and a white spot before the proximal *thersites*. angle; the yellow hindwing with a regular, black distal band. Panama.

V. dotata *Wkr.* (= *lativitta* *Wkr.*) (38 e). Forewings similar as in the preceding species, but the *dotata*. black distal band of the hindwing is strongly narrowed in the middle of the margin. From the Amazon River: Pebas, São Paulo da Olivença, Ega, Manaus.

V. brevilinea *Wkr.* (= *major* *Fldr.*) (38 e). Hindwings entirely like those of *medarda* (38 d), but *brevilinea*. the forewing with a thick, whitish basal ray as far as in the middle of the wing. South Brazil (Rio de Janeiro, Catharina).

V. endophaea *Dogn.* based upon 1 ♂ not lying before me; it has on the chestnut-brown forewing likewise *endophaea*. a spot, but a yellow one being centrally situate so that it is crossed by the median. Hindwing with a yellow longitudinal spot proceeding from the base and leaving the whole margin black. From Corvico in Bolivia.

V. varians *Schs.* represents *endophaea* in Peru; forewing quite similar, but the white basal ray of *variens*. the forewing quite short, often followed by another, small, isolated spot. Cuzco.

V. endomelaena *Dogn.* Size of *medarda* (38 d), but the otherwise brown forewing exhibits a minute, *endomelaena*. creamy-white discal spot; the hindwing with a yellow, central longitudinal spot, something like in *fasciata* (38 e), but broader. From Muzo in Colombia.

V. punctata *Drc.* On the dark brown forewing there is only one creamy-white yellow spot at the cell- *punctata*. end. Hindwings yellow, the black marginal band the broadest at the anal angle. Forewings beneath yellow, margined dark, hindwings similar as above. 36 mm.

III. Forewings black with an orange discal stripe.

V. strigata *Rothsch.* The orange stripe begins about 3 mm distant from the base of the wing and *strigata*. terminates 2 mm before the margin. Smaller than *medarda*. From Surinam and the Tijuca (South Brazil).

3. Genus: **Bricea** *Wkr.*

In the habitus closely allied to the preceding genera, distinguished by the fully developed proboscis, the shorter palpi not being lowered like a snout, but turned up before the face, the abdomen being stout and short. The lowest radial of the forewing does not rise from the starting-point of the middle radial, but before it, though not so far before the cell-end as in *Eubaphe*.

B. disjuncta *Wkr.* (= *jenna* *Bsd.*) (38 c). The blackish-brown forewing with an orange basal ray *disjuncta*. as far as beyond the middle, and two small orange bands before the apex and proximal angle; hindwings with a yellow, distally notched, wedge-shaped spot. Brazil, rare; reported also from Mexico and Central-America.

carpintera. **B. carpintera** Schs. is much smaller than *disjuncta*, black, in the basal half of the forewing orange, only the base itself and a short streak at the base of the costa black; the basal half of the costal margin likewise orange. Costa Rica.

4. Genus: **Heliactinidia** Hmps.

Proboscis capable of function. Palpi quite short, porrect, antennae of the ♂ with rather long comb-teeth. Body much more slender than in *Brycea*, the hindwings rather large. The species belonging hereto differ greatly from each other, but they are all marked yellow, or entirely yellow. They are apparently confined to South America and not common.

- chiguinda.* **H. chiguinda** Drc. (38 f). Hitherto only ♂♂ are known. They are blackish-brown; forewing with a yellow basal ray and a yellow transverse stripe, hindwing with a yellow wedge-shaped spot in the disc and a narrow streak before the proximal margin. Ecuador.
- bimaculata.* **H. bimaculata** Drc. approximates *chiguinda* (38 f). Head, antennae, palpi, tegulae, thorax, and legs black. Collar yellow; abdominal sides yellow. Forewings lighter brown; a yellowish-white postcellular band extends from the costal margin to the anal angle, being broadest at the costa. Hindwings orange-yellow, apex and anal angle broad black. South East Brazil.
- flavivena.* **H. flavivena** Dogn., with an expanse of 31 mm, has brown palpi with yellow bristles at the base. Thorax brown, likewise intermixed with yellow hair; abdomen yellow, with a black dorsal stripe. Forewings above light grey, at the base a yellow spot. Veins well marked, pale yellow; fringes yellow. Hindwings yellow. From Cali in Colombia.
- sitia.* **H. sitia** Schs. resembles *flavivena*; body yellow, with a black dorsal stripe. Forewings olive-grey, with yellowish veins; from the costal margin across the cell-end to the proximal margin, near the anal angle a light shade, on it round the cell-end some small yellow scales; hindwings orange. ♂ 38, ♀ 40 mm. From the Sixola River in Costa Rica.
- coerulescens.* **H. coerulescens** Hmps. (38 f). Black, with a blue lustre, both wings are traversed by a golden-yellow median band, from which a large obtuse ray emerges towards the middle of the margin on both wings. Colombia.
- austriaca.* **H. austriaca** sp. nov. (38 f) resembles *coerulescens*, but on the forewing there is a large, yellow, irregular discal spot; hindwings quite black, without any yellow. The upper surface has a less bright blue lustre than the under surface. Ecuador.
- nigrilinea.* **H. nigrilinea** Wkr. (38 f) is larger, yolk-coloured, with a blackish brown costa of the forewing. South Brazil.

5. Genus: **Pteroodes** Btlr.

One orange-yellow species forms this genus. The 2nd subcostal vein of the forewing anastomoses with the footstalk of the 2nd and 3rd, so that an areola is produced, which is absent in the preceding genus, but occurs again in the following *Haploa*. The structure is slender, the hindwings much smaller than in *Heliactinidia*. Proboscis strong, palpi bent up before the forehead, not lowered as in *Virbia* or *Eubaphe*.

- longipennis.* **P. longipennis** Wkr. (38 f) from Mexico is unicolorously orange-yellow. Costal margin, apex and distal margin finely bordered with black.

6. Genus: **Antiotricha** Fldr.

Forewing without an accessory cell, the discocellulars of both wings longer. Palpi quite short, porrect. In the hindwing the lower margin of the cell is much longer than the upper; proboscis present.

- integra.* **A. integra** Wkr. (= *vexata* Fldr.) (38 f). Unicolorously yellow, but lighter than the preceding, all the wings finely bordered with black. Colombia.
- marcescens.* **A. marcescens** Fldr. (42 i). ROTHSCILD places this butterfly here, for which the genus *Agaposoma* was established by FELDER, and which probably scarcely belongs here. There seem only few specimens to be known, which are at present not accessible to me. As much as we can see from FELDER's figure, which we copy, the venation fits better to the group of the genus *Pachydota*. KIRBY places the species to the *HYPSINAE* (not represented in America). HAMPSON does not mention it in his *Arctiinae*. The rather large butterfly has an orange abdomen banded black, brown forewings and yellow hindwings with a black preapical spot and a hook-like stripe before the proximal margin. Ecuador.

7. Genus: **Hiera** Drc.

Here there is again an accessory cell, considerably larger than that of *Pteroodes*. Systematizers who attach great weight to the accessory cell, therefore, separate this genus far from the preceding genera. We must, however, consider that there are species in which only certain specimens show accessory cells, and that specimens are known being otherwise normally developed, one side showing such a formation, the other not. Hitherto only 1 species is known:

H. gyge Drc. (38 f). Orange-yellow. Costa of the forewing narrow, distal margin of all the wings *gyge*. broadly bordered with black. From the Volcano Chiriqui in Costa Rica.

8. Genus: **Euchlaenidia** Hmps.

Proboscis present. Palpi rising obliquely before the face. ♂ antennae doubly combed. In the forewing the 1st subcostal vein branches off shortly behind the middle, the 2nd before the end of the cell, the 3rd to 5th petioled; the upper radial from the upper cell-angle, the lower one with the upper median vein from the lower cell-angle, the middle median vein rising immediately after it. On the hindwing the middle median vein rises before the lower cell-angle. Based upon 1 species to which later on 2 others were yet added, all of them from South America.

E. transcisa Wkr. (38 g). Forewings brown with a dull yellowish transverse band across the cell-end; *transcisa*. hindwing orange, with a black marginal band being widened in the apical area. Rio de Janeiro; rare.

E. neglecta Roths. (39 f). Forewings similar, but the hindwing orange with a black oval spot before *neglecta*. the proximal angle. A smaller species. Paraguay.

E. ockendeni Roths. (38 f) from Peru likewise resembles *transcisa*, but the light transverse band *ockendeni*. in the forewing is steeper, and the black in the apical and anal parts of the hindwing is narrower.

9. Genus: **Haploa** Hbn.

This genus contains about half a dozen rather similar species changing from white to yellow, mostly marked black; they only occur in North America, and by their frequent occurrence at their habitats, by their habits and even the shape and colour of the wings they superficially recall the palearctic *Nyctemeridae* which are known to be absent in America. It is difficult to define the species, since even in long series of specimens from the same habitat there are hardly two found marked entirely the same (HOLLAND). Scarcely two of the numerous informants fully agree in the homogeneousness of the single forms named, and as the larvae are not yet known of all the forms, the opinions cannot be put to the test. It has also been observed that at the habitats, where a yellow form was met with in crowds and almost exclusively, it was soon hereafter replaced by a white form so completely that not one yellow specimen was discovered among the white ones. — The imagines are rather slim with a small head which, however, is not retracted or as in *Arctia* lowered to the chest, but rests freely on a distinct neck. The eyes are large, bare, ball-shaped, accessory eyes being present. Thorax short, abdomen cylindrical, extending as far as or beyond the anal angle of the hindwing. In the forewing the 1st subcostal vein branches off considerably before the upper cell-end, the 2nd anastomoses with the footstalk of the 3rd to 5th, thus forming a long, narrow areola. In the hindwing the upper median vein comes with the lowest radial from the lower cell-angle. There are 2 peculiar, feather-like, thin appendages at the abdominal end, fluttering in the gentlest current of air and, according to SIEWERS, serving for the flight, which supposition, however, was not verified (in *clymene*). The larvae partly live on trees; the imagines are in some places of frequent occurrence, but local. — There exist several monographies on the genus.

H. clymene Brown (= interrupto-marginata Beauvois, comma Wkr.) (38 g). Forewings bone-yellow *clymene*. with black margins and a black demi-band resting on the proximal margin before the proximal angle; hindwing golden yellow with 1 or 2 black spots above the anal angle. Under surface quite golden yellow, without the black margins, but with the dark demi-band before the proximal angle of the forewing. — Larva, according to SIEWERS (Canad. Entomol. X, p. 84), of a bright yellow with a white lateral stripe; above the latter and at the terminal joint red spotting. On Eupatorium, according to other explorers also on willows. Atlantic states of the Union, distributed from Canada to Georgia, in most of the districts common.

H. colona Hbn. (= carolina Harr., clymene Esp. nec Brown) (38 g) is coloured like *clymene*, but *colona*. the distal area of the forewing is traversed by black stripes in various directions. The golden yellow hindwing with 1 to 3 spots or also without any spot. (Aberr. α — δ with WALKER). The black stripes of the forewing are well developed in typical specimens, but they may be reduced in every direction and have entirely disappeared *conscita*. in specimens exhibiting the least markings: ab. **conscita** Wkr. (= lactata Smith) (38 g). — **reversa** Stretch *reversa*.

(= *suffusa* *Smith*) (38 g) differs from the preceding by the hindwings being white, not golden yellow. Here we may also notice a reduction of the black stripes of the forewing (= *triangularis* *Smith*), to such a degree that *fulvicosta*. only the costa is yet narrowly bordered dark, and this form, ***fulvicosta* Clem.** (= *duplicata* *Neum.* and *Dyar*) (38 g) is even the form described first, so that, in case these forms should be separated specifically (according to HAMPSON, contrary to DYAR), *fulvicosta* forms the name of the species. — Larva black with a lustrous black head, blue tubercles, on which there are few, short, though stiff dark hairs. Across the dorsum a yellowish, interrupted median line being tinged reddish on the rings, beside it feebler, slight subdorsal lines. Lateral stripe broad yellow, in some places broken up into spots. On *Pyrus* and *Prunus*, according to RILEY also on oak-trees. The butterflies are distributed over the Atlantic States of North America, being common in Texas, growing rarer to the north. In the south they occur already early in May.

lecontei. **H. lecontei** *Bsd.* (= *leucomelas* *H.-Schäff.*) (38 g). Typical specimens have an entirely white ground-colour; the forewings are margined with black and exhibit a dark oblique band from the apex towards the distal part of the proximal margin, a white oval in the apex and a small cell-end band from the costa. — In *militaris*. ***militaris* Harr.** (= *harrisii* *Dyar*) the oblique band of the forewing is once or twice interrupted, and the *confinis*. ground-colour in the ♂ is sometimes tinted creamy-yellow. — ***confinis* Wkr.** has a complete oblique band, but *smithii*. the marginal bands of the forewings are reduced. — ***smithii* Dyar** exhibits the dark stripes interrupted as well *dyari*. as of an irregular course. — In ***dyari* Merrick** there are no dark markings at all; the insect is unicolorously bone-yellow, so that it may only form a transition to the following species, which is regarded by some (DYAR, HOLLAND) to be merely another form of *lecontei*. — Larva black with a bright yellow dorsal and a similar lateral line (STRECKER); it lives on *Triosteum perfoliatum*, and wherever this is growing abundantly, the butterflies are often met with in big crowds at the end of May and beginning of June. Atlantic States of the Union, from New England to Georgia, and to the west as far as the Mississippi.

vestalis. **H. vestalis** *Pack.* Size somewhat smaller than that of the form *dyari* of *lecontei*, which it also resembles, though it is altogether white, not bone-yellow, all the wings being void of markings, except the costa and border being faintly bordered dark at most. Atlantic States. Presumably only a form of *lecontei*.

confusa. **H. confusa** *Lyman* (38 h). In this species the stripes of the forewings form a whole net leaving the ground-colour free only in 5 larger and some smaller spots. Hindwings of a pure white. — Larva when grown up black with yellow lines in the middle and at the sides of the dorsum; lateral rows of partly obsolete light *lymani*. dots. On *Cynoglossum officinale*. — In the form ***lymani* Dyar** the markings are reduced and more interrupted; otherwise the form seems to be constant. In the northern (New England) States.

contigua. **H. contigua** *Wkr.* (38 h) is entirely white, the margins of the forewings black; a black, postmedian, *lumbonigera*. transverse band sending forth a branch below the middle of the margin. — In the form ***lumbonigera* Dyar** the *ra*. distal band is absent. Atlantic States; in July.

10. Genus: **Utetheisa** *Hbn.*

The forewings more stretched, narrower and longer, the costa more curved, the margin shorter. A cosmopolitan genus found not only in all the 5 continents, but also in numerous islands. As to further particulars see Vol. II, p. 73, and Vol. X, p. 260. America has 3 species.

ornatrix. **U. ornatrix** *L.* (38 h). White, forewing tinged rosy with small red spots along the costal and distal margins, before and between which there are few black dots. Hindwing in the distal part with black, confluent spots, which in the ♂ are more confined to the marginal area, while in the ♀ they often occupy more than half *stretchi*. the wing. — ***stretchi* Btlr.** (= *pura* *Btlr.*) has more numerous, small, black dots on the forewing, which also penetrate the disc in rows, the hindwing being tinted rosy-red as far as the median. From South Florida and the Antilles through Mexico, Central and the whole of South America as far as Argentina, in some districts very common, flying almost throughout the year.

bella. **U. bella** *L.* (38 h). On the forewing orange-red transverse bands alternate with white ones being *intermedia*. dotted black; hindwings purple-pink, irregularly margined with black. — In the ab. ***intermedia* Btlr.** the under surface being otherwise red with black markings, is also spotted white, and on the hindwing above there is *hybrida*. an interrupted spot before the marginal band. — ab. ***hybrida* Btlr.** has the hindwings above in the distal half *terminatis*. more broadly margined dark, and much more black on them, whereas in ab. ***terminalis* Neum.** and *Dyar* the marking in the disc of the forewing is lighter, and the ground-colour of the hindwing white instead of purple or pink. — In the Atlantic States often common, to the south as far as Mexico and Yucatan, flying in autumn *venusta*. and sometimes till November. — In the Antilles there occurs a local form, ***venusta* Dalm.** (= *speciosa* *Wkr.*); instead of the orange bands on the forewings, it is coloured crimson or miniate, and the black marginal band of the hindwing is much narrower. — The larva lives on *Myrica gale*. It is black, speckled yellow and white, across the dorsum darker, with a lustrous red-brown head and leather-coloured ring-indentations. Under-side leather-coloured; hairing dark, thin, bristly. The larvae of the Antilles-form *venusta* are coloured orange with black transverse bands (PACKARD).

U. galapagensis *Wlgr.* (38 h) is a small species, having so far only been found in the Galapagos. *galapagensis*. Dirty whitish-grey. Forewing in the basal part tinted yellowish-brown, with a similar band-stripe through the middle and before the margin. In the disc traces of red colouring. Hindwings distally yellowish-brown, towards the base lighter, without the black marginal band.

11. Genus: **Dodia** *Dyar.*

This genus, entirely unknown to me, was established for a single species discovered in the west of Canada, recalling *Parasemia plantaginis* by its size and wing-contours, though the colouring and marking is quite different. The cell of the forewing has almost $\frac{3}{4}$ the length of the wing, the cell of the hindwing $\frac{3}{4}$ the length of the wing. On the hindwing the discocellular is concave, but not angled, and veins 3 to 5 (the upper medians and lower radial) emerge from the lower cell-angle. Proboscis feeble, ocelli large, body slender, Geometrid-like. Posterior tibiae with 4 spurs, anterior tibiae with a terminal prong.

D. albertae *Dyar.* The butterfly being preponderantly yellowish-brown is so far only known from *albertae*. the District of Alberta. The transparent grey forewing exhibit, beside the dark veins, whitish, undulate subterminal lines; base of the wings suffused whitish, forewing with a grey, curved subbasal and a grey, slightly undulate median oblique band. Hindwings semi-diaphanous. Expanse of wings: 34 to 35 mm. Taken in June and July.

12. Genus: **Kodiosoma** *Stretch.*

This genus contains only 1 small Californian species somewhat resembling the palearctic *Ocnogyna* by its shape and habits, though the ♀ is winged, as much as we know. Like in the *Ocnogyna*, the *Kodiosoma* are without a proboscis; the head is hidden in woolly hair, and the palpi, likewise shaggily haired, are porrect. The venation of the forewing only differs from that of *Ocnogyna* by the 2nd subcostal vein being petioled with the 3rd to 5th in the latter genus, whilst in *Kodiosoma* it branches off before the cell-end. No areola.

K. fulva *Stretch* is to be recognized by the snow-white collar separating the dark head from the *fulva*. brown thorax. The wings are thinly scaled, the hindwings even semi-diaphanous. In typical specimens the abdomen and hindwings are orange-yellow; in ab. **tricolor** *Stretch* (38 h) the hindwing is dull rosy-red; in **eavesi** *tricolor*. *Stretch* (38 h) the abdomen and hindwings are blackish, and in **nigra** *Stretch* the abdomen is orange-yellow only *eavesi*. *nigra*. at the apex; it otherwise resembles the preceding. Distributed in California and not rare.

13. Genus: **Ocnogyna** *Led.*

This genus, being otherwise purely palearctic, has been dealt with at large in Vol. II, p. 76 to 78, and Vol. X, p. 237. A small butterfly from South America is said to belong here. Neither OBERTHÜR, who described the species first (as *Arctia*), nor HAMPSON, who inserted it in the *Ocnogyna*, knew the ♀ of which we, therefore, do not know whether it is fully winged or not.

O. jelskii *Oberth.* (38 h). Unicolorously blackish-grey, thinly scaled. Anal tuft with yellow hair. *jelskii*. Peru. Middle of August.

14. Genus: **Laora** *Wkr.*

Entirely of the character of the antarctic *Arctiinae*: long ♂ antennae strongly feathered, and insignificant dull colours. Head and body densely haired, palpi long, haired brush-like, extended straight forward. On the forewing the 1st subcostal vein rises far before the cell-angle, the footstalk of the 2nd to 5th emerges with the upper radial from the upper cell-angle.

L. antennata *Wkr.* (38 i). Dark red-brown, thorax and abdomen anteriorly mixed with yellow hair. *antennata*. Hindwing greyish-brown, at the base tinged yellowish. Abdomen with dark bands, being, however, in the ♂ covered by the long woolly hair. Colombia, though at great altitudes, as for instance near Bogotá, 3000 m.

L. ubiana *Drc.* (38 i) is similar, but larger and more unicolorously reddish-brown. Panama. The *ubiana*. ♀ of this species is unknown to me.

15. Genus: **Phragmatobia** *Steph.*

For the genus itself comp. Vol. II, p. 79. In the restricted sense as considered here, it differs from the following genus, as well as the preceding genus, by the almost plain antennae. It contains only about half a dozen species in the palearctic and nearctic regions.

Ph. fuliginosa *L.* Entirely typical specimens (Vol. II, t. 16 b) hardly occur in America. Examples from there, 6 of which are before me from my collection, are throughout darker and very thinly scaled. The

- rubricosa*. nearctic specimens have been denominated: **rubricosa** Harr. (38 i), which name, however, is not generally acknowledged, because also in the palearctic region there occur all the transitions from the brightly coloured, densely scaled form *fervida* Stgr. to the northern *borealis* Stgr. which is very closely allied to *rubricosa*. As to further particulars about it and the larva see Vol. II, p. 79. — *rubricosa* is very numerous in Canada and the northern parts of the United States and frequently captured by the lamp. To the south the species extends as far as Carolina, but there it does not occur anymore in the plains, being confined, like in the west to the Rocky Mountains, in the south to greater altitudes.
- assimilans*. **Ph. assimilans** Wkr. (38 i). Almost like the European *fuliginosa fervida* (Vol. II, t. 16 b), but sometimes without any dark nebulous spots at all, with unicolorously brown-red forewings and rosy-red hindwings. New York, New England, on mountains. — **franconiae** Annie Slosson (38 i), described from a ♀ taken by the lamp on May 24th near Franconia, shows traces of dark transverse stripes on the forewings and a blackish marginal band before the margin of the hindwing.

16. Genus: **Neoaretia** Neum. & Dyar.

It rather precisely corresponds to the palearctic genus *Micraretia* (Vol. II, p. 83), from which, however, it differs by the finer antennae, which are not so feebly ciliated as in the ♂♂ of the *Phragmatobia*, being provided with almost plain antennae. The venation does not exhibit any essential difference, for which reason HAMPSON combines the genus with the preceding. We include here 6 forms, nearly all from North America. Perhaps also the species *thursbyi* Roths. (39 l) having been described as *Turruptiana* is to be included herewith; as to further particulars about the latter species unknown to me in nature see p. 313.

- beanii*. **N. beanii** Neum. (38 i). Colouring almost like in the aforementioned *Phragmatobia*, but across the forewing and hindwing there extend sooty black nebulous stripes and spots. Rocky Mountains of Alberta and Assiniboia. — In the form **fuscosa** Neum. the forewings are quite covered with blackish.
- brucei*. **N. brucei** H. Edw. (38 i). Forewings crossed by pinkish-yellow bands and spots. Collar broad pinkish-yellow; hindwings with large, black antemarginal spots. Colorado.
- fervida*. **N. fervida** Wkr. (= *rodriguezi* Drc.) (38 k). Forewings blackish-brown, whitish colour pervading them; hindwings of a bright red with a broad black distal band. — In the form **commixta** Btlr. (38 k) the white streams on the forewing are reduced to a proximal longitudinal stripe and a distal oblique stripe. From Guatemala.
- garowii*. **N. yarowii** Stretch (= *remissa* H. Edw.) (38 k). Forewings black, a dull yellowish-white pervading them, hindwings orange, with black discal spots and a dark basal area. From the districts to the south of the Hudson Bay as far as British Colombia; in the Rocky Mountains it extends far to the south, as far as Arizona.

17. Genus: **Hoplarctia** Btlr.

Proboscis stunted, palpi very short with a minute terminal joint. Antennae bristly; face very short, with appressed hair; body rather slender. Venation entirely like in the preceding genera; in the forewing the 1st subcostal vein rises before the cell-end, the footstalk of the 2nd to 5th from the upper cell-angle, from the same place also the upper radial. Only 1 species:

- hodeva*. **H. hodeva** Drc. (38 i). Thorax brown with white collar and shoulders; forewing dark reddish-brown with a white oblique band sending forth a connecting band towards the base of the wing. Hindwing crimson, with a uniformly black margin. The type originates from Jalisco in Mexico *).

18. Genus: **Orodemnias** Wallgr.

Already in Vol. II, where we described this genus, we have stated that it almost unnoticeably forms a transition to the next genus, for which reason also the modern authors insert it simply in the genus *Apan-tesis* (being older by 11 years). Since the veins do not exhibit any characteristic marks in the *Arctiinae*, some *Orodemnias* were brought into connection with *Micraretia*, others with *Parasemia* or *Phragmatobia*: STAUDINGER and REBEL simply insert them in the *Arctia*. As the type *O. quenselii* is considered.

- gelida*. **O. quenselii** Payk. (Vol. II, t. 16 g) occurs in the typical form in Europe. The American form: **gelida** Mschlr. (38 k), described from Labrador, differs from the type by the forewings exhibiting much more yellowish-white and by the hindwing showing a light, wedge-shaped stripe before the proximal margin. — *complicata*. In **complicata** Wkr. from the western coast of Canada (Vancouver) the transverse stripe running through the cell, being sometimes hinted at in *gelida*-♀♀, is present also in the ♂, passing through as far as the submedian,

*) As another *Hoplarctia*, *H. nantana* was described by BUTLER. It is, however, a genuine *Ctenucha*, and has been dealt with on p. 190 of this volume, though not figured; we, therefore, add here the figure (38 k).

the same being the case with the band behind the cell-end. For further particulars about *quenselii*-forms and the larva comp. Vol. II, p. 82. — The species occurs besides in Greenland and other parts of Arctic America.

19. Genus: **Apantesis** Wkr.

This multiform genus forms one of the greatest attractions of the nearctic butterflies. More than 80 names have been given to forms of this genus, and if one would, as has been unfortunately done with its palearctic allies, denominate every variation in the spotting of wings or body, the number of *Apantesis* could easily be trebled. In American works the genus is often denoted as *Arctia*; this, however, can only be done where the *Arctia caia*, which cannot be dealt with congenerically with the *Apantesis*, is denoted as „*Euprepia*“, „*Chelonia*“, or „*Hypercomba*“. Among the palearctic forms, the *Apantesis* are, beside the *Orodemnias* which are, as we mentioned, often inserted in the *Apantesis*, approximated by that genus for which we employed in Vol. II the name *Euprepia*, containing the species *Eupr. pudica*, *rivularis* and their allies.

The butterflies mostly show on the forewing yellow latticed markings pierced by black, out of which a light longitudinal streak on the submedian vein and a large reclining W in the marginal area are distinctly prominent. The hindwings are mostly red, which often turns honey-yellow in aberrative forms, with black spots or a black marginal band. The abdomen almost invariably shows the red or orange-yellow warning colour suggestive of interior oily secretions which are ejected from openings at the neck, on the insect being disturbed. The butterflies are consequently not adapted, but rather conspicuous. But as the most brightly coloured forms, such as *A. arge*, are resting directly on the soil, deep in the grass, the animals are anyhow not so easily found as might be thought. Nor are they so easily chased up nor are they so heliophile as for instance the palearctic *Callimorpha*, although some are often met with flying in day-time. On seizing them, some species (or all?) utter a stridulous sound, whilst when flying past our ears we hear a noise like the cracking noticed in *Callimorpha dominula* or *Parasemia plantaginis* flying past us.

The larvae are real bear-caterpillars, i. e. densely covered with stiff hair, often like our *Spilosoma* with coloured longitudinal stripes. They are not dainty in their food, and most of them may be bred with lettuce or the leaves of the common lettuce. If one wishes to protect the small larvae, having crept out from the eggs, against infectious diseases, they must, beginning from the 3rd skinning, be separated in small groups in different receptacles, so that at the time of their pupation not more than 2 or 3 remain in one receptacle. On giving them succulent food, I could not notice an inclination to cannibalism, as is reported of different Arctiid larvae. Breeding is very easy, since many larvae — at least in one generation — do not hibernate.

Like in the Old World the magnificently coloured *Arctia* preponderantly live in the temperate north and are replaced towards the south by the more monotonous *Spilosominae*, the *Apantesis* are also the most common in South Canada and the northern parts of the United States, decreasing so quickly towards the south that only 2 species reach yet Mexico. In most of the places of the temperate North America we may reckon to meet with about half a dozen of *Apantesis*-species. Thus HAIMBACH mentions 6 species for Five-Mile-Beach in New Jersey, and 3 or 4 species were met with in different districts already when collecting at a short stay. Even of those species, the imagines of which are rarely met with, the larvae are mostly common, and that is why the prices of most of the *Apantesis*-species are comparatively low, in spite of their great popularity with collectors.

A. blakei Grt. (38 k). This small form from the Rocky Mountains and the Californian Mountains *blakei*, greatly resembles the *Orodemnias quenselii* by its size and habitus, but the hindwings exhibit a bright yellow ground-colour, and the latticing in the forewing is somewhat differently arranged. — **bolanderi** Stretch from *bolanderi*, the Sierra Nevada and the Rocky Mountains is regarded by some as identical with *blakei* (DYAR), by others as a distinct species (HAMPSON); it differs, besides other marks, by the hindwings being red or very much tinted red.

A. ornata Pack. (= *simplicior* Btlr.) is another form of the size and about of the exterior of *O. quenselii*, *ornata*, varying greatly, for which reason it was given quite a number of names. In the typical form the yellow-veined forewing is traversed by 3 light transverse bands: before, in and behind the middle. Besides there is in the marginal area a reclining W. The hindwings are in normal specimens scarlet, marked black, at the proximal margin orange-red. — In the form **perpicta** Dyar the innermost whitish transverse band of the forewing is absent, *perpicta*, whilst in **achaia** Grt. & Rob. (= *dahurica* Grt.) (38 k) it is still indicated, being broad and in some places even *achaia*, double in **edwardsii** Stretch (38 k). In all these forms the ground-colour of the hindwings is red. — **ochracea** *edwardsii*, *ochracea*, *sulphurica*, Stretch (= *barda* H. Edw.) has orange-yellow hindwings, the forewings being similar. — Also **sulphurica** Neum. *sulphurica*, (= *elongata* Stretch) has yellow, instead of red hindwings, but the light vein-stripes of the forewings are narrowed or in some places obsolete. — In **obliterata** Stretch (38 k), having again scarlet hindwings and being perhaps *obliterata*, a distinct species (the patria of this form is unknown), the vein-stripes of the forewings are noticed to be fine whitish, but the light transverse bands are absent. — The egg is light yellow, quite smooth, in the shape of

a flat cone with a smooth base. The fully developed larva is above black with a red-brown dorsal stripe, with black tubercles on which there are black bristly hair; underside dark brown, speckled lighter. On Plantago, clover, Erodium and many other low plants. Except the last, more deviating form, all the *ornata*-forms come from the western coast of North America, where the species is local from British Colombia to California, but in some places not rare. In the collections we most frequently meet with *achaia*, then *ornata*, more rarely *edwardsii* and *obliterata* is not to be found even in large collections of North America.

williamsi. **A. williamsi** Dodge (38 m). Forewings similar to those of the other *Apantesis*, but the species is immediately recognizable by the dirty greyish-brown hindwings exhibiting only round the cell-end and before the proximal margin light cuneiform spots often tinged pink. — In **determinata** Neum. (= *dieckii* Neum.) (38 m) the forewing has besides a middle transverse band which is absent in typical *williamsi*. To the west of the Rocky Mountains, from British Colombia to the south as far as Nevada and Colorado, in some places common, though more in the mountains.

tooele. **A. tooele** Bs. & McD. from Utah approximates *williamsi*, but it is larger, the hindwings more brilliantly coloured. Forewings deep brown with red-yellow veins and longitudinal bands. Of the transverse bands that near the base and the submedian one are absent, the middle and distal ones being present, the W large. In typical specimens the thorax is marked reddish-white, in the form **ophir** Bs. & McD. it is quite black.

oithona. **A. oithona** Streck. (38 m). The forewing exhibits light bands at the costal margin, proximal margin and along the submedian, transverse bands in and behind the middle, which, however, do not cross the submedian, as well as the reclining W in the marginal area. Hindwings rosy-red with black-spots. — In typical *oithona*, from the eastern parts of the United States, the light bands of the forewing are broad, in the form *rectilinea* French (38 m) they are narrower. The butterflies in May, to the south perhaps twice a year.

phyllira. **A. phyllira** Drury (= *b-atra* Gz., *plantagina* Mart.) (38 m) differs from the preceding species chiefly by the larger, wide-spread W of the marginal area of the forewing. The light patches are considerably narrower and thereby the dark spots of the ground-colour larger. The light transverse stripe in the middle of the forewing has also a different direction, extending from the costa to the submedian distally, in *rectilinea* proximally. The fringes of the wings are dark pink in *phyllira*, whilst in *oithona* they are mostly bright yellowish-white. — In *dodgei*. **dodgei** Btlr. the middle band of the forewing is absent, the distal one being several times interrupted. — In *figurata*. **figurata** Drury (= *ceramica* Hbn., *F-pallida* Streck.) (38 m) the middle band is mostly well developed, but the *excelsa*. W in the marginal area is absent (particularly often in the ♀♀), or only a V is faintly seen. — In *excelsa* Neum. (= *lugubris* Hulst) the light bands of the forewing are incomplete, the hindwings entirely or almost entirely black. — *celia* Sndrs. (= *franconia* H. Edw.), perhaps a distinct species, has more yellow than red hindwings. — A very peculiar form is **favorita** Neum. (38 m) in which the light stripes of the forewings are expanded to broad, confluent spots; the black cell-end spot in the hindwing is absent. Various authors took either form to be a distinct species, but ROTHKE succeeded in breeding very differently coloured specimens from the very same eggs *). — The fully developed larva is black, with greyish-yellow tubercles on which there are tufts of light brown bristles. Across the dorsum extends a light (yellowish-brown or yellowish-grey) median streak interrupted on the segmental indentations. On Helianthus divaricatus, lettuce and many other low plants. — In the southern parts of the United States, e. g. Georgia, Virginia etc., not rare.

virgo. **A. virgo** L. (38 l) is the largest, most beautiful and longest known species of the genus. Forewings black with yellowish-white, in the ♀ pink veins and margins, a whitish band across the cell-end, being bent at the median, and a large W-stripe in the marginal area. Hindwings in typical specimens of a bright red, in the (rare) form **citrinaria** Neum. yellow, with black spots surrounded by a lighter colour. The black cuneiform spot filling up the cell of the forewing may be undivided like in the figured specimen taken in the Catskill Mountains on August 15th; mostly, however, it is divided by another whitish band into a longer proximal spot and a rectangular distal spot. Among the numerous specimens before me there are hardly 2 alike, and the species could be just as variedly and uselessly denominated, as it was done in *Arctia caia*. — Larva dark brown with a light-yellow marked head and whitish-grey dorsal tubercles bearing tufts of brown bristles; on Chenopodiaceae and many other low plants. Pupa slate-grey, the ankles and sutures black. The species occurs more to the north, being not rare in Canada, Maine, Massachusetts and the other north-eastern states, and being found in particularly great numbers in the Catskill Mountains (New York). Flying in July and August.

parthenice. **A. parthenice** Ky. (= *saundersii* Grt.) (38 l). Coloured almost like small *virgo*-specimens, but the white bands of the forewings narrower and scantier. On the red hindwings the black spots in the disc (particularly the large one above the middle of the cell) are entirely absent except a small spot at the cell-end, or they are only indicated; mostly there are only some small spots at or near the margin. — Also in this species single bands of the forewing may be absent and the vein-stripes narrowed. There are here likewise numerous insignificant variations in the spotting (*approximata* Stretch. etc.). Canada and the Atlantic northern

*) M. ROTHKE at Scranton has evidenced the enormous variability of this butterfly (Iris 26, t. 1) by breeding the eggs of it. He yielded from the same breed imagines with only scantily red-spotted hindwings and also such, in which they did not exhibit any real black margins. — GRAEF (Bull. Brookl. Soc. 1, p. 3) had already before obtained similar results, from which he inferred *Ap. saundersii*, *persephone* and *anna* to belong together in an analogous way.

parts of the United States; in the south the species is represented by the form **intermedia** *Stretch* (= *stretchii intermedia* *Grt.*) (38 l) being particularly common in Texas. It is larger, with glaring light-red, instead of purple-red hindwings, very broad stripes on the forewings and is considered by some authors (DYAR, HOLLAND) to be a distinct species.

A. virguncula *Ky.* (= *speciosa Mschlr.*, *dahurica Grt.*) (39 a). In typical specimens of this species the *virguncula* transverse bands on the forewings are absent, except the antemarginal W, the hindwings are quite pale yellowish-red and very abundantly spotted black. — In the form **otiosa** *Neum. & Dyar* also the light transverse bands *otiosa* in the disc are more or less developed and our figure already forms a slight transition to it. Canada and the north-eastern parts of the United States, not rare.

A. anna *Grt.* This is the rare form with quite black hindwings, of which **persephone** *Grt.* (39 a) con- *anna.* *persephone.* stitutes the more common normal form; the latter has the hindwings only half black or with many large black spots. The forewings are almost exactly like those of *virguncula*. — Larva blackish-brown; when grown up it has a black head and a light dorsal and lateral line; the tubercles are lustrous black, on them tufts of dark bristles, 2 hairs on the anal part white. On Polygonum and numerous other low plants. Atlantic States, the form *persephone* not rare.

A. vittata *F.* (39 a). Forewings black with cream-coloured margins and similar stripes on the median, *vittata* across the cell-end a white oblique band ending in the ♀ at the median, extending in the ♂ into the W of the marginal area (which is mostly absent in the ♀). Hindwings reddish yellow-white, at the margin and before it somewhat spotted black, in the ♀ sometimes the whole marginal area black (= f. **decorata** *Sndrs.*). — *decorata.* In **ochreata** *Btlr.* (39 a) the hindwings and abdomen are golden yellow, without any reddish tinge. — In **incompleta** *Btlr.* (= *colorata Wkr.*) the upper arm of the marginal W is absent, and in **radians** *Wkr.* (39 a) the W is absent *ochreata.* *incompleta.* altogether, and the ♀ has only a white basal ray in the black forewing. — **phalerata** *Harris* (= *rhoda Btlr.*) *radians.* *phalerata.* (38 m) are deviations of this extremely variable species, but HOLLAND states that he obtained the most various forms all from the same place, a small valley in Pennsylvania. *phalerata* has fine, though distinct white stripes on the forewings, being complete also in the ♀; the hindwings are rosy-red with large black spots. Atlantic parts of the United States, from the Canadian frontier to Florida. The species is very common; *phalerata* is distributed through Mexico and Central America to Costa Rica.

A. nais *Drury* (= *cuneata Gz.*, *defloriana Mart.*) is presumably not to be separated from the preceding, *nais* being closely allied to *ochreata* from which it chiefly differs only by the yellow abdomen with very few spots above. Range as in *vittata*, but still more common.

A. placentia *Abb. & Sm.* (= *quadrantata Streck.*) (39 a). Forewings black; a white spot in, one *placentia.* behind the cell, and some in the marginal area, where there are often; traces of the W. Hindwings dark red with some black spots. — **snowi** *Grt.* shows the black spots of the hindwing increased so much that they occupy *snowi.* the greater part of the wing. — In **flammea** *Neum.* the white spots of the forewing are somewhat increased. — *flammea.* Larva blackish-grey, with dark, brown-haired tubercles, a yellow, reddish spotted dorsal stripe and on both sides of the latter dark, interrupted dorsal lines. On blackberries and many other low plants. Pupa light brown, with dark markings. Southern States: Mississippi, Texas, Alabama, Georgia. Not common.

A. nevadensis *Grt. & Rob.* (= *behri Stretch*) (39 a). In this species particularly the light transverse *nevadensis.* bands of the forewing are well developed. In the ♂ often already the base of the wing is pinkish-white, then follows a subbasal, median and postmedian band with the latter of which the marginal W flows together. The delicately rosy-red hindwing at the margin with a row of black spots. — **incorrupta** *H. Edw.* (= *shastaënsis incorrupta.* *French*) (39 b) is larger, more brightly coloured, the patagia more distinctly surrounded with white, the spots of the forewing almost like in the European *Euprepia pudica* which the animal also resembles on the whole. — **superba** *Stretch* (= *geneura Stretch*) has distinct but narrow bands of the forewing, the black marginal *superba.* spots of the beautifully red hindwings flow together to a black marginal band. — The species occurs in the Rocky Mountains, as well as the Californian Mountains, *incorrupta* being the more common form.

A. michabo *Grt.* (38 l). Forewings marked almost like in *virgo*, but the light bands of a beautiful flesh- *michabo.* colour; the transverse bands broad, a thicker costal band usually filling up the whole subcostal space, in the distal half of the forewing a broad, rosy flesh-coloured X. The hindwings light red, thickly spotted black, one large spot passing through the middle of the cell, as in *virgo*. Beneath the animal is magnificently light red and black; sometimes there even occur specimens in which also the upper surface, beside the black spotting, only yet shows fiery red colour: ab. **minea** *Slosson*. Distributed in the eastern states, particularly in *minea.* Texas, but in many places rare.

A. arge *Drury* (= *dione F.*, *incarnatorubra Gz.*, *nerea Bsd.*, *caelebs Mart.*) (38 l). On the forewings *arge.* the light bands are so much increased and widened that all are confluent, the black ground-colour appearing only yet in a number of dispersed, small cuneiform spots. Hindwings in the ♂ more thinly, in the ♀ more densely spotted black. — In the form **nervosa** *Neum. & Dyar* the black spots of the forewings are still better *nervosa.* preserved and represent chains of triangles and quadrangles; the light transverse bands of the forewing are

mostly absent. — The larva is dark brown with a very broad yellow dorsal stripe, spotted reddish, and a light yellow postdorsal and lateral stripe. On *Plantago* and other low plants, easily bred with dandelion and lettuce. From the eggs of one and the same ♀ I obtained quite pale and very beautifully flesh-coloured imagines. Most anywhere in the United States from New York to California, beside *nais* and *virgo* the most common species of the genus; in July.

- proxima.* **A. proxima** Guér. (= *docta* Wkr., *mexicana* Grt. & Rob., *arizonensis* Stretch, *mormonica* Neum.) (39 b). Both sexes quite different. ♂ dull yellowish-white, on the forewing some black triangles and quadrangles; proximal margin of the hindwing tinged rosy. ♀ with much larger black spots separated by transverse and longitudinal bands; hindwings purple-red with large, often confluent marginal spots. — **antheola** Bsd. (= *autholea* Bsd.) is the name of specimens showing also in the ♂ the hindwings very much spotted black. — This is the southernmost species of the genus, distributed from California and the Rocky Mountains to the south through Mexico and Central America as far as Costa Rica, everywhere common.
- cervinoides.* **A. cervinoides** Streck. A very small species, scarcely half the size of *quenselii*, reported to originate from Colorado. Thorax striped white, abdomen black with whitish sides. Forewings blackish-brown, the bands as usually whitish, hindwings white with short, small, dark stripes at the base, a blackish cell-end spot and blackish marginal band. Unknown to me.

20. Genus: **Parasemia** Hbn.

To the description of the genus in Vol. II, p. 81 we may add that the proboscis is stunted and the forewing provided with an accessory cell. The genus only contains one species: *plantaginis* L., being also distributed over North America.

- plantaginis.* **P. plantaginis** L. Of the palearctic forms, of which almost 30 are denominated up to this day, some also occur in North America and have partly been newly named there. — **geometrica** Grt. (39 b) has black hindwings; on the forewing the band above the proximal margin and the distal stripes, which, though interrupted in the otherwise similar (Asiatic) form *nyctitans* (Vol. II, t. 16 e), are complete and confluent among each other. — **petrosa** Wkr. (39 b) shows a beautifully royal-yellow discal area in the ♂ hindwing, the basal part and marginal band being black; from California. — The species is common almost at all its habitats. As to the larva and its habits see Vol. II, p. 81.

21. Genus: **Leptarctia** Stretch.

Only a single though very multiform species forms this genus. Proboscis stunted. Palpi straightly porrect, below bristly haired. ♂ antennae doubly combed, the pinnae something like in *Parasemia*. The forewing without an accessory cell, the discocellular on both wings angular. On the forewing not only the 1st, but also the joint footstalk of the other subcostal veins rise before the cell-end. Remarkable is a vast sexual dimorphism.

- californiae.* **L. californiae** Wkr. The typical specimens have grey, darker shaded forewings and orange-yellow hindwings, spotted dark near the margin, quite similar to the figured form **lena** Bsd. (39 b) from which, however, they differ by exhibiting besides some blackish markings also in the disc of the hindwing. The figured ♀ of *lena* originates from Colfax at the foot of the Sierra Nevada; as the ♂ belonging to it, a specimen was taken there on the same day (July 7th) with almost quite black hindwings only marked with a dull yellow postmedian band: this belongs to the form **dimidiata** Streck. (39 b) in which, however, also the hindwings may be quite black. — **fulvofasciata** Btlr. has likewise grey, dark shaded forewings; the yellow band in the hindwing, however, occupies almost the whole median area. — **decia** Bsd. (39 b) is marked almost like a *brephos*, but the ground-colour of the hindwings is a deep ruby-colour. — **latifasciata** Btlr. is the same, but the whole basal part of the hindwing is black. — **boisduvalii** Btlr. has quite similar hindwings marked orange and black, the forewings, however, show an irregular, whitish postmedian band. — **stretchi** Btlr. has similar forewings, but the hindwings are either quite black or they exhibit only very faint orange traces. Between these forms there also occur transitions which, like some extremes, have received denominations which are, however, superfluous or are to be considered as synonyms, such as *adnata* Bsd., *occidentatis*, *wrightii*, *albifascia* French. All the forms live — often occurring beside each other — in South California, where they are mostly common, flying in spring and summer. The forms mostly in request in the trade are, beside the type, *dimidiata* and *lena*.

VI. Spilosomini.

This group having been dealt with at large on p. 84 of Vol. II is characterized by the dorsal spots on the abdomen, which, however, also occur in many other Arctiid genera not belonging hereto. As we have emphasized in Vol. II, we do not acknowledge here a subfamily being systematically definable, as it was

established by KIRBY in his Catalogue of the Night-Butterflies (Vol. II, p. 224), but we keep up the name of the group with slight changes, so as to facilitate their survey. Instead of 38 genera with 245 species we enumerate here 22 genera containing 220 forms. The homogeneousness of the *Spilosomini* (*Spilosomatinae* Ky.) is exhibited more by the larvae than by the imagines. In contrast with the *Callimorphini* they are more abundantly and more densely haired, compared with the *Phaegopterini* more uniformly, and with the *Pericopini* more softly haired. The *Hypsini* (*Aganaidi*), being much lighter haired, so that the larva appears to be almost bare, have also a different shape, and are lazy animals in their larval stage whereas the larvae of the *Spilosomini* exhibit a most remarkable agility, which even influenced their denomination (e. g. *lubricipeda*). Both as imagines and larvae, they are most closely allied to the genuine *Arctiinae* and to the allied *Micrarctiinae*, for which reason we place them between these two groups. Their geographical range is universal. The single genera reckoned hereto are so closely allied to each other that HAMPSON, in his „Catalogue“, combined more than 30 to one single genus — *Diacrisia*.

1. Genus: **Spilosoma** Steph.

Imago stouter than the *Spilarctia* (confined to the Old World). Whereas the palearctic species are throughout white or cream-coloured, there occur in America also grey *Spilosoma* which, however, deviate from the typical species also in other respects. See Vol. II, p. 87. Only 5 species in America.

S. virginica F. (39 b). Typical specimens are unicolorously white, only rarely some small dark scales *virginica*. may be discovered by means of the lens. — **fumosa** (39 c), however, are according to H. Strecker specimens *fumosa*. in which greyish shades extend from the apex of the wing sometimes far into the forewing; mostly only the apical margin is slightly sooty greyish. — Larva black, with black or also fox-coloured hair, the articular indentations white. Head black. — The species is distributed through the whole of the United States from Nova Scotia to Vancouver and extends to the north as far as Canada, to the south as far as Mexico; the butterfly is everywhere common, coming to the lamp on some evenings in great numbers; the larva may easily be bred with lettuce, Plantago, or lion's tooth. The species is not to be confounded with the likewise white species *Maenas vestalis*, *Estigmene congrua* and the following species.

S. latipennis Stretch (39 e) is likewise white, but of a somewhat more transparent and purer snow- *latipennis*. white, whereas *virginica* is coloured more milky white. Anterior femora and hips rosy-red. — Larva velvety-brown, densely haired black, with white stigmata. Head yellowish-brown, above darker. Atlantic States; much less distributed and rarer than the preceding species.

S. rubra Neum. (39 c). ♂ grey, tinged rosy; forewings sometimes with a dark median band; costal *rubra*. margin, head, and thorax of a bright red, hindwings with yellow hair and fringes. Forewings broad, of a bright yellowish-brown, hindwings grey, mostly with a broad red margin. — In **walsinghami** Btlr. the ground-colour *walsinghami*. is a bright vermilion. — In **danbyi** Neum. the thorax and forewings are dark brown, less tinged rosy, so that *danbyi*. the animal somewhat recalls a dark *Phragmatobia rubricosa*. In this British Columbian form the antennal shaft of the ♂ is red, the pinnae are black. — Western parts of the United States, from British Columbia to California, but in many districts rare.

S. kasloa Dyar, denominated by the habitat Kaslo (Brit. Columbia) resembles the following species; *kasloa*. thorax and forewings in the ♂ from dark to purple brown, the cell-end and postmedian band indicated by dark scales; hindwings black, veins and fringes reddish. ♀ carmine, forewings scarcely marked, hindwings almost entirely, or in the marginal area black.

S. vagans Bsd. (= pteridis H.-Edw., bicolor Wkr.) (39 c). The ♂ has ochreous-yellow forewings, *vagans*. sometimes with faintly darker markings, the hindwings being either grey, except the yellow distal margin, or yellow with grey markings. The ♀ resembles that of *rubra*, but it is more one-coloured and darker, not so bright red. — In the form **rufula** Bsd. (= punctata Pack., proba H. Edw.) also the ♂ has yellowish-brown, *rufula*. instead of loam-coloured, forewings. Out West, from Washington (Terr.) to California. The yellow form is common, the red one being rarer.

Genus: **Maenas** Hbn.

Already on p. 237 in Vol. X, when dealing with the Indo-Australian *Maenas*, we have stated that most of the Americans which HAMPSON included in this genus, were here separated as a genus of its own (whilst there it was denominated *Borseba* Wkr.). In fact there are but few American species that may remain in this genus characterized in Vol. X, p. 237. Certainly, if we exclusively judge from the venation of the wings, we may be easily induced to combine the species mentioned here with the quite differently organized *Palustra*, *Borseba*, and perhaps even with certain *Antarctia*. We enumerate here only the white, light green, and some speckled, mostly unicolorous species which, having of late been mostly described by ROTHSCHILD, are reckoned to the *Diacrisia* (in the broader sense) by their author and by HAMPSON.

a) White species.

- vestalis*. **M. vestalis** Pack. (39 c) is entirely white, like a white *Spilosoma*, the anterior femora above rosy-red, but the abdomen in typical specimens banded black, in the form **amelaina** Dyar (39 c) there are traces of blackish markings or they may be absent; but in that case always to be recognized by single, small black dots on both wings. Mostly the small dark dots on the veins form antemedian and postmedian rows on the forewing. Also in the middle of the hindwing at least 1 black dot, whereby the species can be discerned from the otherwise similar *Estigmene congrua*. This species also only occurs in the western parts of the United States.
- jussienae*. **M. jussienae** Poey (39 d) is entirely white like a *vestalis amelaina*, but only half its size. Only at the cell-end of the forewing a small black dot. Cuba.
- pelopea*. **M. pelopea** Drc. (39 d) is white with a yellow head and abdomen. The veins of the forewing fine though distinctly black. Mexico.

b) Green species.

- aeruginosa*. **M. aeruginosa** Fldr. (39 d). Pale light green, the hindwings lighter, the abdomen above spotted darker. In the lower cell-angle of the forewing there is often a small black dot. Colombia, in December in Bogotá and its environs.
- underwoodi*. **M. underwoodi** Rothsch. Thorax and forewings apple-green, the latter speckled brown, with a dark postmedian band. Hindwings pale apple-green, with a brown inner-angular spot; abdomen brick-red. Costa Rica.
- ockendeni*. **M. ockendeni** Rothsch. Body above turquoise-blue, forewings of a Veronese green, hindwings semi-diaphanous light whitish-green. South East Peru; based upon 1 single ♀ with very convex margins of the wings.
- aldaba*. **M. aldaba** Dogn. Like the preceding, quite pale green, but the forewing with a scarlet costa, a small black spot at the lower cell-angle, and a black, dentate postmedian line, being strongly angled in the two folds, 30 mm. Loja (Ecuador).
- viridis*. **M. viridis** Dogn. is another green species from South Peru. It has an expanse of 37 mm, being quite green, but the forewing of a deeper green with two irregular, black transverse lines; the proximal one at the median angled, the distal one, behind the cell, sending truncate teeth over 3, 4 and 5. Besides the forewing has a red costal margin and a small black spot near the base. Hindwing with a small dot in the cell, and a postmedian curved line.
- lymphasea*. **M. lymphasea** Dogn. Described as *Phragmatobia*, placed to *Diacrisia* by HAMPSON. Green, hindwings very much lighter than the forewings. The latter with a pink costal margin. Abdomen likewise pink. Ecuador; Loja.
- irrorata*. **M. irrorata** Rothsch. (39 f). Forewings light green, but so densely speckled brown that the ground-colour almost disappears, in the basal half there is a brown X, at the cell-end a chocolate spot. Hindwings greenish white. Huancabamba (Peru). The species in its structure deviates so much from the other species of the genus that HAMPSON established for it the genus *Chlorocrisia*.

c) Species with a yellow ground-colour.

- intricata*. **M. intricata** Wkr. (39 d). Dull milky-white forewings with bands of brown streaks, at the base, through the middle and at the margin, alternating with fine rows of dots. At the cell-end of all the wings a yellowish-brown shade. South Brazil, near Rio, Santos etc.
- alcumena*. **M. alcumena** Berg from Argentina is larger, of a purer white, marked darker brown, at the cell-end of the forewing a small orange spot bordered with black. Is reported to occur together with *intricata*, without any transitions, for which reason it is probably a distinct species. — In **steinbachi** Rothsch. (39 d) the median band composed of stripes is replaced by a brown homogeneous band; from East Bolivia. — **flavitincta** Rothsch. from Venezuela has the streak-bands through the forewing greatly reduced. — **kennedyi** Rothsch. from Minas Geraes has the hindwing more intensely tinged yellow in the proximal half. — On the whole, the species is distributed very far, and very common, the butterflies coming particularly often to the lamp.
- pulvcrea*. **M. pulvcrea** Hmps. (42 i), from Paraguay (Sapucay) and North Argentina, has an orange head and thorax, and dark blackish-brown palpi, forehead, antennae, tibiae, and tarsi. Abdomen orange, above and laterally rows of black punctiform spots. Forewings orange-yellow, finely dusted brownish; hindwings likewise orange. 36 to 40 mm.

d) Species with hyaline wings.

- hyalina*. **M. hyalina** sp. nov. (42 h). This species, according to its nature, would have to be inserted in the large genus *Diacrisia* in HAMPSON's sense, which, however, comprises rather heterogeneous elements, and it is possible that the form has already been described by another genus. All the wings, except the costal and inner-marginal areas, purely hyaline, the yellow costal stripe with 3 black spots, the brownish inner-marginal area with 2 median streaks. Abdomen orange-yellow, the middle rings black. FASSL brought it from Colombia.

2. Genus: **Isia** Wkr.

The only species of this genus being better known by the name of *Pyrrharcia* Pack. is a very robust butterfly somewhat recalling the European *Spilarctia lubricipeda* L. (*lutea* auct.) by its colouring and marking. The larva, however, deviates so much that the imago emerging from it, exhibiting besides more pointed wings, cannot be regarded as a *Spilosoma* or *Diacrisia*. The larva has on each of the 6th to 9th segments a dorsal brush, being otherwise peculiar of the *Dasychira*- or *Orgyia*-larvae, and on the 12th segment the dorsal hairs are prolonged.

I. isabella Sm. & Abb. (= *californica* Pack.) (39 d). Thorax and forewings *isabella*.
yolk-coloured; hindwings in the ♂ lighter, in the ♀ in the distal part more reddish-yellow; abdomen reddish-yellow. Forewing often with small black dots and a loam-coloured shade, strewn either more sparsely or more densely. — Egg hemispherically, white, with a polygonical network noticeable only under the microscope. Larva anteriorly and posteriorly black, the 4 middle segments above haired more rusty-brown, each with a dense hair-brush on the dorsum. At the sides, above the stigmata, a light stripe, being broadly interrupted on each ring-indentation. On trees (cherry, oak) as well as on numerous low plants (*Plantago*, *Solidago*, *Chenopodium*, *Compositae* etc.). The authors figure the larvae on *Elephantopus scaber*. Pupa yellowish-brown, in a felt-like web. Everywhere in the United States, in the east and west, from Canada to Texas, in summer common; the larva is particularly common in autumn, before hibernating, running across the roads.

3. Genus: **Estigmene** Hbn. (*Leucarcia* Pack.)

This genus founded upon an Arctiid common in North America, comprises to-day about 30 species of a universal range. From the very closely allied genus *Phissama* (Vol. II, p. 90, *Cretonotus*, Vol. X, p. 252) it differs by the marks mentioned there. The thorax is so densely and uniformly haired, that in undamaged specimens neither the collar nor the shoulder-covers are particularly prominent. As far as they are known, the larvae seem also to be more finely haired. The genus is somewhat allied to the palearctic *Diaphora*.

E. congrua Wkr. (39 e). ♀ very similar to the palearctic *Diaphora mendica* (Vol. II, t. 17 b), but *congrua*.
often without any small black dots at all, or with but one at the cell-end of the forewing; ♂ likewise entirely white, not grey as in *mendica*. Abdomen in both sexes snow-white — In **antigone** Streck. (39 e) the forewings *antigone*.
are more copiously dotted dark; — **athena** Streck. has a black instead of white antennal shaft, and **prima** Slosson *athena*.
(39 e), presumably a distinct species, having beside numerous small spots on the forewings also small dorsal *prima*.
spots on the (yellow) abdomen. — Larva light grey with dark tubercles with bristly hair; the hair on the sides long; head of the young larva with 2 dark dots, later on black. On low plants. — In the eastern parts of the United States, to the west as far as the Rocky Mountains. In the north (New England, Canada) the form *prima* is rare, in the south where the form *antigone* occurs, it is common in some parts.

E. acraea Drury (= *caprotina* Drury, *pseuderminea* Peck, *menthastrina* Mart., *californica* Pack., *acraea*.
packardii Schaupp) (39 e). Larger than the preceding, snow-white with small, fine, black, distinct spots and an orange-yellow abdomen spotted black, the ♂ with yolk-coloured hindwings, beneath quite yellow; but in the form **mexicana** Wkr. (39 e) also the ♂ hindwings and under surface are white. — **arizonensis** Rothsch. is like *mexicana*.
mexicana, but much more copiously and densely spotted black. — From the latter, **columbiana** Rothsch. from *ariconensis*.
Colombia differs by the ♀ exhibiting only yet 2, the ♂ only few black spots at the margin and cell-end. — **alba** *columbiana*.
Rothsch. (39 e) from Central America is quite snow-white. — In **klagesi** Ehrh. (39 f) the black spots of the *klagesi*.
forewings have disappeared except faint traces. — **dubia** Wkr. (= *rickseckeri* Behr) shows sooty brownish *dubia*.
body and wings. — Larva, when young, flesh-coloured, later on over the dorsum yellowish-brown with tufts of brownish bristles standing on the dorsum on dark tubercles, on the sides on reddish ones. Head lustrous black with yellow sutures. In the south particularly on rattlebox (*Crotalaria*) and other Papilionaceae, in the north common on *Plantago* and also many other low plants. The larva grows very stout. Pupa lustrous earth-coloured. Canada to Colombia.

4. Genus: **Euchaetias** Lyman (*Euchaetes* auct.)

Hereto belong about 15 species, slender, rather small butterflies with long forewings and short bodies, the ♀♀ sometimes with anal wool. Proboscis absent, antennae doubly combed, the pinnae in the ♂ not long; palpi short, rising obliquely; forewings without an accessory cell; the 1st subcostal vein rises immediately behind the middle of the cell, the 2nd before its end; discocellular of both wings slightly bent in, but not sharply angled as in *Chloroda*. The genus is exclusively American.

E. oregonensis Stretch (39 e). Dull white, with a yellowish-grey hue over it. Head, anterior thorax *oregonensis*.
and abdomen yolk-coloured; the latter has black dots on the dorsum and sides. — Larva pale yellow, with light slate-coloured hair, that are particularly long at the anus. Canada and northern parts of the United States,

particularly common in the west; the larva living on *Apocynum androsaemifolium* runs very quickly round on the roads; the butterfly is fond of coming to the light.

- pudens.* **E. pudens** *H. Edw.* (39 f). Smaller, dirty white with a yellow ring round the neck, the forewings with a greyish-yellow hue on them, and a series of black dots across the abdomen. ♀ of a purer white. Texas.
- egle.* **E. egle** *Drury* (= *cyclica* *H. Edw.*) (39 f). Dirty yellowish-grey, abdomen dull yolk-coloured, with black dorsal dots, beneath and behind white. Eastern parts of the United States; common. — Larva on *Asclepias*.
- epagoga.* **E. epagoga** *Dyar* (39 f). Unicolorously slate-grey, similar to *egle*, but of a purer, not yellow tinge, and the abdomen of a beautiful rosy red, like in the smaller *murina*, with black dots over the dorsum. Mexico; rarer. The figured ♂ (Coll. DRAUDT) from Tehuacan, taken in September.
- mitis.* **E. mitis** *Schs.* (39 f) is very closely allied to *epagoga*, but the ♂ hindwings are almost purely white, the ♀ has thick, yolk-coloured anal wool. Costa Rica; the figured ♀ from the Volcano Irazu.
- expressa.* **E. expressa** *H. Edw.* (39 g). Thorax and wings dark brown, abdomen dark pink with dorsal punctiform spots. Arizona and Mexico. Perhaps only the northern form of the preceding, since specimens from Mexico are reported to be of a lighter grey.
- bolteri.* **E. bolteri** *Stretch* (= *scepsiformis* *Graef*) (39 f). Forewings and thorax chalky white, hindwings in the ♀ dark brown, abdomen bright light red. Texas, not common.
- psara.* **E. psara** *Dyar* from Mexico has the size and shape of *bolteri* and resembles otherwise *epagoga*, but the wings are of a darker grey, and the abdomen is black to close in front of the red end, and exhibits in the ♂ a peculiar blue reflection, by which the species is at once recognizable. Rare.
- murina.* **E. murina** *Stretch* (39 g) is smaller than the preceding, of a dirty greyish-brown, hindwings lighter. Abdomen dull miniate, changing to orange-red, with black dorsal spots. Texas, rarer.
- perlevis.* **E. perlevis** *Grt.* (39 g). greatly resembles *murina*, but the abdomen and the inner-marginal area of the hindwing near the abdomen purple-red. Arizona.
- albicosta.* **E. albicosta** *Wkr.* (= *fumidus* *H. Edw.*) (39 g). ♂ blackish-brown with a hemochrome abdomen dotted black and a diaphanous diffuse patch in the hindwing. The ♀ is much larger and has a broad, whitish costal stripe. The ♂ has only whitish-yellow spots on the shoulders, whilst the costal stripe is absent. Thus it greatly resembles (superficially) *Scepsis fulvicollis* (26 a) or *wrighti* (26 b), which has effected the denomination of allied species (*scepsiformis* *Graef*.)
- antica.* **E. antica** *Wkr.* (= *zonalis* *Grt.*, *parazona* *Dyar*) (39 g) entirely resembles the ♀♀ of the preceding species, but the abdomen is above banded red, not dotted. Arizona, Mexico, and Central America; apparently rare.
- gigantea.* **E. gigantea** *Bs. & McD.* is larger than *egle* (39 f) and has a scarlet abdomen on the dorsum of which there is a series of black spots. Also the anterior margin of the collar is red; behind this red margin of the collar an ochreous line. Thorax and forewings brownish-grey, the latter in the marginal quarter speckled lighter. Arizona. Presumably closely allied to *epagoga* and *mitis*. 42 mm.
- rizoma.* **E. rizoma** *Schs.* (39 g). One of the largest species. Dark brown, sides of the neck, margins of the shoulder-covers, a curved longitudinal stripe through the middle of the forewing and small submarginal spots of the hindwing white. Abdomen red with black transverse stripes which are connected by a longitudinal stripe across the dorsum. Brazil: Castro (Paraná).
- castalla.* **E. castalla** *Bs. & McD.* Thorax and wings white, forewings with a grey cell-end spot; abdomen red with black punctiform spots on the dorsum and sides. Arizona. Similar to *Pyg. elegans*, but the anterior tibiae not with spurs.

5. Genus: **Pygarcia** *Hrt.*

Proboscis absent, palpi short, porrect, ♂ antennae with very short double combs. Tibiae with short spurs. Venation like in *Chloroda*, but the two veins petioled there in the hindwing run separately like in *Euchaetias*, to which the genus is closely allied.

- elegans.* **P. elegans** *Stretch*. Snow-white, chest and abdomen purple red. California, Arizona, New Mexico.
- roseicapitis.* — In the form **roseicapitis** *Neum. & Dyar* (39 g) from Mexico to Guatemala the head is also purple red. Rather rare.
- vivida.* **P. vivida** *Grt.* (39 h). Abdomen and hindwings similar to *elegans*, but the forewings dirty yellowish-grey with a yolk-coloured longitudinal stripe at the costa and proximal margin. Texas; rare.
- fusca.* **P. fusca** *Rothsch.* (39 h) from Arizona and Costa Rica, has unicolorously chestnut-brown forewings without a paler costal margin; otherwise like the preceding.

P. spraguei Grt. (= *eonspicua* Neum.) (39 h). Earth-grey, with a dark yellow longitudinal stripe *spraguei*. at the costal and proximal margins of the forewing; abdomen red. Georgia, Kansas, Colorado. Not common. The figured example was taken in July.

P. abdominalis Grt. (39 h) entirely resembles *spraguei*, but the abdomen is yolk-coloured instead *abdominalis*. of red. Florida; rare.

P. oslari Roths. from New Mexico has the size and shape of the preceding, but the abdomen is salmon- *oslari*. coloured, and the wings are unicolorously dull greyish-cream-coloured, without the prominently white costal and proximal margins by which *abdominalis* is characterized.

6. Genus: **Palaeomolis** Hmps.

The genus is easily recognized by the relatively short, broad forewings and the large hindwings. Antennae rather long, quite short-combed, palpi long, extended straight forward. Head and thorax with long and dense hair, the abdomen but little projecting beyond the anal angle.

P. garleppi Roths. (39 h) is the smallest species; through the dull ochreous-yellow forewing 3 *garleppi*. oblique, black transverse streaks which are distally convex below the costa. At the cell-end a black, comma-like spot. Hindwings lighter with a dull cell-end luna. Under surface pale ochreous-yellow, the forewing with a reddish-yellow costal stripe, all the wings with a dark cell-end luna. From Bolivia from the Rio Songo.

P. hampsoni Roths. (39 h) entirely resembles *garleppi*, but the ground-colour is a dirty yellowish- *hampsoni*. brown, and on the very broad forewing there are only traces of the black transverse streaks and cell-end spots. South East Peru.

P. purpurascens Hmps. (39 h) is larger and more slender than the preceding, in the colouring and *purpurascens*. marking quite similar to *garleppi*; the 3 transverse lines are distinct, but the cell-end lunae are absent.

P. metacauta Dogn. Thorax and head brown, with a black forehead, abdomen and under surface *metacauta*. of the body reddish-yellow; Forewings brown, watered with darker atoms. Costa and veins in some places tinged red-yellow, with a small black discal dot, a transverse line anteriorly, one in the middle and one beyond the middle, starting from costal shades and running almost parallel, being distally angled and extending obliquely to the proximal margin. Hindwings reddish-yellow. 29 to 32 mm. Colombia.

7. Genus: **Hypomolis** Hmps.

Proboscis stunted; the palpi much shorter than in *Palaeomolis garleppi*, hidden, like the eyes, too, in the shaggy hairing of the head. The posterior tibiae are without the middle spurs, the terminal spurs being strong. On the forewing the 1st subcostal vein rises far, the 2nd directly before the upper cell-angle; the cell itself is long, the discocellular almost precisely rectangular. On the hindwing veins 3 and 4 rise from the lower cell-angle, 5 being absent. Eight species are known, some of which are very much alike.

H. palmeri Roths. (39 h). Thorax and vertex brown, chest and head anteriorly with the palpi of *palmeri*. a bright red, abdomen dark pink. The forewings still strongly recall the *Palaeomolis*-species, being dirty greyish-green, thinly scaled, with a red costa and blackish marks before the apex, in the middle of the costa and above the proximal margin; hindwings diaphanous yellowish-rosy. West Colombia, taken in December at an altitude of almost 6000 ft.

H. rubricosta Dogn. entirely resembles the preceding, but the chest is more ochreous instead of scarlet. *rubricosta*. The forewings ochreous, slightly tinged brownish, above the proximal margin not so distinctly marked dark as in *palmeri*. Hindwings ochreous. Ecuador.

H. testacea Roths. (39 i). Quite thinly scaled, yellowish-brown, the forewings with darker yellowish- *testacea*. brown veins, a costal shade in and beyond the middle, from the latter a partly obsolete nebulous stripe behind the middle of the proximal margin, above which the submedian fold is shaded darker. Hindwings tinged dull greyish-brown, in the inner-marginal area more yellow. Abdomen ochreous. The species strongly recalls the form described by ROTHSCILD as *Automolis turupianoides* which may also belong hereto. Peru.

H. metarhoda Dogn. Forehead rosy. Thorax greenish ochreous, densely haired. The shoulder-covers *metarhoda*. bordered with reddish bristles. Abdomen reddish-yellow. Forewings creamy-white, towards the margin tinged greenish, on the proximal half a moss-green spot; costa red-yellow with 3 dark dots from which the following transverse lines proceed: a strongly angled line before the middle, a curved line in and one beyond the middle. Under surface pale orange-red with 3 small bows. Hindwings on both surfaces orange-red with yellow fringes. 31 mm. Closely allied to *palmeri* (39 i) and *rubricosta*.

H. fassli Roths. (42 f). ♂ chest, head, antennae and legs, as well as thorax and abdomen dirty brown. *fassli*. Wings hyaline, margins and veins dirty blackish-brown. Length of forewings: 17 mm. From the Monte Tolima in Colombia, taken by A. H. FASSL at an altitude of 3200 m.

- rothschildi*. **H. rothschildi** Dogn. Head and thorax olive, the former with a red spot in front, thorax posteriorly red-haired, abdomen rosy-red. Forewings pale olive strewn with some darker olive atoms, costa red; cell-end and the veins of the distal half partly red. 3 black transverse lines, an antemedian being angled on the median, a middle line being doubly angled, and a postmedian line. Hindwings whitish olive, costa, a part of the cell, apical region and margin rosy-red. Cali in Colombia, discovered by FASSL. 34 mm.
- minca*. **H. minca** Schs. 30 mm. Black; forewings greyish-black, the hindwings with a dark blue reflection. On the forewing vein 7 and 8 are coalescent; otherwise the venation is said not to differ from that of the other *Hypomolis*. From Oaxaca (Mexico).
- lithosiaphila*. **H. lithosiaphila** Dyar (39 l). 26 mm. Black, forewings with a blue reflection. A large orange spot at the base, reaching neither the costa nor the proximal margin, its distal edge oblique. Hindwings with an elliptic spot at the basal half of the costa. Underside similarly coloured. Discovered by ROBERT MÜLLER near Tehuacan in Mexico.
- evippus*. **H. evippus** Drc. (39 i). Quite light green, the forewings thinly scaled, diaphanous with a golden-yellow costa and similar fringes. Hindwings diaphanous greenish-white. Chest and forelegs golden-yellow, under surface of wings whitish. Bolivia.

8. Genus: **Chloroda** Hmps.

In the structure similar to the preceding genera, but without the shaggy hairing of the body. Proboscis present, though small; antennae of half the length of the costa; the forewings more pointed, the hindwings of the ♀ of a bright salmon-colour. The forewings are of a conspicuous colouring. Only one, rather rare species was known; another one discovered by FASSL seems to belong to it.

- rufoviridis*. **Ch. rufoviridis** Wkr. (= *thoracica* Rothsch.) (39 i). The apple-green forewings have at the costal and proximal margins 2 distinctly black comma-like streaks each. Hindwings of the ♀ deep rosy-red, in the ♂ lighter, yellowish or even hyaline light green; shoulder-covers margined pink. Colombia to Bolivia and Peru. Of a very variable size.
- rufolivacea*. **Ch. rufolivacea** spec. nov. (39 l) has the size and shape of the preceding; forewings olive with small black costal spots and 3 convergent lines from the middle of the wing to the middle of the proximal margin, the proximal one of which turns before the proximal margin towards the base; hindwings salmon-coloured, like the abdomen. Colombia.

9. Genus: **Turuptiana**.

Proboscis present, though very small and thin; imago mostly white or yellow, of the shape of *Enerythra*, but with very short palpi. In the venation different from *Enerythra* by the 2nd subcostal vein branching off before the cell-end, not being petioled with the others, and running parallel to the 1st. HAMPSON adds to the mostly rather similar species the greatly deviating *Chaetoloma dissimilis* Schs. resembling in its exterior *Agaposoma marcescens*; a *Heterocera* not yet classified from Colombia, which ROTHSCHILD has provisionally placed to *Antiotricha* (s. p. 298), the venation of which, however, is not quite distinct in the only figure existing.

- obliqua*. **T. obliqua** Wkr. (= *ochrosteria* Fldr., perfecta H. Edw.) (39 i). White with a yellow dorsum and abdomen in the ♀, the anterior part of which is above black. On the forewing, along the costa and proximal margin, one brown band each, both connected by a somewhat curved oblique stripe; thus a resemblance is effected to a *Robinsonia grotei*. Mexico, not rare; the figured specimen originates from Costa Rica. To the south the species goes as far as Colombia and Ecuador. — **affinis** Rothsch. from Venezuela and Peru seems to differ chiefly by the hindwing being tinged yellowish-grey at the proximal margin, whereas in *obliqua* there is a large grey cloud at the anal angle. The distal margin of the forewing is in Mexico-specimens mostly entirely white, otherwise usually bordered with blackish.
- lacipecta*. **T. lacipecta** Drc. (39 l). Size of the preceding, but the ♀ sometimes larger. Similar to *obliqua*, white, in the ♂ the dark costal stripe of the forewing is absent, and the oblique stripe does not reach the costal margin; in the ♀ the forewing is all white. Central America (Guatemala).
- permaculata*. **T. permaculata** Pack. (= *caeca* Streck.) (39 i). White, thorax and forewings covered all over with numerous thick black dots; abdomen above black, the hindwings with few dark spots before the margin and at the cell-end. The spots of the forewing form series which may sometimes flow together; sometimes, however, the black spots are also reduced (= ab. **reducta** Grt.). From Arizona to California. This species shows relations to *andromela* Dyar having been described as *Ecpanttheria*, and it has even also been described as *Ecpanttheria caeca* by HRRM. STRECKER and compared with *Ecp. scribbonia*.

T. tenebra Schs. (39 i). Size and shape of *permaculata*, but the black spots of the forewings sometimes *tenebra*. flow together forming irregular clouds, particularly at the proximal margin, costal margin, and in the marginal third; the hindwing is blackish, except a lighter central diffuse patch. Mexico.

T. nemophila H.-Schäff. (39 k) has olive forewings, marked creamy-white only at the costa and *nemophila*. in the marginal area, with blackish-brown costal triangles, curved transverse lines, and subterminal ellipses crossed by light veins. The ♂ hindwings yolk-coloured with black bands, those of the ♀ blackish, except the broad yellow distal margin, and clouded yellowish. Abdominal dorsum in the posterior half black. Central America, Venezuela. — **pratincta** form. nov. (39 k) differs by the ♂ forewings exhibiting much more creamy-white parts, *pratincta*. the hindwings being scarcely spotted. In the ♀ all the markings are of a more distinct and deeper tinge, the hindwings exhibiting bright yellow markings, the dorsum of the abdomen being black almost to the base. From the Rio Songo (Bolivia). — **obscura** Hmps. (39 k) has almost monotonous forewings, indistinct and less speckled *obscura*. markings, the hindwings being in the ♀ almost like the forewings. Peru and Ecuador.

T. bricenoi Rothsch., likewise from Venezuela, is paler and smaller than *nemophila*, all the dark *bricenoi*. markings smaller, the two curved central lines broadly interrupted. The hindwings are less spotted and extended at the anal angle.

T. neurophylla Wkr. (= *hebona* Dogn.). Very closely allied to **ockendeni** Rothsch. (39 k), but smaller, *neurophylla*. the forewings whiter, the olive-brown colour more diffusely distributed over the forewing, the subterminal, blackish-brown ovals thicker, the antemedian, angular line of which there are only remnants in *ockendeni* being *ockendeni*. distinct, thick and complete. In the ♂ the hindwings exhibit instead of the thick cell-end spot only dispersed black traces; the abdominal dorsum showing in *ockendeni* only a lustrous blue spot, is black in *neurophylla* except the sides of the base and the anal tuft. Venezuela, Colombia, Ecuador. *ockendeni* from Peru and Bolivia (Rio Songo).

T. tessellata Drc. Head and thorax black, vertex, collar and margin of tegulae yellow. Abdomen *tessellata*. yellow, the middle segments with black tufts. Forewings yellow, traversed from the costal margin to the proximal margin by 3 irregularly curved bands composed of large black spots; a black spot near the base. The veins almost white; fringes yellow. Hindwings pale yellow with a submarginal row of dark spots. 42 mm. Peru, taken at an altitude of 10 000 ft.

T. sanguinea Hmps. Black, femora above red, abdomen with subdorsal carmine bands not reaching *sanguinea*. the base. Forewings black, an irregular, curved carmine band extends from the costa to the base and reaches vein 1; an almost triangular band extends from the middle of the costa to vein 1, being on the veins incised by black stripes. A small postcellular spot; a curved postmedian band, and dull, dark streaks at the costa as far as vein 1. Apical part of the costa and fringes light yellowish, tinted carmine. Hindwings carmine, at the base black. Small lunae at the cell-end and a marginal band being narrowed to a dot on vein 1 are black. 28 mm. La Paz, Bolivia; 9000 ft.

T. sanguinipectus sp. nov. (39 i) from Bogotá strongly recalls the *Spilosoma aeruginosa* Fldr., but *sanguini-* it has a different shape of the wings, a much longer abdomen and purple chest; otherwise it is also quite apple- *pectus*. green with lighter hindwings, but at once discernible by the abdomen being above black, not green.

T. thursbyi Rothsch. (39 l) which is not before us and which we, therefore, copy from the Novit- *thursbyi*. tates Zoologicae (Vol. 18, VI, fig. 24), originates from Patagonia; it is, however, presumably rather a southern representative of the genus *Neoarctia*, than a *Turuptiana*. The forewings are nut-brown, crossed by lighter bands, hindwings carmine with a black marginal band. Abdomen red with a black dorsal stripe.

T. dissimilis Schs. (39 l). Thorax greyish-brown, head, collar, and shoulder-covers whitish; abdomen *dissimilis*. yolk-coloured, rings 4 to 6 blackish. Forewings yellowish-brown, at the margin darker, in front of it a light band; small ante- and postmedian black costal spots; from the middle of the forewing to the middle of the proximal margin a forked, black line. Hindwings yolk-coloured with small black clouds towards the anal angle. Larger than the preceding. Described according to 1 ♀ from Colombia.

10. Genus: **Euerythra** Harr.

Likewise without an active proboscis, but the palpi rather large, extended straight forward. The 2nd subcostal vein of the forewing emerges behind the cell-end and is petioled with the 3rd to 5th. Antennae of the ♂ doubly combed with rather long teeth. 2 white, rather small species, in which the abdomen is red above, from Texas and the neighbouring states.

E. trimaculata Sm. (39 d). White, the abdomen above red, and beginnings of brown bands near *trimaculata*. the base, before the apex and before the proximal angle of the forewing. Texas; the figured specimen from Colorado. Very rare.

phasma. **E. phasma** Harv. Like the preceding in size, shape and colouring, but the dark bands are complete, the posterior band extending from before the apex to beyond the middle of the proximal margin, and is connected with the basal one and with the middle of the distal margin by a horizontal branch running on the median. Texas; rare.

11 Genus: **Hyphantria** Harr.

These butterflies number among the best known noxious insects of North America. They are small insects, coloured or marked white, with entirely stunted proboscis and palpi. The 2nd subcostal vein of the forewing is petioled with the 3rd to 5th; the cell of the forewing long, the discocellular angled. 5 species are known, all from North America.

cunea. **H. cunea** Drury (= *budea* Hbn., *punctatissima* Sm. & Abb., *mutans* Wkr.) (40 a) is white, sometimes slightly sooty grey, the forewing with 4 to 7 rows of black dots, the hindwing with few small dots. Across the abdomen a chain of dorsal dots. — In *punctata* Fitch the spots of the forewing have disappeared except 1 or 2 at the cell-end and as many before the apex. — *pallida* Pack. (40 a) has on the wing small yellowish-grey spots instead of the black dots, and the row of dots on the abdomen is present. — *suffusa* and *brunnea* Streck. *candida*. are likewise denominations for brownish, instead of black, spotting. — In *candida* Wkr. there are small black dots only yet on the abdomen. — Larva across the dorsum blackish-brown, sides whitish-yellow with fine dark dots and small streaks, on the tubercles tufts of white hair. Particularly on mulberry, poplar, willow, and wild cherry; but generally on most various deciduous trees on which their large, conjoint nests are seen hanging causing very much harm in gardens, alleys and nursery-gardens. Pupa blackish-brown. — In the Atlantic parts of the United States, most anywhere from New York to the south as far as Texas; in the north of its range (e. g. in Massachusetts) only one generation, imagines in June, larva in August and September. In the south (Baltimore, Washington) the imago appears in May and again from the middle of July, larva in June and September: really great harm is only done by the autumnal generation, the larvae of which are said to be of a darker colour than the June specimens (RILEY). The eggs, being at first yellow, later on leaden-grey, are deposited in clusters, one ♀ often producing up to 500. Particularly great enemies are owlets (*Scops asio*), and *Prionidus cristatus*, which sucks the larvae.

textor. **H. textor** Harr. (40 a) looks exactly like a purely white specimen of *cunea* with which it is said to be identical according to different authors, differs, however, according to HOLLAND, by white antennae and the absence of the black dots on the dorsum of the abdomen.

orizaba. **H. orizaba** Drc. (40 a). The forewing is so much covered with blackish-brown spots and clouds, that the dark spotting outweighs the white ground-colour; hindwings spotted black, abdomen carmine-pink. Mexico.

penthetria. **H. penthetria** Dyar (40 a). Wings quite dark grey, only the veins of the forewing creamy-yellow. Mexico. Near Tehuacan, to be reached by rail both from Puebla and from Veracruz, apparently not rare in July.

aspersa. **H. aspersa** Grt. (40 a) is somewhat larger than the other species, dark greyish-brown, forewings with fine light veins and darker transverse bands. Abdomen vermilion with dark dorsal spots. New Mexico. — GROTE has established a genus of its own — *Alexicles* — for this species.

12. Genus: **Arachnis** Geyer.

Clumsy butterflies of medium size, with mostly dull colours, distinctly exhibiting, however, the Arctiid character both as imago and larva. Head deeply lowered, scarcely visible from above, without proboscis, palpi stunted, the 3rd joint quite rudimentary. Antennae in both sexes of a plain bristly shape. On the forewing the 2nd subcostal vein approaches the 1st, but does not touch it, so that a closed accessory cell is not formed. Thorax very stout, legs short and strong; abdomen towards the end in the ♀ very much swollen, always glaringly coloured. The larvae covered with dense bristly hair, on low plants, particularly Leguminosae. In *dilecta*, BARRETT observed a pungent smell, as penetrant as that of a wood-bug, though not so offensive. It is produced by thoracic secretions and adheres on the fingers for a long time. It is noticed in both sexes. — The 9 species of this genus are distributed from the southern parts of the United States to Central America.

aulaea. **A. aulaea** Geyer (= *incarnata* Wkr.) (40 b). Forewings greyish-brown, costal area and distal half with whitish-yellow spots and small bands defined by black, the cell beneath hemochrome. Hindwings on both surfaces dark brown with hemochrome bands. — Larva black, with a red dorsal line, the hair in the beginning anteriorly and posteriorly black, those on the middle segments rufous, in the grown-up animal all black, on brown tubercles; stigmata white; on low plants. — The red spotting of the butterfly may be greatly reduced. From Mexico to Guatemala. Common.

A. bituminosa Dyar (40 a, b). Wings without any red, unicolorously grey; in the ♀ the abdomen is *bituminosa*, above of a bright red with small black dorsal spots. Mexico. — It was considered to be an extreme form of the preceding, but the ♂ has more pointed wings, the ♀ a more obtuse body.

A. pompeia Drc. is almost exactly like *aulaea*, but the thorax is not marked grey, but unicolorously *pompeia*. dark brown, also on the wings the brownish-grey colour is increased, so that the forewings show much less white spots, the hindwings much less red spots. Mexico.

A. picta Pack. (40 b) was discovered by Bruce in West Colorado at an altitude of 6000 ft. Likewise *picta*. very similar to *aulaea*, but the white spotting of the forewings rather increased, hindwings with narrower and lighter dark bands. The under surface of the wings only pale pink or yellow, spotted light red, not dark red. — **citra** Neum. & Dyar (40 b) from Colorado shows the forewings spotted lighter. The hindwings without any black bands, quite pink or also (in the ♂) somewhat transparent. — In **hampsoni** Dyar the under surface of the basal area is red, spotted yellow at the costa; from New Mexico and Colorado. — In **perotensis** Schs. (40 b) from Mexico the brown colour of the forewing is increased, and the hindwing of the ♂ is quite transparent except faint spotting at the costa. — **maja** Ottolengui from Colorado, on the contrary, has the white spotting of the forewing increased and the ♂ has a hyaline patch in the cell of the hindwing. Larva on Lupinus. Colorado and California to Mexico; the typical form is common, *maja* and *citra* rarer.

A. dilecta Bsd. (= *sanguinea* Oberth.) (40 c). Forewings earth-coloured with large, irregular, white spots surrounded by black; on the under surface in the cell a red, longitudinal, diffuse spot. The ♀ has light red hindwings, in which the dark bands, only commenced at the costa in the ♂, extend through the whole wing as far as the proximal margin. Mexico, to the south as far as Honduras.

A. zuni Neum. (40 c) resembles *dilecta*, but the white spots of the forewing are smaller, those in the disc partly only in the shape of dots; hindwings in the ♂ semi-transparent, only the margins light red; in the ♀ with the 3 bands passing quite through.

A. martina Drc. (40 c). Forewings greyish-brown with sparse, light reddish-grey, small spots surrounded by dark, particularly at the costa and margin; hindwings in the middle transparent, the margins sooty brown. Abdomen red with a black dorsal stripe. Mexico.

A. mishma Drc. (40 c). Larger than *martina*; ♂ hindwings entirely transparent, forewings only in the distal halves. Abdomen red with a black dorsal stripe. Mexico.

A. albescens Hmps. (40 c). Dirty white, the spots almost extinct and only recognizable by the ring-like enclosures; abdomen yolk-coloured. Very much like some *Ecpantheria*. Guatemala. — **semiclara** Stretch is perhaps the normal ♀, perhaps also a form of *Ecpantheria*, allied to *suffusa*; it shows the forewing with 6 rows of dark spots on a whitish ground.

13. Genus: **Ecpantheria** Hbn.

Nearly all the species of this multiform genus have purely or dull white forewings marked with rows of dark rings, the hindwings of the ♂♂ sometimes extended like a tooth in the anal part, the abdomen being variegated (sometimes metallic). The shape is clumsy, the head of the ♀ sometimes lowered so much that it can scarcely be seen from above. Proboscis absent, palpi small, antennae in the ♂ so short-combed that they look like plain bristles. The larvae have coarse, dense, prickly hair; they are very stout, on being disturbed they roll together like most of the hairy earth-caterpillars do, and are fond of wet places (flooded meadows, water-ditches, pools etc.). About 40 forms are known, partly differing very much and having received more than 70 names. The range extends from Texas to Argentina, only one species (*E. deflorata*) goes as far as New England in the north. They all like to come to the lamp, whilst in day-time they are not easily discovered.

I. Forewings black with sparse white spots.

E. andromela Dyar (40 c). This species and the following are rather unlike the genus not only by their colouring and marking, but the ♂ is also without the tooth at the anal angle of the hindwing. They may not belong to the genus, but approximate the *Turuptiana*. Black, forewings with few white spots, hindwings quite blackish-grey. Thoracic dorsum black, only the shoulder-covers white; abdomen posteriorly golden yellow. Mexico.

E. atra Oberth. (40 c). The white spots of the forewings in the ♂ smaller, only that near the base of the wing larger. Thoracic dorsum white, abdomen only laterally yellow. ♀ white, the forewings densely spotted black, almost like in *Turuptiana permaculata* (39 i). — In the form **eminens** H. Edw. the forehead, thorax, and forewings are tinged yellow. — Mexico.

II. Forewings not black, with dark small spots or rings arranged in rows.

a) Ground-colour of the forewings greyish or brownish.

E. indecisa Wkr. (= *degenera* Wkr., *annulifascia* Wkr., *bonariensis* Bsd.) (40 d). Wings brownish light grey, so that the chains of spots and rings are noticeable only by their contours. Abdomen also grey, above

and laterally with golden yellow spots being confluent in the ♂. The figured specimens come from the district of Tucuman; ♂♂ from the environs of Buenos Ayres have a much lighter, almost chalky white ground-colour of the forewings. Common.

- albiscripta*. **E. albiscripta** Drc. (40 d). The rings and dentate markings of the forewings are white on a yellowish-grey ground. Hindwings in the ♂ white, in the ♀ greyish-brown with a white, undulate, postmedian marking. Body like in *indecisus*. South Brazil; Rio Grande do Sul.
- anomala*. **E. anomala** Burm. Pale olive, thorax marked white, abdomen laterally yellow, beneath white. Forewings with darker veins. At the costal margin and in the cell dull white and dark spots. Hindwings with white marginal dots, whitish streaks at the base of the costa, in and behind the cell. Somewhat larger than the preceding, Entre Rios (Argentina).
- suffusa*. **E. suffusa** Schs. (40 d). Size of the preceding; forewings quite light whitish-grey. Forewings with very dense chain-markings; hindwings white, in the ♂ with sparse black spots, in the ♀ with distorted rings filled up with grey. Abdomen golden yellow with black dorsal spots. — Larva grey, when grown up with a yellow head, with white striation and dark dotting, below the indistinct subdorsal line darker. Above the stigmata a broad, yellow lateral stripe; hair pointed and bristly, in dense tufts, on the first rings some long, white hairs. Mexico, common; the figured specimens from Misantla (♂) and Guerrero (♀).
- confusa*. **E. confusa** Drc. resembles *suffusa* in the colouring, size, shape, and marking, but the hindwings are less spotted, those of the ♀ in the basal halves all white, and the abdomen is above not spotted dark. Mexico.
- testacea*. **E. testacea** Roths. The species is easily discernible by the greyish-brown ground-colour covering the body and wings. Thorax with dark rings, abdomen blackish-blue, the base light yellowish-brown; forewings light cinnamon-coloured, with rows of dark rings, hindwings whitish, the inner-marginal area smoky brown. Peru.

b) Ground-colour of the wings purely white, only rarely with some yellowish tint.

1. Forewings traversed by rows of spots, not by rings.

- oblecta*. **E. oblecta** Dogn. is a very small species, based upon a ♂ of only 35 mm. Head and thorax brown, the latter above mixed with lighter hairs. Abdomen brown with yellow sides and white underside. Forewing with 5 transverse chains; the basal one extends to the submedian; the next has 1 costal spot and 3 dots between the median and the proximal margin. The middle chain, being doubled, composed of dissimilar internodal spots, followed by some smaller dots. The 4th, subterminal chain is likewise double; finally the terminal row. All the small spots are brown encircled by black. Fringes white. Tucuman (North Argentina).
- melanoleuca*. **E. melanoleuca** Roths. (41 a). Likewise small, the brown spots are much denser, so that they are confluent and form bands in the middle of the wing and at the margin of the forewing. Hindwings yellowish-white, almost unspotted. North Argentina (Santiago del Estero).
- magdalenae*. **E. magdalenae** Oberth. (40 d, e). Through the middle of the forewing a broad chain of spots, in the ♀ another one through the marginal third; between, as well as at the distal and costal margins small dark spots. Hindwings in the ♂ white, with a sooty black proximal margin, in the ♀ grey, the margin marked yellow. Colombia; the figured ♂ I obtained from Rio de Janeiro, where it was reported to have been captured. — **steinbachii** Roths. is larger, the proximal chain of spots of the forewing more remote from the base, so that the 3 bands of the forewing are closer together, the anal tooth of the ♂ longer; Bolivia.
- laeta*. **E. laeta** Wkr. (40 e) is very closely allied to *magdalenae*, but the forewing shows also in the ♂ 2 broad chains of spots, in the hindwings the whole inner-marginal half and besides the apex are sooty. The ♀ scarcely differs from the preceding species, but it shows the chains of spots somewhat torn, and on the dark hindwings mostly also light cell-end spots. — **praeclara** Oberth. (40 e) has diaphanous pale yellow ♂ hindwings with an ochreous tinge at the proximal margin. Venezuela and Colombia. — **braziliensis** Oberth. (40 e) has the ♂ hindwings diaphanous white, only the anal tooth being sooty, and the distal chain of spots of the forewing being composed of smaller spots. The author mentions „Brazil“ as its habitat; probably it is meant to the north of it.
- theophila*. **E. theophila** Dogn. has yellowish wings, the forewings being marked almost exactly like in *laeta*, the subterminal row of dots does not reach the border at the proximal angle. Hindwings with long yellow hair, 3 costal spots, and one small subcostal spot close before the apex. The ♀ has more white than yellow forewings, and the hindwings are almost quite black with a yellow subterminal line; at the margin some spots. A little larger than the preceding; from Popayan (Colombia).
- leucarctioides*. **E. leucarctioides** Grt. & R. (= *tenella* H. Edw.) (40 e). The chains of spots of the forewings much narrower than in *laeta*, and in the ♂ often entirely interrupted in the middle of the forewing. Hindwing at the proximal margin yellow, only the small apex of the anal tooth black. Mexico. — In the form **trebula** Drc. from Guatemala the forewings, particularly in the ♀, are intensely suffused with yellow.

E. ochreator *Fldr.* (40 f) is perhaps only an aberrative form of the ♀ of *trebula*; forewings more *ochreator*, densely and larger spotted black, but the hindwings golden yellow, with chains of black spots: I only know *FELDER*'s figure (*Novara*, t. 101, fig. 2).

E. cotyora *Drc.* (40 f) likewise greatly resembles *laeta*, but the ♂ has not the long tooth at the anal *cotyora*, part of the hindwing, which is neither sooty black at the proximal margin; in the ♀ also the hindwings are often intermixed with light spots. Costa Rica and Panama; numbers of it were taken by *FASSL* near Orosi, on the Volcano Irazu, in Costa Rica.

E. euripides *Dyar* is allied to *cotyora* (40 f), the markings are blacker, more angular and differently *euripides*, arranged, the hindwings yellow and the anal angle more pointedly extended. Thorax blackish-green, the patagia bordered with orange. Abdomen orange, on the dorsum 2 rows of small black spots. Forewings of a creamy colour, the spots jet-black. 50 mm. Mexico. Type in the National Museum of Washington.

E. extrema *Wkr.* (40 f). Rather small, the ♂ without the anal tooth of the hindwing. The forewing *extrema*, white with very numerous thick and fine dots; the antemedian and median rows sharply angular, those in the distal part of the wing irregular, sometimes confluent; hindwings whitish, the inner-marginal part and an antemarginal row of spots blackish. Mexico and Central America. — **chilensis** *Oberth.* is much larger, and the *chilensis*, median row consists of larger spots. According to *OBERTHÜR* from Chile.

E. quitensis *Oberth.* (40 f). A large, clumsy species with purely white forewings with roundish black *quitensis*, spots, the hindwings with sparse marginal spots, the thorax dotted black, and the dorsum of the abdomen metallic blue. — From Quito; according to *HAMPSON* a form of the widely distributed *deflorata*.

E. persola *Mschlr.* (41 c) from Jamaica has the purely white forewings scantily though distinctly *persola*, spotted blackish-blue. Abdomen and hindwings orange-yellow, spotted black, so that it somewhat resembles an *Estigm. acraea* (39 c).

2. Forewings white, intermixed with chains of dark rings.

E. deflorata *F.* (= *scribonia* *Stoll*, *oculatissima* *Sm. & Abb.*, *chryseis* *Oliv.*, *cunigunda* *Beauv.* nec *deflorata*, *Stoll*) (40 g). One of the large species, ♂ and ♀ forewings densely covered with large, thick black rings; hindwing with a black diffuse patch on the submedian fold and sparse marginal spots. Abdomen stout, above quite blackish-blue or with only scanty yellow spots on the abdomen and sides. — In ab. **confluens** *Oberth.* (40 g) *confluens*, the two middle rows of rings are flown together to one, thereby containing very long-stretched rings. — In ab. **denudata** *Sloss.* the hindwing is hyaline in the apical half. — Larva, when grown up, blackish-brown, with *denudata*, similar tubercles, and dense tufts of thick, stiff bristles of a blackish lustre. Head black with brown sutures. Before each segmental indentation a dark purple transverse band, of the same colour are the ventral feet and stigmata. It attains a length of 7 or 8 cm, being 12 mm thick. On *Plantago*, *Polymnia tetragonotheca*, *Ricinus communis*, and *Euphorbia cyathophora*, but also on numerous other low plants, on *Helianthus*, willows, according to reports also on cotton and coffee. It prefers particularly wet, sometimes flooded places; the butterflies are fond of the light, where they may sometimes be met with together with the ♂♂ of *Zeuzera pyrina* being of a somewhat similar exterior. From New York to the south through the eastern states as far as Texas and Mexico; in most of the habitats not rare.

E. ocellaria *F.* (= *cyaneator* *Wkr.*, *columbina* *Oberth.*) (40 g). Like the preceding with a black, *ocellaria*, lustrous blue dorsum of the abdomen, but the rings on the forewing larger and more regular, in the ♂ those in the marginal third obsolete; those in the ♀ are so large that they leave but very little space between. Hindwings in the ♀ half blackened. — In ab. **distans** *Oberth.* the ring-markings of the thorax have disappeared, *distans*, the wings are partly tinged brown. — Colombia.

E. robusta *Dogn.* Abdominal dorsum like in the preceding with a blue reflection, but with transverse *robusta*, golden bands on the middle segments; in the ♂ the apical half of the forewing is unmarked, hyaline like in *muzina*, but the former has a large orange spot on the greyish-brown abdominal dorsum exhibiting a faint small reflection. Ecuador: Loja.

E. dognini *Rothsch.* resembles *robusta*, but it is smaller, the ♂ with a white, not blackish-blue, *dognini*, chest; forehead and palpi brown, not blue; the thoracic spots grey, not white, as in *robusta*; and whereas in *robusta* the 1st abdominal ring is grey, spotted steel-blue, it is brown in *dognini*; the forewings of the ♂ are less hyaline and the hindwings not at all. Near Rio de Janeiro and in the Organ Mountains. Rare.

E. caudata *Wkr.* (= *mexicana* *Oberth.*) (40 h). Undoubtedly the southern representative of *deflorata*, *caudata*, the ring-markings sparser, finer and lighter, the markings on the thorax somewhat different (shoulder-covers with 2 rings each, instead of 1 ellipse). — **bolivar** *Oberth.* from Colombia has in the ♂ an almost quite golden *bolivar*, yellow abdomen with fine dark bands, and the markings of the forewing behind the cell have died away. Mexico to Costa Rica.

- cunigunda*. **E. cunigunda** Stoll (= ganglio Oberth.) (40 h). Very abundant ring-markings. On the thorax 4 ellipses, 2 more on the shoulder-covers, 5 rows of rings through the forewing and cell, the margins of the forewing densely covered with rings. Abdomen blackish-brown, with golden yellow bands. — In **cayennensis** the markings of the wings are duller, the abdomen is golden yellow with very narrow transverse bands being almost interrupted in the middle of the dorsum. — In **decipiens** Oberth. they are in fact interrupted and stunted to very fine, small stripes, the ring-markings are still duller, and in the ♂ extinct behind the cell. — From Guiana to South Brazil; not rare.
- heterogena*. **E. heterogena** Oberth. (= contexta Oberth., pellucida Schs.) (40 h). From the preceding distinguished by the thoracic marking consisting of parallel longitudinal lines, instead of rings. Distal half of the ♂ forewing unmarked, hyaline. Abdomen above blackish-blue. — **bahiensis** Oberth. (= boisduvali Oberth.) (40 h) is much smaller, in both sexes with abundant ring-markings (partly distorted), but easily discernible by the dark longitudinal lines of the thorax. — Brazil: Rio de Janeiro: *bahiensis* from Bahia.
- decora*. **E. decora** Wkr. (= cyaneicornis Grt., haitensis Oberth.) (40 h) is recognizable by the bright yellow abdomen being spotted white at the base and decorated with 2 parallel rows of blackish-blue transverse spots. Hindwing in the ♂ with a black spot in the anal tooth, in the ♀ with a subterminal row of rings. Mexico and the Antilles.
- cretacea*. **E. cretacea** Dogn. From the Eastern Cordilleras from Colombia (Medina) there is a species before me, particularly distinguished from *decora* by the 6 macular chains of the forewings being of a more uniform course, and by the yellow abdomen showing only on some segments black transverse bands of a blue reflection. As DOGNIN describes his *cretacea* from Medina, it may be it. But as he does not state whereby his *cretacea* differs from the other similar *Ecpantheria* and as his description is applicable for different species, this question cannot be decided here.
- bari*. **E. bari** Oberth. (40 i). A rather large form, recognizable by the thoracic marking, consisting of 2 crescents on the thoracic dorsum, touching each other with the convexities. Abdomen blackish-blue, scantily spotted yellow. In the typical form from Cayenne the rows of rings of the forewing are rather dense, and the hindwing has, beside an inner-marginal wedge, only some dispersed dark spots and rings. — In **orbiculata** Oberth. from Rio de Janeiro the rings at the margin of the forewing are somewhat expanded, and the spotting of the hindwing is somewhat denser, whereas in ab. **dubiosa** Oberth., likewise from Cayenne, the whole basal half of the hindwing is shaded with grey.
- abdominalis*. **E. abdominalis** Wkr. (= proxima Oberth.) (40 i). The abdomen being banded blue and yellow strongly recalls *decora*, the thoracic marking being similar, too. But the hindwing has a much shorter, obtuser anal tooth of the ♂, and not only in the tooth itself a black shade, but the latter extends as a long diffuse patch to the base of the wing, and the distorted ring-spots at the costa and margin of the forewing are not hollow, but filled up with blackish; from Brazil. — **detectiva** Oberth. (40 i) has in the ♂ forewing only very fine, small marginal dots, but an almost quite blue abdomen with but faint traces of yellow spots. — **detecta** Oberth. from Pará has likewise only marginal dots on the forewings and entirely white hindwings, but the costal rings of the male forewings are not filled up with dark, much rather those in the basal part and disc. — In **aramis** Oberth. (40 i), being probably the ♀ to it, all the rings of the forewings are filled up with a bright greyish-brown, and also the hindwings are abundantly spotted sooty-brown. Likewise described from Brazil (Minas-Geraes). — **annexa** Oberth. has a yellow abdomen with dark bluish-black bands, like the typical form, but all the rings of the forewings are filled up with white, and the hindwing has, beside a diffuse spot before the proximal margin, blackish spots along the anal half of the margin. — **kinkelini** Burm. (41 a) finally, denominated according to the Franefort paleontologist KINKELIN and considered to be a distinct species by OBERTHÜR and HAMPSON, differs but slightly from *aramis*; it has also the markings of the forewing filled up with grey, but the prothorax and the basal part of the forewing is sometimes slightly tinged rosy. All the forms of *abdominalis* originate from Brazil; *kinkelini* presumably also occurs in North Argentina, but scarcely in Buenos Ayres itself, as OBERTHÜR states.
- alpha*. **E. alpha** Oberth. (= orbiculata Drc. nec Oberth.) (40 i). This species greatly resembles the typical *abdominalis*, exhibiting the costal rings of the ♂ forewing also filled up blackish, and the long inner-marginal diffuse spot of the hindwing, but the abdomen is blackish-blue, very little spotted yellow, the rings of the forewings being somewhat differently arranged, and particularly the tooth of the hindwing much longer. Mexico.
- albicornis*. **E. albicornis** Grt. from Cuba is easily recognizable by the antennae being white above. Considerably smaller than *alpha*. Thorax above with brown rings, abdominal dorsum blackish-blue. The rings of the forewing are arranged in 6 rows, and rather small; the disc also in the ♂ not hyaline. Hindwings with some rings near the costa, otherwise few small black spots. Very rare, unless it be an insular aberration of another species.
- peruvensis*. **E. peruvensis** Hmps. (41 b). Taken by SIMONS in Peru at an altitude of 1200 ft., known to me only from HAMPSON's figure copied here, is larger than the preceding species and above all discernible by almost all the markings being extinct on the distal area of the forewing.
- muzina*. **E. muzina** Oberth. (41 a). ♂ wings hyaline in the whole distal areas, only at the base, costa and proximal margin sparse rings partly filled up with dark. The ♀ recalls a *heterogena*-♀ (40 b), but it has, instead of

a blackish-blue, a yolk-coloured abdomen spotted somewhat white. The species is almost everywhere in the hilly districts very common from Mexico to Venezuela, and the ♂♂ belong to the most common butterflies taken by the lamp. OBERTHÜR introduced a great number of denominations for this, somewhat variable species, all of which are cancelled by HAMPSON as being synonymous. *albicollis* shows the few rings filled up with white and the abdomen orange-yellow in the ♂ and ♀, with two lines of white spot; the thoracic dorsum has 6 dark rings, in *muzina* only 4, and besides the costa-rings are wider and square, in *muzina* small and round. „Brazil“. *thiemei* is only a small specimen, and *abscondens* the ♀ of it. — *depauperata* is a distinctly marked ♀ without the nebulous spots before the margin of the hindwing, and *garzoni* is, on the contrary, a particularly large specimen with bright colours and markings. — In *xanthonota* the costal and antemarginal rings are marked more thickly, and *yukatanensis* is the ♂ fitting to this ♀ form. — *sennettii* Lintner and a part of *eridane* mentioned by DRYCE in the Biol. of Central America likewise belong here, according to HAMPSON.

E. icasia Cr. (= *lautanae* F., *eridane* Hbn. nec Cr., *obliterata* Wkr., *simplex* Wkr.) (41 a, b) is very *icasia*. closely allied to the preceding, but in the ♂ the anal tooth is much shorter, in the ♀ the ring-marking quite pale, and in both sexes the thorax is snow-white, without any markings. From the West Indies, and on the continent from Surinam to Chile. — As **guadulpensis** OBERTHÜR figures a form from the Island of Guadeloupe, with much *guadulpen-* more abundant and distinct ring-markings, in which also the metathorax shows some small white ringlets, *sis*. whereas the collar and prothorax remain unmarked white. — **trinitatis** Rothsch. is the form from the Isle of *trinitatis*. Trinidad, in which the black of the abdominal dorsum is replaced by white transverse bands; besides the ♀ forewings show duller markings.

E. eridanus Cr. (41 b) from Colombia and Guiana is quite snow-white with an orange-yellow abdomen *eridanus*. banded white. Only ♂♂ seem to be known hitherto.

E. mus Oberth. (41 b). ♂ snow-white, forewings with very few small rings along the costa and proximal *mus*. margin, shoulder-covers with 1 ellipse each. Abdomen snow-white with 2 or 3 blue transverse bands before the end; in the ♀ the abdomen is above black with a white base. Forewings tinged yellowish-brown with rows of rings filled up with grey. Castro (Paraná), Brazil. — The form **brasiliensis** Rothsch. has mouse-coloured, *brasiliens-* instead of white ground-colour and distinctly marked ♂♂; it is also found near Rio and in Paraguay. *sis*.

E. kennedyi Rothsch. from Minas Geraes (Preto) in Brazil resembles the preceding, but it is larger. *kennedyi*. The chest is white, not black, and the palpi, being white in *mus*, are here black. Head and tegulae are grey instead of white; on the latter there are not 2 parallel dark lines, but they converge to a V. The costal area of the semi-transparent forewing is light grey, not white. Hindwings white. Described according to a ♂.

E. oslari Rothsch. (41 b) is the smallest species with chains of rings. The thoracic rings and those *oslari*. of the forewings very small, the chain very regular, the hindwing all white except a preapical costal spot, the abdomen yolk-coloured. From Brownsville in Texas.

E. nigriplaga Wkr. (= *obesa* Wkr.) (41 b). Large, particularly the ♀♀. The ♂ has a broad, large *nigriplaga*. anal lobe of the hindwing, and punctiform, filled rings; easily recognizable by the crimson abdomen showing black transverse bands. Jamaica.

E. burmeisteri Rothsch. (41 c) by the colouring and marking somewhat recalls the larger *kinkelini burmeisteri*. (41 a), but the abdomen is scarlet, with 2 rows of steel-blue dorsal spots; the anal segment above bluish-brown. The ♂ forewing in the disc hyaline. Thorax and wings smaller, and spotted brown not grey. JOSÉ STEINBACH brought it from Tucuman (North Argentina).

14. Genus: **Ectypia** Clem.

Without a developed proboscis; palpi minute, the 3rd joint stunted; head and thorax not woolly, but covered with smooth scales. Spurs of tibiae short. Only 2 almost white butterflies from North America compose this genus.

E. thona Streck. (39 l). We copy HAMPSON's figure which was copied from a figure by STRECKER. *thona*. White, with a very faint reddish-yellow hue; on the median and submedian, as well as at the costa and proximal margin dark streaks. Abdomen above yolk-coloured. New Mexico. Apparently very rare.

E. bivittata Clem. (= *nigroflava* Graef) is similar, all white, with thicker dark streaks often showing *bivittata*. knobs on the median and submedian, as well as on their branches before the margin. Little larger than the preceding. Texas. Likewise rare.

15. Genus: **Euverna** Neum. & Dyar.

Different from *Seiraretia* by the stunted proboscis, but otherwise similar to it in the venation, shape and habitus. More in the west of North America.

- clio.* **E. clio** Pack. (41 c). Purely white; median and submedian of the forewing distinctly black like the ends of the other veins of the forewing. Abdomen above yellow with a row of black punctiform spots. In the southern parts of the Rocky Mountains, in Arizona, Colorado, and South California, rare. — *jessica* is a form with blackened hindwings from the Glenwood Springs in Colorado, described by BARNES in the year 1900.
- mexicana.* **E. mexicana** Dogn. (41 c) is much smaller than *clio*, only the black ray on the median, and that above the proximal margin being distinct: there are hardly any traces to be noticed of the rays on the veins in the apical half of the forewing, and the marginal rays of the hindwings are absent altogether; the latter are snow-white. Mexico, rare.

16. Genus: **Seiraretia** Pack.

Only one conspicuous species; a white butterfly with dark veins, the larva being very variegated. From the preceding species it chiefly differs by the strong, active proboscis. The ♂ antennae are rather long-combed; the anterior tibiae have inside a short nail, outside a long nail. The species lives in the southern parts of the United States, being rather rare. Some African species, such as the cinnamon-coloured *S. jacksoni* Roths., which were brought into this genus, may be better inserted elsewhere.

- echo.* **S. echo** Sm. & Abb. (= *niobe* Streck.) (41 c). White, the veins bordered with an ochreous brown; abdomen above spotted black, in the ♀ tinged orange *). — Larva brown with tufts of golden yellow hair. Sides and venter golden yellow, head cerise. Across each segment a broad yellowish-red and a narrow whitish transverse stripe. On Sabal palmetto Lodd., that species of Chaemaerops-palms, from the filaments of which the „sombrosos“ are made. The butterfly is not common; it only occurs in the southern parts of the United States, in Florida, Alabama, Georgia, and Mississippi.

17. Genus: **Caridaretia** Hmps.

The genus was established in 1901 for an antarctic species characterized by its slender structure, narrow forewings, not large hindwings, and doubly combed antennae of the ♂. Proboscis stunted, the abdomen projects far beyond the anal angle. The two first subcostal veins rise separately, the footstalk of 3 to 5 emerges from the upper cell-angle.

- albicancellata.* **C. albicancellata** Burm. (42 b). Black, the forewings finely marked ochreous-yellow, the hindwings pink, the marking strongly recalling that of numerous *Noctuae*: the forewing shows an antemedian and a curved postmedian transverse line, a ring spot in the cell and a reniform spot behind the cell, as well as light yellowish veins. Hindwing with a rosy-red base and cell-end, and with a costally red, anally yellow postmedian line. From Argentina.

18. Genus: **Chlanidophora** Berg.

Likewise antarctic; the sole species differs from the preceding by its shorter, less extended abdomen, and by the 2nd subcostal vein anastomoses with the footstalk of the 3rd to 5th, forming an areola. Moreover, the forehead has in its middle a continuation in the shape of a truncate cone, and the ♂ antennae are plain. The type is in the Museum of Buenos Ayres.

- patagiata.* **Ch. patagiata** Berg by its marking recalls the preceding species, but it is considerably smaller (40 mm), the abdomen with orange bands, not as in *Caridaretia* only laterally marked yellow. The forewing has the whole proximal half white, with a pink tinge, so that only a distal band extending almost to the middle of the wing remains black, showing the veins light and besides a fine, light dentate line. Patagonia.

19. Genus: **Paracles** Wkr.

The palpi are longer than in the 2 preceding genera, but entirely hidden in the dense, coarse hair of the head. Proboscis stunted. The genus differs besides from the preceding by the antennae being combed in both sexes, by the absence of the accessory cell, and by only the 3rd and 4th subcostal vein having a joint footstalk.

- contraria.* **P. contraria** Wkr. (42 b) almost looks like a small, dark *Antarctia vulpina* (41 d). The orange-yellow abdomen is laterally black and has such a broad, black dorsal stripe that the yolk-coloured ground-colour is only yet contained in 2 narrow subdorsal stripes. Forewings like the thorax dark brown, with a creamy-white costal-marginal stripe; hindwings dull white, at the costa brown, at the proximal margin tinged yellow, Lower Amazon.

*) In the first figure by ABBOTT and SMITH, on account of the dusted stripes accompanying the veins of the forewing having been exaggerated, the exterior of this butterfly is so very much distorted, that HERM. STRECKER being familiar with these otherwise very well-done figures did not recognize the figure and once more minutely described the species in 1884 as a *Spilosoma niobe*; the latter was then enumerated by KIRBY, separated afar from *Seiraretia*, as *Estigmene* with a „?“.

20. Genus: *Mallocephala* Blch.

The butterflies corresponding with the palearctic *Ocnogyna* have an accessory cell in the forewing. The ♂ antennae are doubly combed with long branches and the ♂ abdomen is a very slim appendage disproportionate to the robust thorax, being somewhat conspicuous only owing to the long, dense, fleece-like hairing. The ♀ is very characteristic by a complete stunted growth of the wings. The palpi are just like in the *Antarctia* and *Palustra* lowered in the resting butterfly, their tips showing almost downward. Only few species resembling each other are known, the wings being unmarked. The larvae are covered with short and dense tufts of hair, with raised tubercles, living on low plants, numerous in the gardens of the towns, the male butterflies common on the lanterns in the streets.

M. deserticola Berg (41 d). In the ♂ the head, antennae, thorax, and forewings are of a light greyish-brown, hindwings and abdomen white, the former rarely with a darkened apex. The ♀ is quite yellowish-grey, the abdominal end broad white and woolly. Argentina, Patagonia, according to HAMPSON also from Colon. I captured both sexes in the town of Buenos Ayres itself, on the garden-walls, and found the cocoons underneath the covers of walls, in February. Not rare.

M. brittoni Rothsch. is very closely allied to the preceding. Head, body, and forewings of a brownish-creamy colour. Hindwings white. Antennae light brown. La Soledad in Argentina.

M. latior Btlr. (41 d). Dark ochreous-brown, hindwings dirty ochreous-white, abdomen of a brighter yellow with black dorsal transverse bands. ♀ yellowish-brown with similar stumps of wings and a white anal part of the abdomen. — Larva black with blue warts and red-brown, partly grey hair. Imago in February. Chile, common. — **tegulata** Btlr. is based upon 2 ♂♂ from Valparaiso, the wings being of a greyish chocolate colour instead of dark ochreous-brown, the hindwing at the base diaphanous. — **angustior** Btlr. has narrower forewings, and the ground-colour is bronze-brown. Likewise from Valparaiso. — ab. **obscura** Btlr. finally is a name given to an uncommonly dark specimen (♂). — The larva of *latior*, according to EDMONDS, is entirely *Arctia*-like.

M. magna Rothsch. (41 d). Thorax and forewings dark chestnut brown, hindwings whitish, head and abdomen above tinted orange. Salta in North Argentina.

M. peruviana Rothsch. (41 d) is somewhat smaller than *magna*; hindwings darkened by a dirty grey colour. It is distinguished by the abdomen being ashy-grey above. South East Peru. The ♂♂ are common, the ♀♀ not yet known.

M. insipida Rothsch. Size of *deserticola* (41 d). Head, chest, and legs slate-coloured, antennae reddish-grey; thorax, abdomen and forewings of a greyish-cinnamon colour. Hindwings greyish-white. Lagama (Argentina).

M. rubripes Blch. resembles *insipida*, and is just as large, of a dark red-brown with lighter hindwings. Recognizable by the rosy-red palpi and upper surface of the femora, as well as by the red abdomen with a black dorsal line. Chile.

21. Genus: *Antarctia* Hbn.

Very closely allied to the preceding genus, forewing with an accessory cell; body like in the *Mallocephala* with a long, shaggy hair-fleece. But in the species of which the ♀♀ are known, the latter are fully winged. More than 30 species are known, almost all of which inhabit the southern temperate zone of America.

A. vulpina Hbn. (= *pallicosta* Bsd., *uruguayensis* Berg) (41 d) is coloured almost like a large *Mallocephala latior* (41 d), dark-brown with dirty-white hindwings and a golden yellow abdomen which, however, is without the black dorsal bands, and differs besides by a creamy-white stripe along the costa. In the ♀ the hindwings and a costal stripe are of a more intense yellow-brownish tinge. — Larva quite black with black tubercles; across the dorsum a series of partly paired, yellowish-brown brushes. Very common in the pampas of Argentina and Uruguay, in January and February; in Montevideo in the Prado, and in the evening on lanterns in the streets.

A. felderi Rothsch. (41 f) is exactly like *vulpina* in its size and colours. Brown forewings, with a creamy yellow costal stripe in the ♂, dull white hindwings and yolk-coloured abdomen; only the colour of the forewing is not a dark chestnut brown, but a red-brown fox-coloured tint. From Rio de Janeiro. There are only 2 specimens known.

A. aurantiaca Rothsch. (41 f) is like the preceding, but the ♂ forewing yellowish-brown, without the costal stripe, in the ♀ yolk-coloured, the hindwings a little lighter. From Rio de Janeiro, through South Brazil and Paraguay as far as Bolivia.

A. lehmanni Rothsch. is somewhat larger; the only specimen known originates from Popayan in Colombia and is quite unicolorously greyish-white with orange-yellow abdominal sides, the antennal shaft white with a brown comb.

- brunnea*. **A. brunnea** Hbn. (= *severa* Berg) (41 d) resembles *vulpina* (41 d), but the forewings and the thorax are dark brown and without a light costa. The hindwings are dirty white, but in the ♂ their costal parts are of a dark, sooty tinge, whilst in *vulpina* only faintly darkened; the abdomen of the ♂ is not golden yellow, but brown. ♀ tinged quite honey-yellow. It often varies into a paler and more yellow form (= ab. **amaryllis** Schs.) South Brazil and Argentina, common. — Larva with dense, dark dorsal brushes, on *Xanthium spinosum*, *Gaillardia scabiosoides*, *Scleropus amaranthoides*, and other low plants.
- vulpecula*. **A. vulpecula** Dogn. Size of the following species, body dark brown, collar anteriorly red-brown, thorax more ochreous, abdomen covered with very long hair. Forewing blackish-brown, costal margin and the fringes still darker. Hindwings above white, somewhat lustrous blue, in the apical area darkened greyish. Beneath all the wings are of a leaden grey, costa, fringes and the apical part of the hindwing blackish. From Colombia. Described only according to male specimens.
- pallidivena*. **A. pallidivena** Schs. Size and shape of *azollae* (41 i). but the forewing with white veins like *venata* (41 i). Head and collar dark brown, thorax tan-coloured. Abdomen ochreous-yellow. Ground-colour of forewings tan-coloured. Under surface whitish, costal and distal margins of forewings brownish. Brazil: Castro (Paraná).
- honora*. **A. honora** Schs. (41 e) is almost exactly like the preceding, but the hindwings browner, also in the ♂ slightly tinged yellowish. The ♀ abdomen is of a brighter yellow. — This species is distributed from Central Brazil to the north and is even reported from Colombia.
- sericea*. **A. sericea** Schs. (41 e) is considerably lighter brown, also the ♂ forewings rather pale, the hindwings nearly white, except the costa and the inner-marginal area. South Brazil.
- fervida*. **A. fervida** Schs. (41 e). Only the ♀ is known. All the wings are dusted dark brown, without markings except the cell-end being faintly marked dark. Range like that of *sericea*.
- surgens*. **A. surgens** Wkr. (41 h, i). The ♀ has the forewing similar as *pallidivena* brown crossed by light veins, but the hindwings are of a dull white, towards the margin darker. The ♂ which was at first described as *Mallocephala venata* by ROTHSCHILD, is quite light whitish ochreous-yellow, the veins of the forewings purely white. Paraná.
- venata*. **A. venata** Schs. (41 i) resembles *surgens* in the marking, but it has a browner ground-colour of the wings, out of which the lighter veins (in the ♀ also on the hindwing) are more distinctly prominent, as well as yolk-coloured hair covering the body. But as HAMPSON places *surgens* to the genus *Maenas* being otherwise preponderantly palearctic, they must both be distinguished by the subcostal neuration of the forewings. Brazil: Paraná.
- albescens*. **A. albescens** Hmps. (41 e) from Venezuela and Peru has whitish wings tinged yellowish at the base, the thorax and abdomen, particularly posteriorly, being yolk-coloured. It must perhaps be already placed to the *Palustra*, like the following species *gigantea*.
- gigantea*. **A. gigantea** Jones belongs perhaps already to the next genus. Almost the size of *Palustra burmeisteri* (41 f, g); dark brown, collar bordered with a dark yolk-colour, abdomen yellow, above banded dark. Forewings brown, at the costal, proximal margins and border darker, in the distal area lighter and yellowish. Hindwings yellow, the costa narrowly brown. At the border an undulate band, being interrupted behind the cell. Border fine golden yellow. The last abdominal ring of the ♀ is brown; the ♀ also exhibits a very dull, dark postmedian line. Castro.
- rudis*. **A. rudis** Btlr. (41 i) was described as *Paracles* (comp. p. 320), but according to HAMPSON it belongs here, since the forewing shows an accessory cell. Lighter brown than the preceding, in the ♂ both wings coloured almost the same; thorax anteriorly and abdomen above tinged yellow. Chile.
- phacocera*. **A. phacocera** Hmps. Size of the preceding species, body dark brown, but a tuft on the shoulder and the abdomen orange. Forewings reddish-brown, the base covered with some orange hairs; hindwing orange with a dark brown marginal band, beginning broadly at the costa, and growing narrower towards the anal angle. Paraguay.
- paula*. **A. paula** Schs. (41 e) is much smaller than the other *Antarctia*, only the size of *Mallocephala deserticola* (41 d). Recognizable by the dark cell-end-spot and the ochreous-yellow inner-marginal stripe of the forewing. Hindwings of the ♂ darker. Brazil (Paraná).
- fulvicollis*. **A. fulvicollis** Hmps. Size of *paula* (41 e). Body dark brown, thorax above marked yellowish-red; abdomen above yellowish-red with a dark median stripe. Forewing dark brown at the base intermixed with some white and yellowish hairs. Hindwings yellowish-white, veins and border slightly suffused with a dark brown. Chile.
- costata*. **A. costata** Burm. (= *bergi* Schs.) (41 e). Size of *vulpina* (41 d), the side-form of which it was at first assumed to be. Antennal shaft above whitish, abdomen laterally dull yellow, in the ♀ above with brown bands. South Brazil (Rio).

A. thursbyi *Rothsch.* Head, thorax and forewings dark trunk-coloured, intermixed with small, yolk-coloured hairs and scales, chest and legs tinged orange-yellow; abdomen orange. Hindwings lighter, likewise tinted somewhat yolk-coloured. Size about like that of *vulpina* (41 d). Patagonia.

A. klagesi *Rothsch.* Size of the preceding; thorax and forewings dark chocolate-brown, somewhat wooden-brown. Hindwings quite wooden-brown. Abdomen orange, with an orange anal tuft. From the Upper Amazon (Fonteboa).

A. persimilis *Burm.* (41 f). Above dark sooty-brown, the disc of the wings faintly lighter. All the wings above and beneath with a distinct cell-end mark. Abdomen blackish-brown, in the ♂ with an orange-yellow lateral stripe, in the ♀ with dull yolk-coloured bands. South and Central Brazil, not rare.

A. fusca *Wkr.* (= *multifarior* *Burm.*) (41 h). Dark brown, larger than the preceding, ♀ with finely dusted forewings, ♂ with traces of a submarginal band behind the cell-end spot. Hindwings in the ♂ pale yellowish, dusted with a dull brown; abdomen dull orange-yellow, particularly on the sides, in the ♂ with dark dorsal bands. South Brazil and Argentina.

A. lateralis *Wkr.* Almost exactly like *persimilis*, but the forewings above somewhat mixed with grey and more intensely crossed by light veins. South Brazil.

A. marmorata *Rothsch.* (41 f). Dark earthy-brown with somewhat lighter hindwings. Forewing in the basal half with faded dark spots being the most prominent at, behind and below the cell-end. Teeth of antennae very long. Peru.

A. steinbachi *Rothsch.* (41 i) is almost exactly coloured and marked like a small *persimilis*; disc of the wings in the ♂ faintly lighter, in the ♀ with a distinct cell-end spot and a dark nebulous stripe before the marginal area. South Argentina.

A. nitida *Jones.* 35 mm; in the ♂ the head and thorax are dark brown, abdomen brown with lateral yellow stripes; forewings brown; hindwings creamy white, veins, costa and border brown. Beneath the forewings are brown, at the base with yellow hair, below the median as far as the proximal margin they are whitish; hindwings creamy white with the costal area intensely suffused with brown, and a brown cell-end lunula. From Castro, Paraná (Brazil).

A. reversa *Jones.* ♂ of the size of the preceding. Head and thorax dark red-brown, antennae lighter brown, abdomen above golden yellow. Forewings creamy-white, towards the margin brownish, veins red-brown; in the costal area a very dark band. Proximal margin as far as the submedian suffused with brown. Hindwings white with a brown costa. Castro (Paraná).

A. pectinalis *Jones* is larger, the antennae in the ♂ with very long pinnae. Body dark brown, abdomen orange; forewing brown, in the disc lighter and somewhat diaphanous, the proximal margin at the base covered with hair. Hindwings whitish, suffused with a yellowish brown. Castro.

A. cnethocampoides *Rothsch.* (41 e). Forewings more ashy-grey with a dark cell-end and a transverse chain of dark nebulous dots before the marginal area, whereby a faint resemblance is created to certain palearctic *Thaumetopoea*. From Salta in North Argentina.

A. variegata *Schs.* (41 i). With brighter and more variegated markings than the other. Forewings pale yellowish-grey; body dark brown, head, collar and an inner-marginal spot at the base of the forewing honey-coloured. On the forewing a dark postmedian band and a spot before and at the cell-end are blackish-brown, all these dark markings being bordered with white. Brazil: Paraná.

A. rhodosoma *Hmps.* is the size of the preceding, but recognizable by the red abdomen showing above small black dorsal spots, and by the semi-transparent, light hindwings. Forewings of a light reddish-brown with a yellowish base, at the discal spot tinted dark brown. Chile.

A. duckinfieldia *Schs.* (41 h). Only the ♀ is known. Thorax and wings earthy-brown, the wings crossed by thick, honey-coloured veins and similarly fringed. Abdomen yolk-coloured, dorsum and sides spotted dark. Abdominal end with orange-red hair. Central Brazil.

22. Genus: **Palustra** *Bar.*

The „water-arectia“ form a group very closely allied to the *Antarctia*, but owing to the peculiarity of their habits they have undergone great changes in order to adapt themselves to the aquatic life, particularly in their pupal stage. The ♀♀ of *Palustra burmeisteri* secrete much more anal wool than the European *Lymantria dispar*, a similar parallel prevalent between the Lymantriids *Porthesia similis* and *Euproctis chrysorrhoea* on the one hand and the *Scirpophaga* growing up in the water like *Palustra* on the other hand, the species of which have been denominated according to those Lymantriids *Scirpophaga „auriflua“* Z. and *Scirpophaga „chrysorrhoea“* Z. We have not allowed them to be confounded with other genera, such as *Maenas*, *Lacydes*, *Eutaenia*

etc., nor any genera at all represented in the Old World; much rather some species, having hitherto been dealt with as congeneric with the *Palustra*, could yet be eliminated. — The head, particularly in the ♀, is very much lowered, so that, on being seen from above, it does not project beyond the immense thoracic wool. Proboscis absent, palpi very small, turned directly downward. ♂ antennae with 2 rows of long teeth, in some almost the longest found in the Aretiids at all. The dense hairing of the thorax is sometimes shaggy or covers the whole thorax (*burmeisteri*), wings large, also the hindwings broad, with a short discocellular scarcely projecting beyond the middle of the wing; the discocellular forms a sharp, rather acute than obtuse angle. 9 species are known.

burmeisteri.

P. burmeisteri Berg (41 f, g) is one of the largest Aretiids in America, unicolorously dark brown, with a blackish cell-end spot, the forewing besides with a double, postmedian nebulous band. ♀ little lighter than the ♂, with a blackish abdomen and ochreous-yellow anal wool. — Larva large, stout, blackish-brown; the animals never rest on the surface of the water, but always about 10 to 15 cm below it on Potamogeton and other water-plants. The air needed for breathing is held fast by the dense hair on the larva, which, thereby receives a lustrous silvery cover. In order to renew this air, the larva sometimes comes to the surface; this is also done in order to swim over to another food-plant to which it is reported never to creep over below the water. According to GÜNTHER's observations the larva, in being bred, must sometimes have running water, lest it perishes in the skinning. The larva is dark, densely haired, the dorsal brushes in the early stage brownish, later on pale yellow. In spring (November) the pupation takes place. Then the larvae are seen swimming up the stream in numbers, in order to go into the small brooks and the drains (so-called Cañadas) traversing the pampas everywhere, where they leave the water for the sake of their pupation. According to observations by Willy Lehr (Baltimore), the larvae prefer projecting parts on the banks, where they mostly attach their downy spinnings on Stipa- and Carex-grasses. They often pupate gregariously (7 or 8 together), but the cocoons are spun in such a way as to be easily separated without being torn. The ♀♀ having crept out after few weeks keep sitting on the web where they also often deposit the eggs which are wrapped into the dense, downy anal wool of the ♀. Sometimes one ♀ sponges upon another ♀, depositing its own eggs in the downs of the eggs of the other. A remarkable fact is that the gluttonous, insectivorous fish *Heros facetus* Jen., which greedily devours the imagines of *Palustra*, disdains the larvae. The species is distributed across Uruguay and South Argentina; local, but in some places common.

affinis.

P. affinis Rothsch. is nearly exactly like *burmeisteri*, but the thorax is of a darker brown, the collar and hairing of the abdominal base yolk-coloured. From the Organ Mountains in Brazil.

ockendeni.

P. ockendeni Rothsch. (41 g). Also like *burmeisteri*, but the tegulae and the anal tuft are golden yellow and on the forewing of the only specimen known, a ♀, the postmedian transverse stripe is indistinct. Peru.

vivida.

P. vivida Rothsch. (41 h) resembles a small *burmeisteri*, but the abdomen is ochreous-yellow, in the ♂ with a series of blackish-brown dorsal spots, in the ♀ with dark bands; in the ♂ also the whole basal half of the hindwing is of a bright ochreous yellow; in the ♀ the disc of the hindwing is lighter greyish and somewhat diaphanous.

palmeri.

P. palmeri Rothsch. (41 g) is smaller than the preceding, body and wings quite unicolorously dark sooty brown, except the scarcely noticeably darker cell-end without any markings at all. Colombia.

haenschi.

P. haenschi Rothsch. (41 g) is nearly exactly like *burmeisteri*, but the ♀ shows a transverse band shaped brightening beyond the middle of the wing. — The larva is black, with rows of black, prick-shaped bristles. On the dorsum of each ring there is a transverse brush of dense, short, soft hair of a bright chestnut-brown colour.

laboulbeni.

P. laboulbeni Bar (= *argentina* Berg) (41 i). Light yellowish-brown, only about half the size of *burmeisteri*, forewings with dark ante- and postmedian, as well as antemarginal nebulous lines, and with a dull darker cell-end spot. — Larva with tufts of short bristles, and on the dorsum of each segment with a reverted, black, above rufous tuft. On *Mayaca fluviatilis* on which it feeds under the water. On being touched, the larva rolls up like most of the Aretiid larvae. Cocoon blackish, with interwoven larval hairs. South America, distributed in the east.

fosteri.

P. fosteri Rothsch. (43 a) somewhat resembles *laboulbeni*, but it is more stretched, the forewings lighter and quite unmarked; from Paraguay.

azollae.

P. azollae Berg (41 i) is still smaller, the hindwings in the ♂ golden yellow like the abdomen, with a reddish tint and dark margins; forewings as well as thorax dark brown, with still darker markings. Argentina.

tenuis.

P. tenuis Berg (41 c) greatly resembles *Mallocephala latior* (41 d), but it has deeper red-brown forewings and faint nebulous spots in the hindwing. The abdomen is orange-yellow like there, though without any black dorsal bands. ♀ with fully developed wings. Argentina.

P. juruana Btlr. (43 a). In the same way as *bilinea* (41 h) represents a small parallel form of *burmeisteri*, *juruana*. *juruana* resembles a pygmean form of *azollae*; hindwings lighter, except a brown distal-marginal band. Abdomen above yellow. Jurua River (Amazon).

P. flavata Hmps. (41 i). Here the forewings are also lighter, except the brown marginal band, and *flavata*. some small spots; colouring dull ochreous-yellow. The smallest species. Peru.

P. bilinea Schs. (41 h). The marking is almost the same as in *burmeisteri*, i. e. the forewing shows *bilinea*. beside the slightly angled cell-end spot interrupted ante- and postmedian nebulous lines; the latter are double. The ♂ abdomen is of a flesh-reddish colour except the base and apex. From Petropolis in South Brazil.

V. Arctiinae, genuine tiger-moths.

In this subdivision we find the typical characters of the whole family and in addition, as a merely external, though very conspicuous mark, a variety of contrasting colours, being most intensely developed. They are easily discerned from the pale, dull *Palustra*, the white *Spilosoma*, the narrow-winged *Phaegopterinae*, to all of which they are allied. In the neurulation they are not homogeneous, for which reason of late a number of internally undoubtful Arctiids, such as the *Callimorpha* in Europe, the *Platyprepia* in America, have been eliminated. They were separated from the *Arctiinae* as *Hypsidae* (in a more recent sense), chiefly owing to the fusion of two veins on the hindwing, which proceeding, however, was not followed by many authors who added the *Platyprepia* to the *Hyphoraia*. But even if this genus is included, the number of American *Arctiinae* is amazingly small; it only contains 5 species. Of the other American groups the genus *Apantesis*, both larvae and imagines, are the most closely allied; this genus, however, so exactly corresponds to our European genera *Orodemnias*, *Cletis* and *Euprepia*, that we have inserted it above at the corresponding place.

1. Genus: **Hyphoraia** Hbn.

This group is allied to the *Antarctia* by the clumsy, stout structure, the heavy posteriorly thickened abdomen of the ♀♀, the fleecy-like hairing, the long teeth of the doubly combed antennae, the broad wings and the fondness for dampness exhibited by the shaggily haired larvae; the *Hyphoraia*, however, pass their lives more under snow-covers than the *Palustra* living under the water.

H. subnebulosa Dyar (42 b). A small species, most closely allied to the palearctic *festiva*, but the *subnebulosa*. forewings are less spotted light, and the hindwings are not honey-coloured, but dull ochreous grey with a broad dark marginal band. Known from Alaska, and a rarity like most of the *Hyphoraia* (except *aulica*).

H. parthenos Harr. (= *borealis* Mschr.) (42 a). A very large species, almost the size of a *Pericallia parthenos*. *matronula*. Forewings thinly sealed, brown, spotted yellow, hindwings golden yellow, banded black. Easily distinguishable from *matronula* by the abdomen not being red, and the yellow spots on the forewing not only running along the costa. The butterfly is confined to Canada and the northern Atlantic States. Labrador, on the Upper Lake, on the Mackenzie River, everywhere rare; the specimens contained hitherto in the collections have mostly been taken at different places at long intervals.

H. hyperboreus Curt. The modern authors agree in this form not being separable from *alpina* Quensel *hyperboreus*. (= *thulea* Dalm.) which they, on the other hand, do not take to be separable from *lapponica* Thnbg. In Vol. II, we have figured both forms, *lapponica* and *alpina* (t. 17 e), and we refer to what has been said there (p. 95). *hyperborea* seems to be distributed over the whole of antarctic America. The species is so rare there, that it always costs about 3 or 4 dollars even in America.

2. Genus: **Platyprepia** Dyar.

The hindwings being in the ♀ of a bright golden yellow, with black ante- and postmedian bands, strongly recall *Pericallia matronula* from Europe and Northern Asia, and *Hyph. parthenos* from North America. The genus, however, is distinguished by the uppermost rib of the hindwing being fused with the cell-wall to a rather thick cord (= *Hypsidae* Hmps.). Larva and imago, however, are otherwise allied to our *Arctia*.

P. virginalis Bsd. (= *ochracea* Stretch) (42 a). Forewings black with rows of white guttiform spots, *virginalis*. hindwings of a bright yellow with black macular bands, in the ♂ sometimes with much black. — **guttata** Bsd. *guttata*. (42 a) has quite black hindwings except some honey-coloured guttiform, antemarginal spots, the abdomen is likewise above black and the white spots on the forewing stated by the author to be 18 are somewhat smaller. —

From the Rocky Mountains to the west as far as California, in Wyoming and Colorado in some parts common. One of the most beautiful North American Arctiids. The form *guttata* is much rarer.

3. Genus: **Arctia** *Schuk.*

As to this genus we refer to Vol. II, p. 97. In America only one species occurs, *caia* L., distributed over the whole northern temperate zone.

caia. **A. caia** L. America homes 4 or 5 forms of this most variable species: **utahensis** H. Edw. (= *auripennis* Btlr.) (42 a), with yellow hindwings like the form *wiskotti* Stgr. described from Eastern Asia., but slightly deviating from *transmontana* Neum. & Dyar, and **americana** Harr. (42 a) with red hindwings like the European *caia*, but at the shoulders with white lateral stripes of the thorax. Thereby it resembles the Japanese *phaeosoma* Btlr. (Vol. II, t. 18 b), but it is much smaller than this very large form, and the forewings are much more extensively brown, the broad white bands of the forewings of *phaeosoma* are narrow and thereby the brown areas more coherent. Certainly not all the North American specimens are so small and dark as the figured example, and in Alaska there occurs a form (**opulenta** H. Edw.) in which the white of the forewings is much intenser than in typical *americana*. Also in the east *caia* proceeds very far to the north, and there still remains a difference in size compared with the large Japanese with light and glaring bands, by which these two forms are easily discernible. Still more closely allied than to *phaeosoma*, *americana* is to the form *orientalis* Mr. (Vol. X, t. 24 i), but the latter has a quite differently marked abdomen, being broadly banded black from the 3rd ring, so that only the margins of the rings appear to be narrowly bordered with red, whereas *americana* shows a quite red dorsum of the abdomen with shortened black transverse bands. — The larva seems not to differ from the European. The species, however, is apparently in North America, although it is distributed over the whole northern United States, considerably rarer than on the eastern hemisphere, where it is, according to GRAESER's account, in some parts of the Amur District immensely common *).

VI. Phaegopterinae.

Most of the numerous (1060) species reckoned hereto exhibit a shape bearing a proportion to the general *Heterocera*-type about like that of the *Ithomiini* to the usual shape of the day-butterflies. In the *Ithomiini* ** (being generally known by the name of *Neotropidae*) we have noticed a slenderness of the hind body distantly recalling the shape of a dragon-fly, together with very long extended forewings and small round hindwings. Nearly in the same way we might characterize the *Phaegopterini* exhibiting the abdomen, though often not slender, but always extended, and another analogy is exhibited by the often uncommonly long antennae and legs. In *Opharus superba*, for instance, the antennae attain a length of $2\frac{1}{3}$ cm, the length of the forewings being only 4 cm, whereas in the *Arctiini* having been dealt with above the antennae scarcely ever surpass the middle of the costa; similar conditions are met with in the *Phaegopterina* *Calidota gigas* and in other species.

This resemblance of the shape to the *Ithomiini* might supply a good preparation to mimetic disguises, but in the present group we do not notice anywhere resemblances to the *Ithomiini* being allied in the shape. The *Phaegopterinae* are undoubtedly well protected. Some have extremely brilliant, magnificent colours, such as the *Belemnina*, sparkling like precious stones, and beside glittering metallic colours they exhibit yet glaring scarlet or orange bands. By their mostly very long and strong proboscis, the insects are able to delight in sucking from flowers, and they are not only without any frightening colours, but also mostly without colours resembling the soil, bark and leaves, which might be considered as an adaptation to the surroundings. The group, on the whole, shows little marking, except some genera (*Automolis*, *Idalus*, *Hyperthaema* etc.) showing a great variety of colours increased by spots, bands or stripes.

Another homology of the *Phaegopterinae* with the *Ithomiinae* consists in the same forms being frequently repeated in the different and more remote genera. In the same way as we see there e. g. the peculiar colouring of *Velamysta pardalis* Salv. repeated in *Dismenitis theudelinda* Hew., or as we recognize in *Hymenitis quinta* Stgr. an image of *Napeogenes hypaea* Stgr., *Ithomia dimidiata* Stgr., *Velamysta anomala* Stgr., *Episcada paradoxa* Stgr. etc., we also meet with repetitions in the *Phaegopterinae*; particularly species of the genus *Halisidota* recur also in other genera (*Agoraea*, *Elysius*, *Ammalo* etc.), mostly in a somewhat different size. We receive

* Most astounding is the enormous fecundity of this butterfly; LYLE (Entomologist 43. p. 249) reports that a captured *caia*-♀ deposited 1300 eggs, and that hereafter yet 150 eggs were found in its abdomen, thus together 1450, not counting the eggs which had been probably deposited, before it was taken.

** Comp. Vol. V, t. 32—11.

a rather similar impression of *Prumala argyllis*, *Ischnocampa nigrivena*, and *Pachydota nervosa* Fldr., all of which recall *Halisidota anapheoides*. But the resemblance is neither so astounding nor so unlike the forms of the nearest affinities, that we might notice a mimicry, i. e. an imitation obviously forcibly created by nature. There are only slight resemblances of poorly coloured markings, as we know in America also of the members of such families that have generally nothing to do with mimicry, such as Hesperids, Noctuids etc. We only remind the reader of similarities between the Hesperid *Potamanax unifasciata* Fldr. and certain forms of the Erycinid *Notheme eumeus* F., which may occur in all groups, often from quite different parts of the world.

In the nearetic region the *Phaegopterinae* form that group of Arctiids which most closely approximates the *Syntomidae*. Before the finer details in the anatomical structure had been paid attention to, some genera, such as *Belemnia*, were reckoned directly among the *Syntomidae*. In fact, the separation of the two is also somewhat artificial, as we recognize from the life-history. Quite a number of *Phaegopterinae*-larvae are known, many of them since a very long time, and on looking at these peculiar larvae we might be inclined to number the imagines yielded therefrom rather among the *Syntomidae* than to the Arctiids. Peculiar, pencil-shaped hair-brushes project from the anterior and posterior parts of the larva like threatening horns. In *Halisidota bactris* these pencils are orange-red on a black ground, in *Hal. rhomboides* black or white on a red and blue ground. In *Hal. catenulata* they stand apart behind the larva's neck like the sails of a windmill, and in *Thalesa citrina* all the rings between the anterior and posterior pencils exhibit lateral hair-brushes. The *Automolis* have on the 4th and 11th rings transverse hair-pads, behind which the long pencils are projecting. In *Pelochyta arontes* the 4th ring shows an enormous transverse pad parting the end of the larva's head like a Spanish collar, followed by variegated dorsal brushes and followed by long, peculiarly shaped pencils, some of which are thickened at the ends. The name of the genus „*Lophocampa*“, which has been introduced for certain *Halisidota*, is derived from these peculiar tufts of the larvae, and some larvae, such as those of *Eupseudosoma*, are so very much surrounded by brushes, that they resemble a ball of wool and hair-flocks, from which the head of the larva is separated by a bow-net-shaped collar. Hitherto every genus of *Phaegopterinae* has, in discovering its larva, surprised us, by disclosing a novel shape; in the other groups of *Arctiinae* we find this peculiarity only sometimes indicated (*Palustra*, *Isia*), but never developed to a similar extent. Certainly, however, the *Syntomidae* hereby resemble the *Phaegopterinae*, and in the *Encereum* in America, the *Euchromia* in Asia and Africa we see larval shapes closely approximating them. At any rate we are entitled to regard the *Phaegopterinae* mentioned here as being closely allied to many *Syntomidae*, so that a certain conformity also in the exterior shape of the butterflies must be more than an accidental convergence.

Beside the *Euchromia*, the palearctic genus *Rhodogastris* (Vol. X, p. 260 to 262, t. 25 d—g) exhibits an unmistakable affinity to the *Phaegopterinae*. Whosoever has chanced to observe the movements of the wings, the high-legged gait, the agility of the head in a *Rhodogastris astreus*, will be automatically reminded of the same peculiarities of *Halisidota tessellaris*. Even the flying to the light, the swarming, and the clumsy, somewhat *Neuroptera*-like settling down and running about on an illuminated wall is remarkably the same in both. The secretion of protective oil, all the joints moving quickly, the extremely tenacious life and some more subordinate peculiarities may be mentioned here as connections between the two groups. In Africa the *Phaegopterinae* are represented by the group of butterflies formed by the genera *Balaera*, *Metaretia* and *Apisa*, which, however, are already numbered among the *Syntomidae* owing to the scanty neuration of the hindwings.

The cocoons of the *Phaegopterinae* are nearly always uniformly, ovally woven and intermixed with hair of the larva, often exactly oviform, and loosely enclose the obtuse, faintly lustrous pupa.

1. Genus: **Cyanaretia** Hmps.

Proboscis strong; palpi porrect, strong, but with a rudimentary terminal joint. Antennae of more than half the costa's length with rather long teeth. Thorax broad, abdomen short. On the long forewing the 1st and 2nd subcostal veins rise before the end of the long, narrow cell. The uppermost median vein (last radial) rises from the lower cell-angle, the 2nd radial vein little above it. Hitherto 3 rather dissimilar species are known, having formerly been allotted to 2 different *Syntomid* genera.

C. dama Drc. (42 b). From Mexico; blackish-grey with hyaline patches in the wings; the forewing *dama*, shows a metallie blue reflection at the costal margin, a coppery reflection at the proximal margin.

C. ruscia Drc. (42 b). From Bolivia. Lustrous blackish-brown with an oblique orange band of the *ruscia*, forewing and some orange antemarginal spots of the hindwing.

C. flavinigra Dogn. is founded upon a single ♀. In the forewing a very broad, yellow band extending *flavinigra*, towards the border immediately above the proximal angle. Hindwings quite black. West Colombia.

2. Genus: **Belemnia** Wkr.

Charming, small butterflies looking like *Syntomidae* with variegated and metallic lustrous spots on a jet-black, velvety ground. Proboscis strong, palpi slightly raised, short, the antennae long, the teeth suddenly decreasing before the tips of the antennae Thorax round, abdomen broad, the hindwing in the ♂ often with a pointedly extended anal angle. The 10 forms known have nearly all the same size; they rest on blossoms, together with *Cyanopepla* and *Macrocneme*-species and fly in the sunshine in a similar way as the *Zygaena*-species do.

- eryx*. **B. eryx** F. (= *obscura* Drc.) *. Forewing with a brassy lustrous basal part and a bright hemochrome, small discal band. Hindwing with a pointedly extended anal angle. Colombia and in the Amazon District as far as Bolivia, dispersed. — In *crameri* Btlr. (= *inaurata* Cr. nec Sulz.) the small red band of the forewing is duller and more obtuse, often also shorter or narrower. Brazil and Bolivia, particularly common on the Amazon.
- inaurata*. **B. inaurata** Sulz. (= *eryx* Roem., *jovis* Btlr.) (42 c) is similar, larger, the anal angle of the hindwing in the ♂ roundish; basal half of the forewing of a lustrous bluish-green instead of brassy golden, the hemochrome band of the forewing above broader than beneath (in *eryx* just the contrary). Mexico and Central America. — In the form *rezia* Drc. (42 c) from Colombia the red band of the forewing is broader and extends farther down, on the under surface down to the proximal angle. Common.
- ochriplaga*. **B. ochriplaga** Hmps. (42 c). The small band of the forewing is narrower and orange-yellow, the basal part of the forewing less lustrous. On the Amazon River everywhere; near Para, Ega, Humayta etc. The figured specimen from South Brazil.
- lydia*. **B. lydia** Drc. (42 c). Body with golden red spots and bands. Forewing at the base little metallic with small dull bluish-grey spots at the cell-end. Colombia. Apparently rare.
- mygdon*. **B. mygdon** Drc. (42 b). Forewing above without any transverse band at all, but the whole basal part of a bright golden lustre, crossed by black veins. Beneath the small red transverse band is visible. Colombia. — In *marthae* Rothsch. from Sa. Martha in Colombia the small band beneath slightly shows through above.
- aplaga*. **B. aplaga** Hmps. (42 b) is similar to *mygdon*, above entirely without the small transverse band appearing also beneath merely as a faint red trace. Forewing in the basal half with a coppery lustre. Ecuador, Paramba; the figured specimen taken by R. HAENSCH in July.
- alpha*. **B. alpha** Drc. (42 c) entirely recalls *Syntomids* from the genus *Cyanopepla* together with which it also flies, particularly from the affinities of *C. cinctipennis* (22 g) or *quadricolor* (22 f), but it is easily recognizable by the whitish apical spot of the forewing. From the volcan de Chiriqui in Costa Rica.

3. Genus: **Diospage** Wkr.

Very closely allied to the preceding genus, but in the hindwing the subcostal vein, which is feeble or absent in *Belemnia*, is strong, and vein 5 being absent there is present here. The structure is usually somewhat more slender, and the anal angle of the hindwing is not pointedly extended as in *Bel. eryx dubia*.

- chrysobasis*. **D. chrysobasis** Hmps. (42 d). Forewings as in *Bel. inaurata*, but the hindwings broadly bordered with a purple red. Colombia, Bolivia and Peru.
- semimarginata*. **D. semimarginata** Rothsch. Forewings similar to those of the preceding; hindwings thinly bordered with pink, before the middle of the border a narrow, purple, longitudinal spot. Paramba (Ecuador). 2 ♂♂ in the Tring Museum.
- splendens*. **D. splendens** Drc. (42 d). The small band of the forewing is narrow and of a dull pink, an antemarginal, broad red band on the hindwing is crossed by the black veins. Bolivia, Peru.
- cleasa*. **D. cleasa** Drc. (42 c). Above quite black, only the bases of abdomen and of hindwings with a metallic golden green lustre. Beneath there is behind the middle of the forewing a broad, bent transverse band, in the hindwing the whole distal half is hemochrome, and besides the venter, too. Colombia to Ecuador.
- steinbachi*. **D. steinbachi** Rothsch. (42 d). Forewing in the basal third bronze-green, in the cell an indistinct red spot, a postcellular light red band from veins 4 to 9. Hindwing black with a metallic lustrous base. Beneath in the disc of all the wings irregular hemochrome spots. Bolivia.
- violitincta*. **D. violitincta** Rothsch. (42 d). Black, the proximal half of the forewing coppery golden, crossed by the black veins, quite similarly to the *Belemnia aplaga* (42 b). Beneath the wings are in the basal halves metallic blue. Cauca Valley, May to July.

* The form represented by HUEBNER in his „Sammlg. Exot. Schmett.“ as *gemmans eryx*, was recently separated from it under the name of *dubia* Ky.

D. engelkei *Rothsch.* (42 c). Above velvety black with a golden green base of the hindwing, the forewing *engelkei*. towards the margin velvety brown. Beneath all the wings have green golden bases and a postcellular, golden green, small transverse band. From Ecuador.

D. rhebus *Cr.* (42 d). Both wings with a bluish-green lustrous basal half, beyond the middle of the *rhebus*. forewing 2 parted, small white spots. Upper Amazon; São Paulo de Olivença. Ega, Fonteboa etc.

D. carilla *Schs.* (= *eerilla Strd.*). Very similar to a *Belemniastis troetschi* (42 e): body with a metallic *carilla*. golden green lustre, also on the basal parts of the velvety black wings; beyond the middle of the forewing a broad, ochreous-yellow transverse band. Carillo in Costa Rica.

4. Genus: **Belemniastis** *Hmps.*

Hampson established this genus for 3 species allied to the preceding, but distinguished from *Belemnia* by the 2nd subcostal vein rising from the same place with the footstalk of the 3rd to 5th, but running separated from the latter, whereas in *Belemnia* the branches 2 to 5 rise on a common pedicle. The butterflies seem to be considerably rarer than the *Belemnia*.

B. troetschi *Drc.* (42 e). Forewing with a broad orange oblique band before the apical third; in the *troetschi*. ♂ this band is dark orange, in the ♀ orange-yellow. Costa Rica, Panama.

B. whiteleyi *Drc.* (42 d) is larger than the preceding. Forewing with a bronze-golden basal part and *whiteleyi*. a white postcellular oblique band, hindwing beginning from the base radiantly blue. Guiana and Amazon.

B. attidates *Drc.* (42 e). Forewings with 2 purple oblique bands, otherwise similar to the preceding. *attidates*. Colombia. A striking resemblance in the shape, colouring and marking exists between this Arctiid and the Syntomid *Napata splendida* (21 a) flying in the same country.

5. Genus: **Metaxanthia** *Hmps.*

This genus, like the preceding, shows homochromatic mutual relations with the Syntomids which the insects also resemble in the habitus, but by the completer neuration in the hindwing they are to be placed here. Palpi long with a distinct terminal joint, bent up before the forehead; proboscis long; on the forewing the 2nd to 5th subcostal veins are petioled, whereas the 1st rises rather far before the end of the long cell. On the hindwing the discocellular is doubly angled.

M. vespiformis *Drc.* (42 e). Body black, beginning from the 4th ring yellowish-red, abdominal end *vespiformis*. yellow. The wings are diaphanous, of a smoky dullness, the veins black. Colombia and Amazon as far as Peru. Apparently not common. In the light falling from the side on the wings, they show, particularly the hindwings, a magnificent Nile-green reflection. It has an extraordinary resemblance to the Syntomids *Osmocneme braccata* *Draudt* (29 d) and *Ixylasia pyroproctis* *Drc.* (29 d), also to certain *Gymnelia*, mostly species together with which the *Metaxanthia* fly.

M. threnodes *Drc.* (42 e). Smaller, body black, only the chest and abdominal end bone-coloured. *threnodes*. Forewings sooty black, the distal third hyaline, as well as the hindwings with jet-black veins. Hindwings hyaline, towards the apex smoky. Captured by A. H. FASSL on the Rio Songo. It strongly recalls certain Syntomids from the affinities of the *Pseudomyia*.

6. Genus: **Stenophaea** *Hmps.*

Shape and size of the preceding genus, but palpi with entirely stunted terminal joints; the 2nd subcostal vein of the forewing is not petioled with the others, but rises before the cell-end, and the discocellular which was angled there (on the hindwing even doubly angled), is here but slightly curved in. 2 similar species, both of which extend from Mexico to Honduras.

S. pollinia *Bsd.* (42 e). Brown, collar and abdomen red. Forewing with a yellow costal stripe, hindwing *pollinia*. with a transparent basal part.

S. salatis *Bsd.* (42 e) resembles the preceding, but the abdomen is black, forewing without the *salatis*. yellow costal-marginal stripe.

7. Genus: **Glaucostola** *Hmps.*

Owing to its exterior resemblance with *Leucopsumis* the only species on which HAMPSON founded this genus was described as such. In the habitus it resembles also certain *Agryta* (e. g. *pandemia* 24 b) and in the open air it is probably scarcely discernible from other *Syntomidae*, such as *Cyanopepla glaucopoides* (23 b), *Ixylasia schausi* (22 b), *Mydromera isthmia* (23 i), where it flies together with them. Proboscis strong, the

palpi being bent up before the forehead have a long middle joint, but a stunted terminal joint; the antennae in the ♂ rather long-combed. In the submedian fold the ♂ shows an oblong scent-spot below the middle of the cell on the forewing beneath; this spot is covered by a lobular indentation of the costal part of the hindwing, by which formation the species approximates the *Neritos* from which, however, HAMPSON separates it far, owing to the different subcostal system of the forewings.

- guttipalpis*. **G. guttipalpis** Wkr. (= *romula* Drc.) (42 f). Body grey with an orange-yellow head and ventral end. Forewing grey with a white oblique oval, hindwing black with a white, somewhat diaphanous, wedge-shaped spot from the base. — In ab. *underwoodi* Rothsch. (42 f) the white spot of the forewing above is shaded with the ground-colour and shows but faintly through from beneath. — Costa Rica and Brazil; both forms fly together on the Orosi.
- flavida*. **G. flavida** Schs. Thorax and forewings greyish-brown; behind the head somewhat yellow. At the base of the proximal margin a dark yellow streak; at the cell-end a dark yellow oblique shade. Abdomen and hindwings dark yellow. Beneath the forewings are tinted yellow. Expanse of wings: 37 mm. From French Guiana.
- metaxantha*. **G. metaxantha** Schs. (42 f). Head orange with a black vertical dot. Palpi and legs brownish-grey; collar orange with small black spots. Thorax blackish-patagia inside bordered with yellow. Abdomen orange, before its end a black transverse band. Forewings dark brown, on the costa, in the cell and above the proximal margin pale streaks, as well as above vein 2. Behind the cell a white oblique band from the subcostal to vein 3, near the margin. At the base, below the cell a long, pointed, white spot. Hindwing at the base and proximal margin yellow, distal part from the middle of the costa and from behind the anal angle black. Expanse of wings: 34 mm. Costa Rica. The species has a remote resemblance with certain *Automolis* (*marginata*-group).
- binotata*. **G. binotata** Schs. resembles *metaxantha*; the black-veined, grey forewing has below the cell a faded spot, behind the cell a large, whitish spot; hindwing at the base yellow, in the marginal area black. Abdomen yellow with a black dorsal stripe and end. 26 mm. British Guiana.

8. Genus: **Haemanota** Hmps.

A small butterfly with unicolorously dark wings and red thorax. Proboscis strong, palpi long, obliquely bent up with a very long middle and short, conical terminal joint. The hindwing is without vein 5; on the forewing the cell is very long, the discocellular almost forms a right angle. No areola.

- cubana*. **H. cubana** Rothsch. (43 b) is blackish-brown, thorax as well as the base of the forewing earmine. Guiana and Cuba. (According to STRAND this form, not lying before us, is identical with *Neritos sanguidorsia* from Guiana, having been described by SCHAUS.)
- rubriceps*. **H. rubriceps** Hmps. (43 b) is quite similar, somewhat larger, the wings broader, more dark slate-coloured, and the metathorax is not red, but dark blackish-brown like the abdomen. From South Brazil.

9. Genus: **Tessellota** Hmps.

To this genus belong 4 similar species apparently confined to the southern parts of South America; they are rather small, insignificantly coloured animals. Proboscis and palpi are stunted, antennae in the ♂ combed, in the ♀ almost plain. Forewing with a very long cell. Abdomen brightly coloured, with 3 rows of dots.

- sertata*. **T. sertata** Berg (= *apiola* Drc.) (42 f). The most common species. Bone-coloured, the forewing decorated with distinct, small brown circles and with a brown, irregular wedge-shaped spot beginning before the distal third at the costal margin and extending across the middle of the wing, gradually widening, to the proximal margin. Abdomen above orange with median and lateral rows of dots, beneath white. South Brazil, Uruguay and Argentina; the figured specimen I took at Buenos Ayres on a lantern in February.
- trifasciata*. **T. trifasciata** Burm. (42 f). Instead of the brown cuneiform spot, 3 irregular, pale brown bands cross the forewing. Argentina.
- cancellata*. **T. cancellata** Burm. greatly resembles the preceding in the colouring, but only one band, straight through the middle of the wing, is developed. Brownish spotting at the base of the costa and in the middle of the margin. Size of the preceding. Argentina.
- apostata*. **T. apostata** Schs. from Castro in the Brazilian State of Paraná, presumably scarcely belongs to this genus, for the proboscis being developed in the other *Tessellota* is stunted, and on the forewing the veins 8 and 9 are fused. Black; 2 spots on the hindhead, collar, the last abdominal ring and dull spots on the preceding ones orange. Legs and the antennae with long, double combs are black. Forewings semi-diaphanous black, thinly sealed, tinted brownish. Hindwings black, almost opaque. 29 mm.

10. Genus: **Baritius** Wkr.

In its new arrangement founded by HAMPSON the genus is likely to comprise a very great number of species, most of which are probably yet to be discovered in the tropics of South America. In 1901 only 6 species were known; at the outbreak of the war, which terminates our literary knowledge of them their numbers known to us had trebled. The exterior of the single species is derived from other groups of night-butterflies flying together with the *Baritius*, so that they partly resemble certain *Halisidota* (subgen. typ. *Baritius*), partly *Eucereum* (subgen. *Pseudeucereon* Mschlr.), partly also *Syntomidae* from the genus *Autochloris* (subgen. *Thysanoprymna*); the latter sometimes to such an extent that certain species were described as *Syntomidae* (*B. superba* as *Aclytia* etc.). — Proboscis developed, antennae doubly combed; on the forewing the 1st subcostal vein rises far before the cell-end, it then detaches the 2nd, and the 3rd is petioled with the 4th and 5th. The upper radial comes from the upper cell-angle, the middle and last radials rise from the same place, the lower cell-angle. Also on the hindwing the subcostal vein rises before the transverse vein. In spite of the conformity in this somewhat uncommon neuration, it is presumably a mixed genus; some species have a hair-lock at the base of the posterior femora, and the palpi bent up, others are without this hair-tuft and the palpi are porrect, sometimes the transverse vein of the forewing is straight, sometimes strongly angled etc.

A. Forewings blackish, abdomen of a more or less bright red.

B. pyrrhopyga Wkr. (42 f). Body jet-black, the abdominal end scarlet, in the ♂ besides a yellow *pyrrhopyga* anal tuft. Forewing sooty black, behind the cell and at the base of the wing more pronounced; hindwing hyaline, except the broad black border, sooty dark and with black veins. Brazil.

B. haemorrhoides Schs. (42 f) greatly resembles the preceding, but the red colour at the abdominal *haemorrhoides* end is more extensive, the blackish forewings reflecting somewhat violet exhibit beside the basal third a median transverse jet-black band greatly widening in the middle, and the apex of the forewing is likewise jet-black. Costa Rica.

B. roseocincta sp. nov. (42 g) from Colombia (Villavicencio) has all the abdominal rings banded *roseocincta* purple pink, but these purple bands are covered with black hair in the basal half of the abdomen. The black border of the hindwing is narrower than in the preceding, in the middle of the distal margin the hyaline spot approaches almost to the border.

B. superba Schs. (42 g). The bright deep red abdominal ring only narrowly bordered with black; *superba* border of hindwing broad black. The blackish-brown forewing does not show in the typical form any dark transverse bands, but a dark longitudinal ray on the median, dark oblique diffuse patches from there to the proximal margin, and a dark diffuse spot before the apex. Mexico and the adjoining parts of Central America, not rare. — **B. cepiana** Drc. from Venezuela is marked and coloured like *superba*, but the marking of the forewing *cepiana* is like in *morio* arranged in 3 transverse bands.

B. morio sp. nov. (42 g) is larger than the preceding; the forewing with 3 narrow, black transverse *morio* bands (the distal one interrupted); on the hindwing the hyaline spot in the ♂ is much smaller, in the ♀ it is quite absent; abdomen with narrow, dark red bands. Costa Rica.

B. drucei Rothsch. Forewing dirty blackish-grey, in the disc somewhat transparent. Hindwings *drucei* lighter; abdomen blackish, the posterior part and sides slightly banded pink. Caracas. (Size not mentioned.)

B. peculiaris Rothsch. In the ♂ the legs, head and thorax are black, abdomen black, posteriorly *peculiaris* outside carmine, last ring golden yellow. Venter at the base of abdomen red. Forewings hyaline, at the cell-apex a black streak; base, costa, veins, apex and border as well as the proximal margin black. Hindwings diaphanous hyaline, veins as well as margins black; at the anal angle a black spot. Expanse about 36 mm. Unknown to me.

B. Forewings yellow to ochreous-brown, abdomen yellow or rosy.

B. marmorea Schs. (42 g). The basal and costal parts of the forewing as well as the head and collar *marmorea* honey-coloured, the rest of the forewing speckled red is of a dirty greyish-brown, powdered white. The basal third as well as the cell are defined by a dark transverse band. Before the border of the forewing a white line, and white discoloration above the proximal margin. Abdomen and hindwings pale yellowish-pink. From Costa Rica to South Brazil (Rio Grande do Sul) and Bolivia (Rio Songo), but mostly not common.

B. discalis Wkr. (42 g) is larger than *marmorea*, the honey-coloured forewing with 9 red-brown *discalis* dentate lines, between which darker yellow transverse bands change off with more lemon-coloured ones with darker yellow pupils. Abdomen dark rosy-red, hindwings of a deep flesh-colour. Recalls some *Halisidota*-species. South Brazil (Rio).

B. brunnea Hmps. is much smaller than the preceding, the expanse only 32 mm; forewing dull brown; *brunnea* abdomen dark brown, at the end and sides yellow. Dark bands before the middle of the forewing, in the middle

from the cell to the proximal margin, behind the middle an irregular band, besides a cell-end spot. On the hindwing the submedian fold is tinged orange. Brazil, from the Amazon to South Brazil.

eleuthera. **B. eleuthera** Stoll (42 h). Size and shape of the preceding, of a paler yellow, the forewing strewn with brown atoms and whitish crescents, the latter bordered darker and intermixed with roundish spots. Before the middle an indistinct, dark transverse band forking towards the costa. Abdomen and hindwing with a dull rosy-red tinge. From Surinam to Bolivia; apparently wide-spread, but not common.

eleutheroi-
des. **B. eleutheroides** Rothsch. Expanse: 25 (♂) to 30 (♀) mm; similar to *eleuthera*, but the wings much narrower, all the brown markings wider, more irregular, the lines bordering on the markings not so distinct. Surinam to Peru.

flavescens. **B. flavescens** Rothsch. (42 h) is rather small, pale sulphurous yellow, with very irregular brown markings and between them some white guttiform spots encircled dark. Hindwing pale yellow, only in the inner-marginal half with a faint reddish-tinge. Abdomen above tinted yellowish-red. Described according to 1 ♂ from Fonte Boa on the Amazon.

affinis. **B. affinis** Rothsch. likewise from Fonte Boa, resembles *flavescens*, but the forewing with a net of fine brown markings, 3 dark brown costal spots and an interrupted, brown, antemedian transverse band; there are also brown spots above the proximal margin, before the apex and behind the middle; abdomen of a bright rosy-red.

schausi. **B. schausi** Rothsch. is the most closely allied to *marmorea* (42 g); on the forewing the ground-colour is a dull violettish-brown, crossed by numerous, irregular rows of yellow, red-centred rings. Hindwings pale and somewhat diaphanous yellowish-pink, abdomen pink. From Trinidad through Venezuela and Colombia to the Amazon.

sannionis. **B. sannionis** Rothsch. from the Upper Amazon has golden yellow head and tegulae, the latter with a black centre; palpi carmine, outside bordered with brown. Patagia and thorax brown, speckled carmine and yellow. Abdomen carmine, the last segment golden yellow. Forewing red-brown, faintly strewn with yellow; base yellow with 2 carmine dots; hereafter a transverse band of carmine spots bordered with yellow. Discal and postdiscal area with 3 or 4 irregular macular bands bordered with yellow; in the dark marginal line a series of small, carmine dots. Hindwings transparent rosy, washed over with golden yellowish. Expanse scarcely more than 20 mm.

venata. **B. venata** Rothsch. Head and thorax buff with paler and red spots. Abdomen dirty brick-red. Forewings buff, all the veins marked with a broad light brick-red. Basal half of forewing irregularly spotted dark brown and dotted black; a postmedian, dark brown transverse line. At the border and before it rows of small dark internerval spots. Hindwings rosy-red. Expanse of wings: 32 mm. Surinam. — This species structurally deviates more from the other *Baritius*, for which reason HAMPSON established the genus *Haemaphlebia* for it. — To this belongs also

strigata. **B. strigata** Jones (43 b). Size about that of *marmorea* (42 g); the forewings buff with numerous red transverse bands and lines, as well as small spots in the marginal area; the hindwing in the costal half ochreous yellowish, in the anal half pale pink. From Santos in South Brazil.

11. Genus: **Syntaretia** Hmps.

Hereto belong but few, similar species distributed from the Amazon to the north as far as Surinam, Venezuela, and Trinidad. In their exterior they somewhat recall a small *Halisidota* and show a plain, pale yellow or brownish colouring with a fine undulate marking on the forewing. Antennae, proboscis and palpi as in *Baritius* from which they chiefly differ by the narrower cells of all the wings, particularly of the forewings, and by the absence of the subcostal vein of the hindwing. In the latter respect they resemble the *Tricypha*, but these deviate from them and all the other Arctiids by the entirely distorted system of the subcostal veins on the male forewings.

oenone. **S. oenone** Btlr. (42 h). Right across the pale-yellow, rather pointed forewing extends a number of mostly paired, reddish-yellow streaks, between which there are subcostally some irregular dots. From Venezuela and Guiana through South America as far as Brazil and Ecuador.

fasciata. **S. fasciata** Rothsch. (42 h) from Fonte Boa on the Amazon resembles *oenone* in size and shape, but it has across the pale yellow forewing broad, greyish-brown transverse bands.

russus. **S. russus** Rothsch. has light brown head, thorax and forewings, the latter crossed by numerous brown, partly irregular zig-zag lines. Before and through the middle extends one broader zig-zag band each. Size and shape like the following. Unknown to me; patria not stated.

S. testacea *Mschlr.* (43 b) is almost exactly like *oenone*, but the transverse lines are not so regular, *testacea*, frequently interrupted and more entangled. Surinam and Trinidad as far as the Amazon.

12. Genus: **Tricypha** *Hmps.*

The few species known of this genus are at once recognizable by the ♂ forewings being quite uncommonly widened. The cell forms a broad wedge, the costal margin is thereby uncommonly curved, the apex rounded off. In this broadly extended wing the 3rd subcostal vein immediately after having left the upper cell-angle turns downward and terminates into the upper radial, or rather forms it, directly before the border. In the ♀ the venation of the forewing is similar to that of *Baritius*, except the lower radial and upper median having a short footstalk. The distortion of the ♂ forewing produced by this course of the vein makes the wing appear plaited in the living imago; the apical area forms a vesicularly raised surface and the distal margin is slightly drawn in below the somewhat projecting apical part.

T. imperialis *Heyl.* (= *anomala* *Drc.*) (42 i). Dark sooty brown in and behind the cell, as well as *imperialis*, in the submedian fold in the ♂ semi-diaphanous, longitudinal, diffuse spots. Abdomen beneath orange. From Mexico to Brazil and Bolivia, but apparently nowhere common.

T. furcata *Mschlr.* (= *anomala* *Btlr.* nec *Drc.*) is very similar to the preceding, but somewhat smaller *furcata*, and the abdomen beneath not orange, but greyish-brown. Guiana and Amazon.

T. nigrescens *Rothsch.* (42 i) is somewhat larger than the preceding, coloured the same, but with *nigrescens*, a red transverse spot at the vertex and a yolk-coloured apex of the abdomen. Paraguay.

13. Genus: **Hypocrisias** *Hmps.*

These butterflies, with an almost Noctuid-like habitus, are not properly inserted here and are also placed to the end of the whole group of genera in HAMPSON'S Catalogue, before the Philippine Arctiid (neither fitting to its surroundings) *Heliozona lianga*, the female type of which we have figured in Vol. X, t. 19 a. The most closely allied to the *Hypocrisias* are the *Halisidota*, by which name most have been described. — Proboscis developed, palpi with an entirely stunted terminal joint, ♂ antennae rather long-combed, the 2nd subcostal vein of the forewing rises directly behind the rise of the 1st, before the upper cell-angle, the discocellulars only slightly curved in. Medium-sized, pale yellowish-grey butterflies marked greyish-brown.

H. punctata *Drc.* (= *minima* *Drc.* nec *Neum.*) (42 i). A very common Mexican butterfly, often *punctata*, captured by the lantern. Pale yellow with 4 brown transverse bands on the forewing: before, in and behind the middle and at the border; before the latter small round rings with light centres. Abdomen above blackish. Occurs also in Central America.

H. minima *Neum.* (= *armillata* *H.-Edw.*, *agelia* *Drc.*) (42 i) entirely resembles *punctata*, but the *minima*, brown bands of the forewing flow together in the discal area to a large spot; the hindwing at the margin less darkened. Mexico; proceeds to the north as far as the United States and was taken in July in Arizona.

H. gemella *Schs.* (= *emella* *Strd.*) likewise resembles *punctata*. Head and neck cinnamon-brown, *gemella*, abdomen brownish buff, so are the forewings with brown transverse lines; a dark brown antemedian shade, indented at the basal part. At the costa a spot in the middle, one at the cell-end; a light buff postmedian spot is bordered with brown. An antemarginal row of spots partly replaced by a brown dot; veins, a marginal line and fringes brown. Hindwings white, tinged brown, veins and marginal line brown. 38 mm. Costa Rica.

H. fuscipennis *Burm.* (42 i). Shape and size of a *Halisidota*; thorax and forewings greyish-brown, *fuscipennis*, shoulder-covers with a thick, dark dot, subcostal area of the forewing and basal part of the hindwing bone-coloured, abdomen orange; from Argentina.

H. jonesi *Schs.* (42 k) greatly resembles the preceding, but the whole proximal area of the forewing *jonesi*, is bone-coloured, and in the brownish-grey distal area there are bone-coloured spots. Hindwings quite bone-coloured. From Paraná.

H. lisoma *Dyar* (42 k) resembles the preceding, of a dirty yellowish-white, shaded rather dark brown. *lisoma*. On the forewing the brown shading is badly defined, the marginal area rather narrow, interrupted by an undulate band of the ground-colour. Discal spot reniform, encircled by brown, but not very prominent. Hindwing with an antemarginal nebulous band. Mexico.

H. berthula *Dyar* (42 k) is larger than *minima* *Neum.* which it otherwise resembles, but the light *berthula*, antemarginal band is much narrower than there, not the whole base of the forewing is yellow, but only a sub-basal yellow band; hindwing with a discoidal spot. Tehuacan in Mexico; discovered by ROBERT MÜLLER.

14. Genus: **Tessellarectia**.

Medium-sized butterflies, allied to the preceding, with pale, yellowish grey or brownish wings and a bright red or orange-yellow abdomen spotted transversely above. Proboscis well developed; palpi rising, but very short, the middle joint being shortened, the terminal joint stunted and almost entirely vanished. No accessory cell; the 2nd subcostal vein rises separately from the upper cell-wall, before the cell-end. 3 species are known being confined to South Brazil and all rare; a 4th species, from the Upper Amazon, deviates structurally to such an extent that HAMPSON established a new genus — *Pydnaodes* — for it. In this species also the abdomen is unicolorously brown, not yellow or red with black transverse bands as in the genuine *Tessellarectia*.

- cinerascens*. **T. cinerascens** Wkr. (43 b) is rather similar to *Hypocrisias jonesi*, but the abdomen is above marked black, and in the distal area of the forewing the bone-white colour almost entirely displaces the brown ground-colour. Hindwing except a light costal-marginal spot quite dark brown. South Brazil.
- semivaria*. **T. semivaria** Wkr. is smaller and has light, netted brown spots only in the basal part of the forewing at the middle of the costa and round the apex; the abdomen is above purple. South Brazil.
- ursina*. **T. ursina** Schs. has almost quite brown wings, only at the base, at the costa and cell-end, and before the border of the forewing there are small bone-white or reddish-yellow spots; abdomen in the ♂ above scarlet with black transverse spots. South Brazil.
- distincta*. **T. distincta** Roths. (43 b), the only northern species, from Fonte Boa on the Amazon, shows yellowish brick-coloured forewings; above the proximal margin a dark brown, half oval light buff longitudinal spot; the distal $\frac{3}{4}$ of the proximal margin broadly leather-white. Along the border a whitish leather-coloured line. A subapical dark brown spot touches an irregular oblique band and connects it almost with the spot above the proximal margin. This band is on both sides bordered by an interrupted white line. Hindwings dull orange-brown, with irregular dirty-brown bands and spots. Abdomen brown. HAMPSON establishes a genus of its own for this single species: *Pydnaodes*.

15. Genus: **Ochrodota** Hmps.

Distinguished by the considerably broader wings, by the longer middle palpal joint and the subcostal vein of the hindwing rising from the middle of the upper cell-wall. The species, all of which, except one, were described only in the last decade, are very much alike.

- pronapides*. **O. pronapides** Drc. (43 a) is entirely marked like the *Tessellarectia*, earth-brown clouds on the forewing alternating with bone-white, netted brown patches. The brown colouring in the middle of the forewing is proximally defined by a line extending from the middle of the costa in a slight curve to the submedian fold and from there to the base of the wing. Abdomen yolk-coloured; hindwings brown, in some places light yellowish.
- major*. From Guiana through the Amazon District to Ecuador. — **major** Roths. is a large ♀ from the Volcan de Chiriqui.
- marina*. **O. marina** Schs. Forehead light brown, vertex whitish, tegulae and patagia white, bordered with brown; thorax posteriorly dark brown, abdomen yellow with black lateral spots and a black subdorsal spot at the end. Forewings dark brown, the darkest along the proximal margin, in the middle before vein 2 and behind the cell; base, the median space above the submedian, the cell next to its end and the costal margin at the cell-end whitish with reddish-brown rings and irregular lines. Apical part above vein 6 also whitish with similar lines. Hindwings yellow, border black, narrower at the anal angle as well as at the apex. Under surface similar, paler. Expanse of wings: 33 mm. From the Sixola-River.
- similis*. **O. similis** Roths. Like *pronapides* (43 a), but the tegulae are brown like the patagia, the forehead not white, but dirty yellowish-brown, the pale basal area of the forewing is brown with 12 white spots (not whitish, speckled brown), and in the cell and at the costa there are 2 large white spots; the whitish apical spot, speckled brown, is absent, too; instead of it there is a small whitish spot $\frac{1}{4}$ before the apex at the costa. In the ♂ the white spots are smaller and the hindwings are darker. Upper Amazon.
- affinis*. **O. affinis** Roths. Likewise allied to *pronapides* (43 a); wings and body unicolorously smoky brown; the white areas at the base and before the apex only indicated by a white dot near the base and some buff subapical spots. Size of the preceding. Upper Amazon.
- funbris*. **O. funbris** Roths. (43 a). Dark sepia-brown, the forewings marked darker, the hindwings of a deeper black. At the base and before the apex of the forewing a fine white dot. Peru.
- brunnescens*. **O. brunnescens** Roths. Dark brown; recognizable by the white base of the hindwing. Forewing with a buff basal third in which there are reddish-yellow rings and spots; a buff spot marked reddish near the apex. Hindwings whitish yellowish-grey. Surinam and Upper Amazon.

O. atra *Rothsch.* Blackish-brown, thorax marked orange; forewing with a buff basal quarter and *atra*, buff subapical spot, both spotted reddish-yellow. Size of *pronapides*. Peru.

O. tessellata *Rothsch.* Size of *pronapides* (43 a); thorax lighter brown; in the forewing the basal *tessellata*, third is pale buff with reddish rings; it is defined by a broad, red-brown transverse band; rest of wing lavender-grey, near the apex a buff spot encircled by red-brown and striated reddish. Hindwings buff, margined dark brown. In the ♀ the speckling of the forewing is more whitish and more distinct. Upper Amazon and Peru.

16. Genus: **Carathis** *Grt.*

The 8 species forming this genus are very much alike, and their type of colouring strongly recalls that of most of the *Ochrodota*: over a pale yellow, dull ground-colour intense dark clouds are so profusely spread that they have almost entirely displaced this ground-colour on the forewing except small remainders at the apex, base and costal margin. Proboscis well developed; palpi bent up, but only very short, not reaching the forehead. ♂ antennae rather strong, doubly combed, more than half the length of the costa; thorax and basal part of abdomen densely and woolly haired. The venation of the forewing is just like in *Baritius*, but on the hindwing the subcostal despatches its branch behind the cell-end, not before it.

C. palpalis *Wkr.* (42 k) is the largest species. Thorax dark wood-coloured, marked bone-white *palpalis*, on the collar and shoulders. Forewing deep dark brown, the basal area, a crescentiform excision of the marginal area, a large oviform spot in the middle of the costa and minute spots at the middle of the proximal margin bone-white; at the base, and at the middle of the costa brick-red embedments; hindwings and abdomen dark yellowish-brown. From Jamaica.

C. byblis *Schs.* (42 k) from Mexico to South Brazil is very similar, but the brick-red embedments *byblis*, are absent. Abdomen above black, laterally orange, beneath greyish-yellow. Abdomen sooty black.

C. affinis *Rothsch.* (42 k) differs from *byblis* almost only by the abdomen being laterally and posteriorly *affinis*, coloured red, and by the bone-white spotting extending from the costa of the forewing in a bow to the white yellow basal area. Peru.

C. gortynoides *Grt.* from Cuba is almost exactly like *affinis*, but the marginal area is more narrowly *gortynoides*, spotted white, and the abdomen is laterally dull light brown.

C. ockendeni *Rothsch.* (42 k) has an entirely unspotted, brown median area, posteriorly red abdomen *ockendeni*, and dull hyaline hindwings. Caraboya.

C. australis *Rothsch.* on the contrary shows the chocolate-brown colour reduced to about $\frac{3}{4}$ of the *australis*, surface of the forewing, wedge-shaped, being narrowest at the proximal margin. Expanse of wings: 42 mm. Hindwings greyish hyaline. South Brazil.

C. klagesi *Rothsch.* from the Upper Amazon, has a pale buff thorax with a chocolate-coloured median *klagesi*, line; abdomen also light buff, posteriorly darker. Forewing covered with a whitish yellow, with a net of chocolate-brown lines, from the costa through the apical $\frac{2}{5}$ of the cell to the proximal angle; a broad, chocolate-brown band extends obliquely to the costa towards a narrower, irregular band. Smaller than *australis*.

C. peropaca *sp. nov.* (43 a) is quite dark, the forewings deep brown, the hindwings sooty black. *peropaca*. Only at the bases of the wings yet traces of small light spots. Also the abdomen is above quite blackened except the end showing orange-yellow colouring. Captured by FASSL on the Upper Rio Negro in Colombia.

17. Genus: **Neozatrephes** *Dr.*

The only butterfly belonging hereto is immediately recognizable by the very peculiarly distorted net of veins of the ♂ forewing. The cell is quite small, narrow and irregularly shaped by the discocellulars, the lowest of which extends almost in the prolongation of the median. The first subcostal vein rises soon after the cell-end, the 3rd, 4th and 5th branch off with a common footstalk before the transverse vein, and this footstalk is angled in such a way that its rise forms the continuation of the upper discocellular. The radials, therefore, appear to rise at the lower cell-wall and are uncommonly long. Otherwise the insect makes the general impression of a moderately large *Pachydota* or *Halisidota*.

N. telesilla *Dr.* (43 b). Head and thorax orange and brown, abdomen orange. Wings thinly scaled, *telesilla*, semi-transparent orange with rows of dark red dots; 6 rather broad bands with irregularly undulate margins are brown; the distal one exhibits a silvery white line. Hindwings hyaline yellow. Sarayacu (Ecuador).

18. Genus: **Nezula** Schs.

Here the ♂ forewings also show a distorted neuration; the upper median runs in the continuation of the discocellular; at its mouth it approaches the anal angle so very much that it reaches the border almost at the ingress of the lower median vein, thus creating an almost closed cell between the two median veins. The only species is a small, insignificant, greyish-brown animal with very narrow, pointed forewings, with a long distal margin, and small, almost circular hindwings.

grisea. **N. grisea** Schs. (43 b) is greyish-brown, with an orange-yellow head; hindwings slightly tinted bluish with a diaphanous stripe below the cell. Venezuela; Guiana.

19. Genus: **Dialeucias** Hmps.

Entirely resembles the preceding in the shape. Also the venation of the hindwing corresponds with that of *Hyperthaema*, on the forewing, however, the lower radial rises separately from the lower cell-end, whereas in *Hyperthaema* vein 4 and 5 are petioled. Two pale greyish red-brown species belong here.

pallidistriata. **D. pallidistriata** Hmps. Only the ♂ is known. Pale brown. Palpi orange with a black apex. Abdomen above dark brown, anus and venter yellow. Forewing somewhat reddish-brown; veins, cell and submedian fold with prominent light streaks; from the costa behind the middle, towards the middle of the proximal margin and towards the border above the anal angle, there extend faint traces of dull shades. Expanse of wings: 34 mm. Upper Amazon.

violascens. **D. violascens** Schs. has the head, thorax and forewings violettish-brown, abdomen and hindwings blackish-grey. The abdomen is beneath buff; on the forewing a median and a postmedian dark shade. 31 mm. Described according to one ♀ from French Guiana.

20. Genus: **Hyperthaema**.

Beautifully coloured butterflies with a strong proboscis and stout palpi bent up before the forehead. In the forewing the 2 first subcostal veins rise separately before the cell-end, the 3 others have a common pedicle. The antennae are doubly combed in both sexes. Except *albipuncta* the species differ very little from each other.

sanguineata. **H. sanguineata** Wkr. (= *cardinalis* Stgr., *orbicularis* Maass.) (43 c). Forewing of a beautiful dark red with 2 silvery white spots encircled dark. Hindwing blackish-brown with a whitish, somewhat diaphanous centre and base. Colombia to Peru and Bolivia. — **haemacta** Schs. (43 c) from Costa Rica is smaller and has much smaller white dots of the forewing, and the hindwing is quite sooty dark except 2 narrow light basal rays. Transitions to this latter form are before me from Huancabamba and (in FASSI's collection) from the Upper Rio Negro.

coccinata. **H. coccinata** Schs. Size of *haemacta* (43 c), similarly coloured, the distal white spot larger; the hindwing shows a white base and another white spot behind the cell. French Guiana; the type is in the American National Museum at Washington.

hoffmannsi. **H. hoffmannsi** Rothsch. Here only the basal third of the forewing is purple brown, the rest of the wing greyish-brown with purple veins. In the basal area there is a large, silvery white spot encircled by black extending to the proximal margin and sending a tooth distally; a second, smaller, silvery white spot at the cell-end. Hindwings blackish-grey; in the ♂ almost the whole disc, in the ♀ only the base is hyaline. 30 mm. Amazon, Rio Madeira.

ruberrima. **H. ruberrima** Schs. From French Guiana, established by SCHAU S; the type is in the National Museum at Washington. Somewhat smaller than *sanguineata*, the basal white spot round, at the base of the subcostal a black dot. There is no material difference from *sanguineata* stated.

albipuncta. **H. albipuncta** Schs. (43 c). Considerably smaller and with broader wings, almost like a ♀ of the following genus. Forewing yellowish red-brown, densely and finely striated. The two white spots of the preceding species are here very much reduced, the one at the cell-end to a minute, white-centred dot, the one in the median fold to a very small spot accompanied by accessory dots. Hindwings dark greyish-brown; abdomen dark pink. South Brazil.

21. Genus: **Stenucha** Hmps.

This genus was founded upon a damaged specimen of a small, quite dark brown species, which appears to be very rare, since it did not occur to me in the large collections from Mexico, which I saw. Palpi and proboscis are almost entirely stunted; in the forewing the 2nd subcostal vein is petioled with the 3rd, and the 4th with the 5th. The footstalk of the former bifurcation rises shortly before the upper cell-angle, that of the latter bifurcation at the upper cell-angle.

From the *Paracles* it differs by the transverse vein of the hindwing not being angled, before the middle of which the upper radial branches off. The forehead shows a dense, twisted hair-tuft.

C. dolens *Drc.* (43 a) is quite unicolorously blackish-brown, the body as well as the wings. But the *dolens*, only specimen known, being the type in STAUDINGER's Collection in the Berlin Museum, is without the abdomen. The hindwings show a dull bluish reflection. Mexico. — According to HAMPSON, the species is identical with *Hypomolis minca* *Schs.* and has been twice described by DYAR as *Zamolis noctella* and as *Ardanikta melas*, thus being distributed into 4 genera founded upon differences in the venation!

22. Genus: **Aemilia** *Ky.*

Proboscis strong, palpi showing upwards with a long basal and middle joint and stunted terminal joint. ♂ antennae doubly combed. Forewing without an accessory cell. On the hindwing the upper median is petioled with the last radial vein. The venation of the forewing is identical with that of *Carathis*, that of the hindwing only deviates by the subcostal vein, so that the butterflies were sometimes inserted in this genus, sometimes in another. About a dozen forms are known; in contrast with most of the common *Melese*, some *Aemilia* are decidedly rare.

A. roseata *Wkr.* (= *cinnamomea* *Bsd.*, *sanguivenosa* *Neum.*) (43 c) has a bright burning red thorax *roseata*, and forewing with a number of white discal spots arranged in groups, and a chain of light premarginal spots. Hindwings white, abdomen above purple red with darker shades. — In the form **significans** *H. Edw.* the discal *significans*, spots are more disorderly and partly confluent. From New Mexico and California to Colombia.

A. occidentalis *French* from Colorado shows the red of the forewing replaced by ochreous-yellow *occidentalis*, and the forewings so much darkened that the species bears a similitude to *Carathis peropaca* (43 a).

A. rubriplaga *Wkr.* (43 c). Dark brown, head and collar bone-white; on the forewing the basal half *rubriplaga*, and a large distal-marginal spot are likewise bone-white, netted dark brown; hindwings in the ♂ hyaline, in the ♀ smoky grey, towards the base rosey-red, like the abdomen. The colouring of this species is widely distributed in South America and is found in numerous Arctiids of various genera, such as *Hypocrisis minima* (42i), *Ochrodota pronapides* (43 a), *Carathis palpalis* (42 k), *Tesselota sertata* (42 f), in some *Halisidota* etc. From Venezuela and Colombia to Ecuador and Peru.

A. brunneipars *Hmps.* (44 l). Head, thorax and abdomen very dark brown, the head with a yellow *brunnei-* vertical dot. Forewing ochreous brown, densely striated dark brown, costa and proximal margin, except the *pars*, base, brown; marginal area obliquely from the apex to the lower cell-angle and from there to beyond the middle of the proximal margin dark brown; an elliptic discoidal spot dark brown; hindwings whitish, tinted brown, towards the margin darkened by brown. Also this scheme of markings recurs in certain *Opharus* and other South American genera. Size like the preceding species. Peru.

A. melanchra *Schs.* (44 l) is unknown to me in nature. Body dark brown; small white spots at the *melanchra*, vertex and base of abdomen. Forewings dark brown, striated still darker; a large patch at the cell-end, the border broadly from vein 7, and the proximal margin narrowly violettish-black. Hindwing dirty white with shaded brown margins. 38 mm. From Carabaya in Peru.

A. pagana *Schs.* (43 d) is a somewhat smaller species, the wings like in *melanchra* quite dark brown, *pagana*, but at the proximal margin of the forewing and base of the hindwing there is besides yellowish hairing; the thorax, however, shows orange-yellow stripes along the margins of the tegulae, and the abdomen is laterally orange-yellow. From Castro in Paraná (Brazil).

A. asignata *Hmps.* (43 d). Both wings quite sooty brown, only the hindwings more thinly scaled; *asignata*, thorax and abdomen marked yellow; the species is more slenderly built than the preceding. South Brazil.

A. testudo *Hmps.* (43 d). Considerably smaller, darker, the ♂ almost quite black, except a light costal- *testudo*, marginal spot before the apex and sometimes besides with a faint yellowish-brown brightening at the middle of the costa. The median as far as behind the cell-end yellowish. Peru and Bolivia.

A. chelyum *sp. nov.* (43 d) looks almost exactly like a very large *testudo*; but the hindwings are not *chelyum*, hyaline, but rather uniformly blackened sooty; the sulphur-coloured blurred patch at the end of the costal margin in the forewing extends to the apex, the one in the middle of the costal margin is larger, the whitish-grey colouring of the venter extends on the sides farther up towards the dorsum. From the Rio Songo in Bolivia and the Upper Rio Negro in Colombia.

- crassa*. **A. crassa** Wkr. (43 d) greatly resembles the preceding species, but the costal margin of the forewing is straighter, less convex, all the wings much more pointed, assuming more the shape of *Automolis*. Thorax at the sides and posteriorly of a bright orange-yellow, only in the middle brown; the costal spot at the apex of the wing forms a regular ellipse, the forewing shows a slight yellowish-red tint, the hindwing is not black, but hyaline. From Colombia to Peru.
- mincosa*. **A. mincosa** Drc. (= *mineosa* Rothsch.) (43 d). Size of *crassa*, lighter, the whole costal margin broadly, the median and submedian narrowly light yellow, the space between the latter somewhat hyaline. Hindwing hyaline, except the yellow margins; abdominal base rosy-red. Colombia to Peru.
- suffusa*. **A. suffusa** Jones (45 i) has the size and shape of *mincosa*, but the yellow costal stripe is absent, and before the border there are in the spaces between the veins blackish-brown sagittiform spots. Paraná in Brazil.
- fassli*. **A. fassli** Dgn. (45 h) is similar, pale ochreous-yellow, tinted orange, through the cell a dark longitudinal ray emanating at the border into an apical spot. Discovered by FASSL on the Quindiu.
- ambigua*. **A. ambigua** Stretch (= *bolteri* H. Edw., *spraeosiae* Drc.) (43 e). Margins and all the veins of the forewing scaled purple-brown, the spaces between diaphanous; abdomen purple-pink. From Colorado through Mexico as far as Central America, mostly rare.
- stuarti*. **A. stuarti** Rothsch. (45 h). Forewings doe-coloured, along the costa and median a blackish, longitudinal diffuse spot. Hindwing yellowish, with a hyaline disc; abdomen yolk-coloured. From the Lower Amazon.
- castanea*. **A. castanea** Jocey. Thorax and forewing chocolate-brown, the forewing with bone-coloured dots and small spots, hindwing blackish-brown with semi-diaphanous lighter parts in, behind and below the cell. Abdomen blackish-brown, at the dorsal base red-brown, on the sides rosy with dark lateral dots. Smaller than *stuarti*. Ecuador.

23. Genus: **Cissura** Wkr.

The genus in the distribution of colours somewhat recalls the Lithosiinae-genus *Hypoprepia* (33 i). The short palpi have an entirely stunted terminal joint; the antennae are also in the ♂ almost plain, i. e. with very short combs, whereby the genus can be easily distinguished from the preceding. On the wings the discocellular is neither angled nor bent in, but it obliquely closes the very short cell. Only 3 species are known.

- decora*. **C. decorata** Wkr. (= *parallela* Fldr.) (43 e). Forewings leaden-grey, with red margins and crossed by 2 red longitudinal streaks from the base towards the apex. Abdomen purple-red, hindwings brown. South Brazil, rare.
- plumbea*. **C. plumbea** Hmps. (= *decorata* Drc. n. Wkr.) (43 e) resembles *decorata*, the proximal margin and costa of the forewing is not red, but the two longitudinal stripes of the forewing are united in the apex. Besides the thorax is above marked brown. Peru.
- unilineata*. **C. unilineata** Dogn. (43 c). Forewings quite vermilion, only the narrow borders and a narrow longitudinal stripe not reaching the apex are greyish-black. Venter and abdominal end blackish. Bolivia and Ecuador.

24. Genus: **Melese** Wkr.

This genus, which consisted of but 10 species known at the beginning of this century, comprises 4 times as many to-day. In spite of the distinct difference in the course of the veins, I take the genus to be closely allied to the following, since certain differences in the venation can be traced back to secondary alterations in the shape of the wings. Beside a ♂ spot in most of the *Melese*-species the distal-marginal area of the forewing is bent round downward in such a way as we have not seen in any other genus of butterflies. This inverted border is above often harmoniously coloured with the under surface on which it lies. Antennae like in *Bertholdia* in the ♂ extremely short-combed, almost brush-shaped; palpi like there; the upper median vein of the forewing comes with the two lower radials from the lower cell-angle. Little is known of the larvae, but they seem to exhibit the usual Arctiid shape, uniform, tuft-like hairing on regularly arranged tubercles, in contrast with the torous, brush-like and pencil-like formations of the *Automolis*, *Eupseudosoma*, *Halisidota* etc. The butterflies are preponderantly coloured red, seem to prefer hiding in day-time, but are fond of coming to the lantern; many species are common in Tropical America, but in the north none reaches the United States, nor is the south of the Argentine Republic and Chile inhabited by any *Melese*. — The inverted forewing producing an entire alteration of the shape of the butterfly by being spread out, we reproduce of some species two male figures, the first with an inverted distal-marginal part, while on the second it is smoothly spread out.

M. peruviana *Rothsch.* (43 e, f). Recognizable by the very large yellow costal spot behind the cell-end and the intensely golden yellow distal marginal band of the forewing, which in the ♂, however, merges for the most part into the inverted part of the wing. Ground-colour of the forewing a bright violettish-red, intermixed with orange-red. Peru.

M. russata *H. Edw.* The ♀ shows a small white guttiform spot behind the cell-end of the forewing instead of the yellow costal spot, and the yellow at the border of the forewing is entirely absent; from Mexico. The ♂ is not described, but it presumably corresponds with the ♂ published by LORD ROTHSCILD as **drucei** (43 f), from Guiana and Peru, from the ♀ of which the *russata*-♀ is scarcely to be separated; the only difference consists in the small white spot behind the cell-end reaching yet the costa in *russata*, in *drucei*, however, not. — **monima** *Schs.* likewise greatly approximates the ♀ of *russata*, but the white spot of the forewing is still smaller. — **hebetis** *Rothsch.* (43 f) is a ♂ form in which the otherwise beautifully ruddle-red ground-colour of the forewing is bleached to a dirty yellowish-brown, the pink of the hindwing being replaced by a monotonous white. — The ♂ seems always to have a broad yellow distal margin of the forewing. The total species is also distributed over Colombia and Ecuador and apparently common in some places.

A. signata *Joicey* is somewhat larger than *russata*, forewings red-brown, tinted grey; from the base there extends below the costa a narrow purple stripe gradually passing over to the costa itself; on the median near the base a purple dot, on the wing besides other faded purple undulate markings and extinct red spots. Hindwings purple-pink, the middle whitish hyaline. In the ♂ the red spots of the forewing are brighter. Peru.

M. punctata *Rothsch.* (44 c). Antennae strongly combed. Head and thorax lavender-grey, washed over with an intense pink; abdomen light pink. Forewing light brown, before the last quarter of the wing a double yellow costal spot encircled by red; in the cell and disc 6 scarlet dots pupilled yellow, one between the inner-marginal vein and inner-margin. 22 mm. Ecuador. — **sixola** *Schs.* (43 h) is a larger form found in Costa Rica, but still in the south as far as Bolivia; here the inversion of the forewing in the ♂ is conspicuously lighter yellow; it has mostly scanty punctiform spots on the forewings. — In ab. **frater** *Schs.* also the spot between veins 5 and 6 is absent, only the spot between 2 and 3 being yet present.

M. nebulosa *Joicey* from Peru, is allied to *punctata* (44 c), but it has more greyish-brown forewings speckled pale pink in the disc; below the middle of the cell a yellow and red spot, an orange dot in the cell and a yellow stripe above the base of the proximal margin. Around them there are small, yellow-centred rings often touching each other; hindwings purple with yellow fringes.

M. laodamia *Drc.* (♀ = *cutheans* *Drc.*) (43 f). In this species distributed from Mexico to Venezuela and Colombia the yellow on the forewing of the ♂ is so much increased that it outweighs the red-brown ground-colour, and there are specimens before me, in which the yellow costal band extends behind the cell along as far as into the broad yellow distal-marginal band, which, however, is not always so distinct as in the figured example (from Misantla). In the ♀ the small costal band is moderately large, the yellow distal margin proximally dentate.

M. amastris *Drc.* (43 g). In the ♂ the extensively inverted distal-marginal part of the forewing shows no more yellow at all. The very bright ruddle-red forewing spotted miniate in the basal half often shows only behind the transverse vein a minute vitreous dot which is sometimes only the size of the prick of a needle and often quite absent. In the ♀ the small postmedian costal band is broad and hyaline, at the border only the fringes are in some places yellow. From Mexico to Peru and Brazil; not rare.

M. costimacula *Joicey*. A very large species of which, however, only the ♂ is known, from Choco in Colombia. Red-brown, with a violettish-grey hue over it, below the costal margin a purple stripe and below this an oblique, conical orange spot. In the cell and above the proximal margin small, feebler purple-spots, at the cell-end a yellow-centred purple ring. From the middle of the border to the apex an orange-yellow marginal band. Hindwings diaphanous white, tinted pink.

M. pusilla *Rothsch.* (44 c) is one of the smallest species with a darkened brownish thorax, whereas the head, collar and abdomen are coloured bright purple pink. Forewing particularly in the basal half bright purple pink; this half being separated from the marginal area by a brownish-violet chain of confluent spots, behind which there is a light dot before the middle of the margin. Hindwings uniformly purple pink, beneath whitish, tinted pink. Guiana and Upper Amazon.

M. columbiana *Rothsch.* (44 c) is established upon a single ♀ from Bogotá. Head and thorax greyish-brown, abdomen pink. Forewing yellowish greyish-brown, from the costa to vein 8 some darker shades round the cell; before the apical quarter of the wing a white hyaline streak, and behind the basal quarter of the forewing a white dot on the submedian; the forewing itself is indented above and below the apex; at the indentations the fringes are pink. Hindwings purple pink.

M. cruenta *Sepp* (= *binotata* *Wkr.*) (43 h). This is the largest *Melese* known; the ♀ attains an expanse of almost 50 mm. No distinct postcellular vitreous spot. The forewings are of a bright orange-red, densely suffused and watered with ruddle-red, so that only below the cell and in the basal area there remain miniate and orange-red spots. The hindwings are white in the ♂, beautifully pink in the ♀. — The larva

is black with blue tubercles exhibiting black bristles. Head black, marked orange. From Panama through South America to Paraguay and Peru. Apparently everywhere rare.

- underwoodi*. **M. underwoodi** *Rothsch.* is almost exactly like *cruenta*, but the forewing quite unicolorously red-brown, without the light discal spot, the marginal part in the ♀ (the ♂ is not described) almost unnoticeably lighter, the hindwings diaphanous whitish, faintly tinted pink, with almost red-ochreous margins. Described according to 1 ♀ in the Tring Museum. Costa Rica.
- dorothea*. **M. dorothea** *Stoll* (= *leucostigma* *Sepp*) (44 c) is but slightly smaller than *cruenta*, the forewing dull violettish-grey, in and below the cell spotted crimson-pink, at the same place as in *cruenta* there is a dull yellow (♀) or whitish (♂) hyaline spot. In the ♂ besides the inverted marginal part of the forewing is bright reddish-yellow. — Larva iron-grey, across the dorsum darker with a blackish-grey head and blue tubercles bearing straddling hair-tufts. It changes in an oviform web intermixed with hairs into a lustrous red-brown, oval pupa. Guiana, apparently rather rare.
- aprepia*. **M. aprepia** *Dgn.* (= *inconspicua* *Rothsch.*) (43 k, as *inconspicua*). Very much smaller than the preceding, on the greyish-red forewing a number of darker ring-spots: 2 basal ones, 2 antemedian ones, 1 cell-spot, 1 oblique spot below the median, 5 more behind the cell in the interspaces of veins 3 to 8. Hindwings pale ochreous-yellow. Guiana and Upper Amazon.
- chozeba*. **M. chozeba** *Dre.* (= *intensa* *Rothsch.*) (43 g). The fiery ruddle-red forewing of the ♂ has dark shades, particularly across the posterior part of the cell and before the distal margin, at the inverted place. The forewing usually also shows behind the cell traces of minute light spots which, however, vary extraordinarily. The species is distributed from Costa Rica to the south as far as Rio Grande do Sul in the east and Peru in the west. On the Volcano Irazu in Costa Rica the most common female form is a form with entirely unmarked forewings tinted violettish-brown; beside this form there also occur specimens with a distinct postcellular hyaline spot in both sexes, which I denominate **sesamus** *form. nov.* (43 g) and which are usually larger than typical *chozeba*.
- paranensis*. **M. paranensis** *Dgn.* (45 h) is easily recognizable by the angular apex of the ♂ hindwing. Forewings light brown; the base of the proximal margin is strewn with yellow and from the middle of the proximal margin there extends a ruddle-red stripe obliquely into the wing. A postmedian yellow spot is bordered with red. 38 mm. On the Upper Paraná.
- flavimaculata*. **M. flavimaculata** *Dgn.* (43 h). The yellowish-red forewing is at the costa darkened greyish, its distal part shaded with violettish-green, so that there remains only at the border a row of fiery-red internerval spots. In the middle of the cell, before the middle of the submedian space and before the apex golden yellow spots encircled by red. Ecuador.
- ocellata*. **M. ocellata** *Hmps.* (43 h) is smaller than the preceding, the forewing shaded with violettish-brown at the costal margin, border and proximal margin, so that there only remain irregular clouds composed of spots marked yellow and red, situate from the apex to the base of the proximal margin. Minas Geraes in Brazil.
- hampsoni*. **M. hampsoni** *Rothsch.* (43 h) is still smaller, one of the smallest *Melese* at any rate, with an expanse of only 25 mm; thorax and forewing entirely reddish-grey, only above the middle of the proximal margin a lobular spot coloured red and yellow; in and behind the cell of the forewing dark dots. Guiana and Amazon to Peru.
- leucanioides*. **M. leucanioides** *H.-Schäff.* (43 i). Very small, the greyish-red forewings in and behind the cell with some dark punctiform shades which are only faintly indicated in the ♀. Hindwings pink, in the ♂ hyaline except the margins. Colombia. — **erythrastis** *Dgn.* only seems to be a little larger, the forewing of a light greyish-brown, washed over with red except the middle of the proximal margin. Hindwing pink with a diaphanous centre. — **silvicola** *form. nov.* (43 i) is the form from the lowlands of Villavieencio in Colombia, somewhat larger, the forewing more uniformly and duller coloured with a dull dark nebulous band right through the forewing. — Guiana.
- innocua*. **M. innocua** *Dgn.* (44 c) is founded upon a single ♂ captured by A. H. FASSL near Cali in Colombia at an altitude of 2000 m. Presumably allied to the preceding, though larger, with yellowish-brown forewing being particularly in the basal part decorated with yellow spots marked with orange.
- quadrina*. **M. quadrina** *Schs.* (43 i) is larger than *leucanioides* which it otherwise greatly resembles, recognizable by one of the small black nebulous spots being in the middle of the cell and being larger and somewhat square. Before the last third of the forewing there are 3 white punctiform spots proceeding from the costa and forming a straight line. Costa Rica and Colombia.
- sordida*. **M. sordida** *Rothsch.* The ♂ is coloured almost like *quadrina*, but the characteristic spot in the middle of the cell and the 3 spots as small as the pricks of a needle below the costa are absent. The ♀ recalls *russata* or *drucei* (43 f), but the distal white punctiform spot is removed nearer to the apex, and another small white spot is situate near the base above the submedian. Peru.

M. incerta Wkr. (= *blanda* Dr., *surdus* Rothsch.) (43 k) is marked similarly to a *leucanioides* (43 i), *incerta*, and likewise with a somewhat straightly cut, though not inverted border of the forewing in the ♂. The colour, however, is not greyish-red, but fiery brick-red, the hindwing, particularly in the anal part, of a brighter purple. From Panama and the Island of Trinidad through Colombia and Venezuela to Espiritu Santo, Peru and Bolivia.

M. pumila Dgn. (44 c) is like a small *incerta* (43 k), with an expanse of only 19 mm. Forewings greyish-red, costal margin and fringes pink; near the base on the median a very small dot; hindwings yellowish, distally faintly tinged pink. French Guiana. *pumila*.

M. flavipuncta Rothsch. (43 i) approximates *pumila*, but it is larger; also in the ♀ there is a larger *flavipuncta*, yellow spot encircled by a dark colour on the submedian, near the base; the distal margin of the forewing is straightly cut off, the apex therefore very pointed. From Trinidad, Colombia and Surinam to South Brazil and Bolivia.

M. quadripunctata Rothsch. (43 k as *quadripuncta*) is like the preceding, larger; beside the small *quadripunctata*, yellowish submedian spot there are yet 4 reddish-yellow punctiform spots encircled by a dark colour on the disc of the forewing. Peru.

M. rubricata Dgn. (44 c) is immediately recognizable by the very bright red colouring of the fore- *rubricata*, and hindwings. In the disc of the forewing a group of about 10 to 12 small blackish punctiform spots. From French Guiana.

M. asana Drc. (43 k). The ♂ is at once recognizable by 3 small postmedian hyaline dots situate at *asana*, the costa like large pricks of a needle, below each other, but not exactly in a straight line as in *quadrina* (43 i), but in such a way that the middle one extends a little farther towards the margin. The ♀ may be similar to the ♂, though larger, paler, more unicolorous. Usually, however, it has a small hyaline-white band situate at $\frac{3}{4}$ of the costa, which is at the costa narrow, downward broader, or also somewhat crescentiform, running rather equally broad. The latter form is *albogrisea* Rothsch. South Brazil to Paraguay. — **petropolidis** *albogrisea*, *petropolidis*, Strd. from South Brazil is somewhat larger, above the proximal margin larger yellow spots.

M. postica Wkr. is like *asana* (43 k), but the forewing with smaller costal spots, and from the cell- *postica*, end to the proximal margin extends a dark nebulous streak. From Guiana and Venezuela to the Amazon and Peru.

M. castrena Schs. (45 i) is also like *asana* (43 k), slightly smaller, but the ♂ antennae are very finely *castrena*, serrate. On the yellowish-brown forewing a black cell-dot and one at the cell-end, near the base small purple-red rings on a buff ground, similar ones before the apex. Castro in Paraná (Brazil).

M. nigromaculata (44 c) Rothsch. Head and thorax light yellowish-brown, abdomen purple. Forewing *nigromaculata*, pale yellowish-brown, tinted with a bright red. At the cell-end a costal spot and a second spot below it; in the cell a black rectangle and a black dot near the base. On vein 3 a white spot and another one in the disc. Hindwings light pink. The border of the ♂ forewing is inverted as far as in *amastris*. Expanse of wings: 25 to 30 mm. Surinam to Central Brazil and Peru.

M. babosa Dgn. (43 k). The ♀ differs from the *asana*-♀ by the hindwing being grey instead of pink *babosa*, and by the irregular small costal band being several times shortly dentated on the forewing. The ♂ is unknown to me. South Brazil, Ecuador and Peru.

M. flavescens Joicey is somewhat larger than *babosa*; the forewings light red-brown, striated yellowish; *flavescens*, at the base of the proximal margin below the cell, before the middle and end of the cell somewhat yellow; the hindwings (in *babosa* blackish-grey) are here white, the inner-marginal area suffused with yellow; beneath they are white, tinted yellowish; the scent-spot on the forewing beneath brown. Misiones in Argentina.

M. klagesi Rothsch. (43 k) differs from *babosa* by the small, narrow, winding costal band and the *klagesi*, almost black hindwings. Surinam.

M. chiriquensis Schs. (43 k) differs from the two preceding by the shape of the small costal band *chiriquensis*, and by the hindwing being rosy-red in the basal half, sooty black in the distal half. Costa Rica and Panama.

25. Genus: **Bertholdia** Schs.

This genus contains about 20 very similar, extremely neat butterflies; there often occur transitions and all the species are characterized by a large vitreous spot extending from the middle of the costa almost to the apex, not reaching the border. The antennae are in both sexes bristly (in the ♂ with scarcely noticeable short cilia); palpi short, obtuse, bent upward. Proboscis strong; the ♂ with a small oval ♂ spot beneath at the base of the median fold; the venation like in the allied genera. The butterflies are mostly common, like to come to the light, but seem otherwise to live hidden. In the resting butterfly the thorax shows mesiodorsally a distinct median hair-quill.

- specularis.* **B. specularis** H.-Schäff. (43 l) is one of the largest species. The vitreous spot is strongly lobated towards the margin, surrounded by a distinct black, with a yellowish tone and only single vein-dots. From Mexico to Paraguay, nearly everywhere common. — **rufescens** Rothsch. are specimens from Peru, in which the grey colour of the forewings is more intensely toned red. — In the basal part of the forewing there are usually variable yellowish-red spots embedded.
- grisesens.* **B. grisesens** Rothsch. (43 l) is smaller, the forewings unicolorously slate-grey, the vitreous spot more white, but shaped as in **specularis**. But whilst the latter shows a variegated under surface of the forewing (a pink tinge in the basal area), the forewing is here grey beneath, with a small circumscribed red spot in the cell-end. Hindwings darkened grey (in *specularis* white). From Colombia to Paraguay and Peru.
- trigona.* **B. trigona** Grt. (43 l). Forewings above yellowish-red, the vitreous spot almost straightly cut off towards the apex. Hindwings purely white. Beneath almost the whole forewing is of a beautiful pinkish-red.
- steinbachi.* From Colorado and New Mexico to Costa Rica. — **steinbachi** Rothsch. (43 l) lying before me from Tucuman and Salta in N.W.-Argentina, has the forewings intensely tinged yellowish, and the vitreous spot is distally very feebly undulated. — Sometimes we find also in this species large yellowish-red spots embedded near the base of the forewing; this is ab. **rubromaculata** Rothsch. (43 m). — In **schausiana** Dyar (43 m) the vitreous spot has an obtuse tooth between veins 5 and 6, and the fringes of the forewings are speckled black. Mexico.
- rubromaculata.*
schausiana.
philoteria. **B. philoteria** Drc. (43 m) is the smallest species. Dorsum of abdomen posteriorly black, forewings wooden brown with a small, very lobate vitreous spot. Hindwings smoky grey, semi-diaphanous, with black margins. Under surface still darker than the upper surface. Costa Rica.
- semiumbrata.* **B. semiumbrata** sp. n. (43 m) is larger than the preceding, forewings lighter brown, hindwings uniformly smoky-grey. Abdomen above not black. Easily recognizable by the under surface, where the cell of the forewing is filled up with vermilion, whereas *philoteria* is beneath without any red except a hue on the proximal margin. 8 specimens (Coll. FASSL) in both sexes before me from Orosi, where it flies together with *philoteria*.
- braziliensis.* **B. braziliensis** Hmps. (= soror Dyar) (43 m). Forewings very similar to those of the preceding, though of a brighter red; hindwings white. South Brazil (Rio, Santos).
- myosticta.* **B. myosticta** Hmps. (= albipuncta Drc.) (43 m). One of the largest species, forewings dark violettish-brown. The vitreous spot begins already before the middle of the costa and exhibits a tooth mostly covered with numerous small dots, between the veins 4 and 5 on the forewing. Hindwings silky white, at the border coloured grey, proximal margin rosy. Beneath the forewings are blackish-grey with light veins and a red cell, the hindwing has a double longitudinal spot at the base. Abdomen above red, beneath white. Mexico to Brazil and Peru. — **crocea** Schs. (= aroana Strd.) (44 a) is larger, the inner-marginal half of the forewing more reddish-brown; the hindwings of a purer white, the proximal margin of a broader and brighter pink colour; beneath the base of the hindwing has only 1 instead of 2 black longitudinal streaks. — In **livida** form. nov. (44 a) the wings and abdomen above are almost entirely covered with yellow; also beneath the ground of the forewing is pale ochreous-yellow. From Lino in Panama; in Coll. FASSL. — **ockendeni** Rothsch. from Peru is almost like **crocea**, but the inner-marginal half of the forewing is of a bright yolk-colour and the abdominal end-black.
- livida.*
ockendeni. **B. fumida** Schs. (44 b) is only known to me from HAMPSON's figure copied here. Darker than **crocea** (44 a), particularly the dark smoky-grey ♀; the abdominal end with a subdorsal black spot. Forewing beneath quite dark smoky-grey, only in the ♂ traces of white above the proximal angle. Hindwing white with very little pink at the base of the proximal margin; the latter broadly suffused with smoky grey, in the ♀ also along the border dark smoky-grey. Costa Rica.
- fumida.* **B. flavidorsata** Hmps. (44 a) resembles the preceding species, particularly the vitreous spot is the same, but the forewings are more sepia-brown than reddish-or violettish-brown, and the abdomen and the proximal margin of the hindwing are yolk-coloured, the hindwings in the ♂ dark grey. Upper Amazon to Bolivia and Peru; not rare.
- flavidorsata.* **B. albipuncta** Schs. nec Drc. (44 a). Much smaller than the others, the hyaline spot is here particularly bright and shining, almost uniformly, parabolically bordered. The small white dot at the basal part of the median is often minute. Beneath not only the very bright hyaline spot of the forewing is opalescent, but also the surface of the hindwing shows an iridescent reflection. From Mexico through Central and South America to the south as far as Rio de Janeiro in the east and Ecuador in the west.
- albipuncta.* **B. detracta** sp. nov. (44 b) is by far the smallest species, the hyaline spot similar as in the preceding, but distally irregularly bordered. The under surface does not show any red; here the forewing is uniformly dark drab except the shining spot and a light patch above the proximal margin. There are several quite similar specimens before me from the Coll. FASSL, all from Muzo in Colombia.
- detracta.*

26. Genus: **Fasslia** Dogn.

This genus was established for a male butterfly unknown to me, captured by A. H. FASSL near Cali in Colombia in July. In HAMPSON's Catalogue of the „*Arctianae*“, however, the genus is not mentioned, so

that it appears doubtful whether it belongs to the Arctiids. It is characterized by bristly, erect palpi scarcely projecting beyond the head. Antennae with 1 pair of thick, short cilia at each joint. Posterior tibiae with a single pair of short spurs. Of the veins on the forewing 2 rises from the middle of the cell, 3 before the angle, 4 at equal distances from 3 and 5, 6 somewhat before the upper angle, 7 petioled with 8, 10 and 9; 11 separately. In the hindwing the anal part enlarged to a lobe ending into a point which exhibits some short bristles; vein 5 from 2; 3 and 4 are absent, 6 and 7 are fused.

P. hampsoni Dgn. „27 mm. Forewing above ochreous-yellow, crossed by a straight black line extending from the middle of the costa to the proximal margin just before the anal angle and ending in a black band which is narrow on the costal half, stronger at the rest of the border and widened in the apical region. Hindwing above black, the costal region as far as just in front of the apex, the central region as far as the marginal area and below vein 2 ochreous-yellow, the proximal margin of the lobe provided with long hairs, straw-coloured. Fringes black. Under surface of forewing like above, but the black transverse line proximally duller. Under surface of hindwing quite ochreous-yellow except some black at the base and a narrow black band at the apex and border. Fringes black; palpi, antennae, head and under surface of the body black with some white hairs on the head. Feet black; hips and inside of femora striped white; abdomen yellow. From Mount Socorro 3400 m.“ *hampsoni*.

27. Genus: **Robinsonia** Grt.

Shape and size very much like the *Bertholdia*, but the forewings still more pointed. The discocellular of the forewing not angled as it is there, but very oblique; in the hindwing vein 5 is absent. — Nearly all are white butterflies, their forewings often margined dark and crossed by similar bands, without any real shining parts. They are distributed from Mexico to South Brazil in a series of partly rather similar species. In day-time they are apparently never met with, but they like to come to the light. Many species are, moreover, rare.

a) Forewing broad with a round apex.

R. evanida Schs. (44 b). Wings almost quite monotonously snow-white, in the disc and submedian space of the forewing and in the disc of the hindwing hyaline patches, abdomen orange. Santiago de Cuba. This species has rather broad wings. *evanida*.

R. formula Grt. This species, likewise from Cuba, has also rather broad wings. The forewing is brown with a large, spindle-shaped, white spot below the cell, almost flowing together with a similar spot above the anal angle. From the apex a white oblique band extends towards a large white triangle beginning at the cell-end. Hindwing white with brownish fringes and a yellowish tinge at the anal angle. Rare. *formula*.

b) Forewing stretched with a sharper apex.

R. prophaea Dogn. (44 b). All white, with only very narrow, yolk-coloured costal margin of the forewing and yellowish abdomen. Peru. *prophaea*.

R. sabata Drc. (44 b) is much larger, white, the costal margin of the forewing and mesothorax dark brown. Middle of abdomen yolk-coloured with small white median spots. Honduras. *sabata*.

R. marginata Roths. (44 c) is almost like a large *prophaea*, but in the forewing beside the costa also the distal margin is narrowly yellow. Guiana. *marginata*.

R. flavicarpus Dogn. (44 d). One of the smallest species; white with an orange abdomen; on the forewing the costa is sooty brown, so is the distal margin; but this distal band emanates proximally in irregular teeth. Guiana, discovered by LE MOULT. *flavicarpus*.

R. dewitzi Gndl. (= *grotei* Schs.) (44 d) is very typically marked: forewing white with brown margins; a brown oblique band unites the middle of the costal margin with the marginal band at the anal angle. The butterfly is common, wide-spread, and varies somewhat. In Mexican specimens the distal white spot extends into the apex and the oblique band is slightly curved. Similar specimens are said to come from Cuba (= *dewitzi* Gndl.). Specimens from Merida in Venezuela are particularly large and have long and pointed forewings; we figure such a specimen. *dewitzi*.

R. punctata Roths. (44 d). Here the marginal band of the forewing is only yet dull and incoherent, and at the place where the oblique band flows into the brown at the anal angle, there appears another white spot. Abdomen posteriorly orange-red. Mexico; rare. *punctata*.

R. similis Roths. (44 d). In this species from Trinidad also the brown band vanishes at the proximal margin and anal angle. Thereby a superficial resemblance is produced in the colouring with that of *Turuptiana lacipea* (39 l). *similis*.

- deiopea*. **R. deiopea** Drc. (44 d). From Honduras, has yet the scheme of markings of *grotei*, but at the apex a part of the white is strangulated as a large apical spot.
- flavomarginata*. **R. flavomarginata** Drc. (44 d). Forewing with a broad brown costal-marginal stripe filled with orange. The distal half of the forewing is quite nut-brown, with a large, white oval spot behind the cell and smaller antemarginal spots. Hindwing with a broad brown margin interrupted in the submedian fold. Colombia.
- rockstonia*. **R. rockstonia** Schs. (44 e). Costal stripe of the forewing broad yolk-coloured, the margins of the forewing otherwise nut-brown, similar as in the preceding, but the oblique stripe from the cell-end to the distal margin only indicated by the brown veins. Hindwing without a brown marginal band. From Colombia to Guiana. In typical specimens (from Essequibo) the costal-marginal stripe of the forewing is more golden-yellow, the lower part of the cell filled up with a smoky brown, the marginal band of the forewing projecting proximally at the median veins, the apical spots smaller, more distinct and of a purer white than in the figured specimen from Villavicencio (Colombia, Coll. FASSL).
- lefaivreii*. **R. lefaivreii** Schs. (44 d). The yellow costal stripe of the forewing narrower, the whole cell of the forewing nut-brown, which colour is continued in the direction of the oblique transverse band occurring so often in the *Robinsonia*, as far as the middle of the disc. Hindwings preponderantly grey. Described from Rio de Janeiro, where, however, the species must be rare.
- irregularis*. **R. irregularis** Rothsch. (44 e) is quite similar, but the white of the disc of the forewing is narrower, the yellow costal stripe scarcely noticeable, the hindwings white. From Cuyabá (Matto Grosso).
- polyplagia*. **R. polyplagia** Schs. (44 e). Forewings yellowish-brown, traversed by dark veins and streaks between; 1 silvery white spot each is below the cell, behind it and above the anal angle; two smaller, oval ones at the apex. Hindwing white with a dirty brown inner-marginal shade. From Venezuela. — The form **transducens** *form. nov.* (44 e) shows a complete row of silvery white antemarginal rays; from Costa Rica; it thereby forms a transition to **multimaculata** Rothsch. (44 e) from Peru with a much larger silvery spot in the disc, a more steeply placed oblique band across the cell-end and a large silvery spot in the end-part of the cell of the forewing. — The species is apparently distributed over a great part of South America and the southern parts of South America, but everywhere rare.
- catasticta*. **R. catasticta** Hmps. (44 e) is much smaller than the preceding; the 2 apical spots are confluent to one, so that 3 silvery white spots of decreasing size follow each other from the base of the forewing to the apex; below the middle spot there are 2 more, a dot before the middle of the border as well as the base and proximal margin of the forewing and the whole hindwing are white. Peru.
- sanea*. **R. sanae** Drc. (44 e). Spots of forewings similarly arranged as in *catasticta*, but duller, very much enlarged and increased. Costa Rica to Colombia. Rare.
- banghaasi*. **R. banghaasi** Rothsch. (44 f) on the contrary shows the white spots reduced except very minute punctiform spots below and behind the cell as well as before the apex; otherwise the whole forewing and the apical part of the hindwing are dirty brown. From Matto Grosso.
- suffusa*. **R. suffusa** Rothsch. (44 f). In this form and the following the white spots of the forewing are not pure nor are they sharply defined from the dull brown ground of the wing, but the white colour is spread in long diffuse patches across the whole forewing except the proximal margin, costa and border. From Fonte Boa on the Upper Amazon.
- morula*. **R. morula** Drc. (44 f). In this species the white of the forewing is reduced to a blurred, longitudinal, diffuse patch extending from the base towards the apex; it is interrupted before the apical fourth; hindwings in some places darkened; abdomen above grey with a row of yellow dots. Peru and Bolivia.
- klagesi*. **R. klagesi** Rothsch. (44 f). Forewing nut-brown with a broad, white longitudinal stripe through the middle, somewhat bent downward, from the base almost to the apex. Hindwings white, abdomen yellow. Colombia and Venezuela.
- longimaculata*. **R. longimaculata** Schs. greatly resembles the following. The brown forewings with dark veins show a row of oblong, white, oval radiate spots from the apex to the lower median vein; in the submedian space there is a white stripe, thickened in the middle, from the base to the border above the anal angle. Abdomen brown with a golden-yellow dorsal stripe. Described from Joinville in Brazil.
- boliviana*. **R. boliviana** sp. n. (44 f) is very much like the preceding, but instead of the oblong white wedge-stripe filling up the whole submedian space of the forewing there is here a white oval below the middle of the cell and a minute white, darkened spot near the anal angle. The abdomen is above quite yellow with small, white dorsal dots. Rio Songo; discovered by FASSL; type in his collection.

28. Genus: **Prumala** Schs.

To this genus about 30 forms are reckoned, partly very much deviating from one another in the habitus. This is defected by some species showing distinct resemblances to species of other genera, for which reason

some have been described as *Automolis*, *Idalus*, *Eucyrtia*, *Elysia* etc. The fact that the *Prumala* resembling butterflies of other genera are no models, but imitations, is proved by the different *Prumala*-forms showing no transitions to one another, whereas their double images fit well to the casual genera in the marking and habitus, often only representing links of whole chains of similarly marked species. On the whole, the genus makes the impression of a very artificial one, out of which, however, some natural groups such as those of *P. optima*, *P. tessellata* etc. may be taken out, which, however, are not united with each other by connecting links. From the closely allied *Idalus* (with which some *Prumala* are more closely allied than with each other) they differ by the short bifurcation of the subcostal on the hindwing, which ends unforked into the margin in the *Idalus*, so that one of the radials is absent (being fused with the subcostal). The body is mostly cylindrical, sometimes clumsy, the wings without any particular deviations in the shape, sometimes more pointed, sometimes broader, the hindwings never so rudimentary as in some *Idalus*. The larvae are entirely unknown, presumably, however, not homogeneous; some are probably normal, uniformly haired bear-caterpillars, whereas others may perhaps exhibit the peculiar hair-dresses of the *Automolis*, *Halisidota* or *Eupseudosoma*. The imagines like to come to the light, but are otherwise rarely met with.

P. fogra Schs. (44 f) differs so little from the species described last of the preceding genus that it *fogra*. has been described as *Robinsonia*. Wings white, the margins of the forewing emitting from outside sooty brown, irregular spots or shades. Hindwing diaphanous white with a dark grey proximal margin. Abdomen orange, the basal part with a blackish-brown dorsum showing small white dorsal dots. Venezuela.

P. saturata Wkr. (= praetexta Fldr.) (44 g). The species shows the colouring of *Automolis*-species *saturata*. from the *metallica*- and *packardi*-group (50 e). Body yolk-coloured, head, mesothorax, 2nd ring and anal half of the abdomen black, in some parts with small sparkling blue spots. Forewing with a yellow band below the cell and a striated marginal part, hindwings eostally yellow, anally black. In the northern parts of South America, on the Amazon and in Colombia; apparently widely distributed, but not common.

P. ameoides Btlr. (44 g) resembles certain *Automolis* so much that it was described as such. Body *ameoides*. similarly coloured as in *saturata*, wings bright yellow, forewing with a brown border, proximal margin and oblique transverse band, hindwing with a brown distal margin. From Venezuela to Ecuador in some parts not rare, for instance near Merida in Venezuela and on Mount Tolima in Colombia.

P. flavoplagiata Roths. (44 g) copies the image of *Idalus flavoplagia* (45 e) or *Automolis persimilis flavoplagia* (51 h). Body yellow with a black, sparkling blue apex; forewing brown with a large, yolk-coloured costal triangle, hindwing brown, with yellow at the proximal margin. Colombia. *ta*.

P. griseipennis Roths. (44 g) resembles numerous *Phaegopterini* from the genus *Automolis*, particularly the more one-coloured specimens of *A. docis* Hbn. (51 f). Greyish-brown; a stripe-like, light patch separates the darker basal part of the forewing from the lighter, narrower marginal part. Abdomen above in the basal half red, in the anal half blackish-brown with sparkling blue scales. Beneath the middle of the venter and the cell of the hindwing of the ♂ are red. Colombian ♂♂ show besides above a bright patch in the cell of the forewing, which is apparently absent in specimens from the Amazon *). *griseipennis*.

P. tessellata Schs. (44 g). Fresh specimens are of a beautiful green, with large brown spots, the largest of which are on the costa; an antemarginal chain of small streak-spots. Hindwing dark brownish-grey, round the cell a light patch tinged yellowish-pink, in which there is a square particularly distinct beneath. From Costa Rica to Colombia; the figured specimen from Muzo. — **subtessellata** Roths. (44 g) is the form from Venezuela, with very bright sap-green forewings and unicolorous, black hindwings; instead of the chain of streaks before the margin of the forewing a row of dots. *tessellata*. *subtessellata*.

P. muscosa Schs. (44 h) which is before me only in a damaged specimen from the Volcano Irazu (Costa Rica, 1200 m, Coll. FASSL), has likewise green forewings, but instead of the large brown spots of the forewing in *tessellata*, there are here rows of black transverse streaks and sagittiform spots. Smaller than the preceding. *muscosa*.

P. herbosa Schs. (44 h). ♂ light green, on the forewing violettish-brown markings, i. e. some stripes in the disc standing rectangularly on each other, an oblique line thickened behind the cell-end and at the proximal margin, before the marginal part, a dot in the cell-end and an antemarginal row of dots. Hindwing quite pale and diaphanous whitish-green with a dark cloud near the anal angle; dorsum of abdomen red. Costa Rica. — **underwoodi** Roths. (44 h), likewise from Costa Rica, of which a great number of rather variable specimens are before me from Orosi, shows the brown markings thickened and partly filled up with green. — **foliosa** form. *foliosa*. *nov.* (44 h) from the Rio Songo in Bolivia has, on the contrary, the brown streaks thinner, and the antemarginal row of dots on the forewing has almost disappeared; above all, however, it differs by the dorsum of the abdomen being blackish-brown, not red. — The ♀♀ are of a much deeper green than the ♂♂ and exhibit only incoherent dots of the brown markings. The species seems to be rather common. *herbosa*.

* Judging from the figure (Novit. Zoolog. Vol. XVI., t. 6, fig. 7), since there are no specimens from the Amazon before me.

- alinda*. **P. alinda** Dyar (44 h). Whilst the preceding species approached some *Turuptiana*, we find in this species and the following ones resemblances to *Idalus* or *Antaxia*. — *alinda* has almost the same marking of the forewings as *herbosa underwoodi*, but on a bright yellow ground, and the hindwing is pink with an ante-marginal row of dull dots. Abdomen bright red. Mexico; discovered by ROBERT MÜLLER.
- tophocampoides*. **P. lophocampoides** Fldr. (= *ipsea* Drc., *fulminans* Rothsch., *tolimensis* Rothsch.) (44 h) has a similar marking in purple pink and brownish tints on a bright yellow ground, which, however, is besides starred with numerous pink dots being particularly abundant at the basal part and often confluent there. The species is distributed from Mexico to Peru and South Brazil and varies exceedingly, but judging from the material before me more individually than geographically; thus the brighter yellow specimens with darker markings (*fulminans*) both in Venezuela and Peru, the duller specimens (*ipsea*) both in Mexico and South Brazil. The species is in some places not rare.
- palmeri*. **P. palmeri** Rothsch. (44 i) from West Colombia, has yellow forewings with a large, purple-brown spot bordered with scarlet, in the proximal area, extending from the base to the proximal angle and the middle of the cell, and the distal margin of which is curved and sends a spur across vein 2; behind the middle of the proximal margin a spot, and small spots in the submedian fold. Also round the cell-end there are minute spots and a purple-brown luna before the apex. Hindwing pale yellow, the proximal half faintly tinted purple pink.
- maculicincta*. **P. maculicincta** Hmps. (44 i). Instead of being very bright yellow as in *lophocampoides*, the forewings are here dull honey-coloured with numerous grey spots encircled by brown, being arranged in about the same way as in the preceding species. Hindwing dark greyish-brown, towards the base darker grey; body dark yellowish-brown, head and collar lighter yellow. South Brazil, undoubtedly rare.
- jamaicensis*. **P. jamaicensis** Schs. Size and shape of the preceding, but the ground-colour of the forewings is red-brown towards the base tinted olive; the ring-spots are scarcer and some have whitish pupils; hindwings light purple, like the undersurface. Jamaica.
- indistincta*. **P. indistincta** Rothsch. (44 i). Smaller, forewings pale honey-coloured with very scarce, vanishing, brownish punctiform shades; hindwings white, with a very faint yellowish-pink tint. Known from Chiriqui (Costa Rica) and Paraguay, probably distributed through the whole of South America, but rare.
- sulphurea*. **P. sulphurea** Joicey is unknown to me. Somewhat larger than *indistincta* (44 i), thorax and forewings light greenish-yellow; a small dark spot near the base, below the cell a violettish-brown spot spread with purple and surrounded by brown; a similar spot in the middle of the cell; a row of brown, small rings filled up with violettish-grey before the marginal part, of which the spot on the submedian fold is larger; a similar row from near the cell-end to the submedian and 2 dark oblique spots separated by a purple streak from the apex; an antemarginal row of minute rings. Hindwings white, towards the proximal margin tinted pale red; abdomen white, tinted pale red-brown. Peru.
- suanus*. **P. suanus** Drc. (44 l) has the size of the preceding, but the forewings are of a bright yellow and have a white costal margin; the small spots are encircled by purple or violet and filled up with whitish, the oblique row before the distal quarter begins with a triangular costal spot before the apex and ends in the ♂ in a conical spot at the proximal margin; the hindwings are diaphanous white. Costa Rica, Colombia, Venezuela.
- aryllis*. **P. aryllis** Schs. (44 i) is the largest *Prumala* known; sulphurous yellow, in the distal half the forewing has jet-black vein-streaks; similar ones, bordered by white above, are situate above the proximal part of submedian and subcostal. — The butterfly by its marking greatly resembles quite a number of Arctiids common in South America, e. g. *Pachydota striata* Dgn., *nervosa* Fldr., *Ischnocampa nigrivena* Schs., from which, however, it differs by the veins and the shape of the wings, as well as by the dorsum of the abdomen being often black there, whilst in *aryllis* it is dull honey-coloured. Venezuela.
- albicollis*. **P. albicollis** Fldr. (44 i). Thorax and the basal $\frac{2}{3}$ of the forewing violettish-brown, the apical third light yellow with 4 subapical, alternately placed, dark punctiform spots. Collar conspicuously white, abdomen and hindwings purple-pink. From the Amazon.
- ochrida*. **P. ochrida** Schs. (44 i). Body brick-red with a yellow head and collar; forewings honey-coloured, but profusely covered with dark-brown and purple-brown clouds and bands. The wing is crossed by dark veins and between them there are purple-brown antemarginal dots. Fringes speckled. Hindwings yellow, in the anal half radiantly tinged pink. South Brazil.
- pyrostroma*. **P. pyrostroma** Dgn. (44 i). Thorax violettish-brown with a bone-white collar, head light with a red vertex. Forewings honey-coloured, costal and basal parts suffused with violet; at the cell-end a group of dark dots bordered with red, and through the submedian space there extend 3 violettish-brown transverse bars. Distal part of the forewing purely honey-coloured, below and in the apical part disperse brownish dots. Abdomen and hindwings purple. French Guiana.

P. optimus *Btlr.* (44 k). Thorax and forewings traversed by a violettish-brown network in such a way that there remain numerous honey-coloured cells pupilled scarlet. Abdomen darker, hindwings lighter rosy-red. In the typical form from the Amazon the network is rather uniform; only obliquely before the apex and above the proximal margin there extend somewhat thicker cords. — In **intensa** *Rothsch.* (44 k) these latter two cords are about 2 or 3 times as thick as in specimens from the Amazon; from Guiana. — In **similis** *Rothsch.* (44 k) the network is twisted somewhat differently, the intermediate threads more distinct, the hindwings lighter; Guiana and Amazon. — **attinis** *Rothsch.* (44 k) shows yet 2 dark clouds before and behind the middle of the costa; from Brazil and Peru, — and **ockendeni** *Rothsch.* (44 k) is the same, though larger; it shows besides brown marginal spotting below the apex and has whitish instead of purple-pink hindwings; from Peru. — It seems to me to be doubtful whether all these forms can be considered as species, as was assumed. The butterflies are in some places common.

P. hieroglyphica *Schs.* (44 k) is coloured like the preceding, but the net-work consists more of straight, brown lines cutting the dark veins, than of undulate or dentate bands; at the base of the proximal margin a large, oval, red spot. French Guiana. Known to me from the description and the figure in HAMPSON's Catalogue copied here.

P. ignipicta *Hmps.* (44 k). Thorax and forewings violettish-brown, collar as well as spots at the base and proximal margin reddish-yellow; hindwings light pink, abdomen purple-red. From the Tijuca near Rio de Janeiro, certainly very rare, as it has not been found there by many collectors.

P. nigranalis *Schs.* (44 k). Body quite yellowish-brown with a darker apex of the abdomen; forewings unicolorously chestnut-brown, hindwings light yellowish-brown. „South East Brazil“.

P. jalapa *Drc.* (44 l). Unicolorously ochreous-yellow with lighter hindwings (except the margins); in the ♀ the dorsum of the abdomen is posteriorly spotted reddish-yellow. Mexico.

30. Genus: **Idalus** *Wkr.*

Whilst the white *Robinsonia*, the red *Melese*, and the *Bertholdia* being decorated with a postmedian sparkling spot were very natural genera, in which there could at most only arise a doubt whether some were merely subgenera, we are opposed in this genus, in a similar way as in the *Prumala*, by a group exhibiting resemblances to several other genera, its species having been described sometimes as *Amaxia*, sometimes as *Automolis* by SCHAUS, LORD ROTHCHILD and others. We here also follow HAMPSON's disposition applied in his excellent Catalogue and having since been chiefly adhered to by the other authors (STRAND, DYAR). The genus, accordingly, comprises about 40 species, all of which are confined to Tropical America; no species reaches the United States; they preponderantly inhabit the hot parts of South America. The antennae may be doubly combed and also serrate dentate, and provided with ciliary tufts. The venation, as is often the case in the Arctiids, is little characteristic, particularly that of the hindwings varies rather considerably owing to the changes of its shape, scent-organs and distortions. The proboscis is always active, the head woolly haired, with short, erect palpi, the thorax densely haired like a fleece, the abdomen generally with glaring colours. On the forewing the anterior discocellular is entirely absent, the cell is of somewhat more than half the length of the costa and obliquely cut off; the 1st subcostal vein rises close before the cell-end; the venation of the hindwings is sometimes very much reduced by scent-organs. As to the larvae nothing has become known to me. The imagines mostly exhibit variegated, some even metallic colours, but they nevertheless seem to be decidedly nocturnal animals, since those that I chanced to observe, did not come to the light before 9 p. m. — The different groups of forms of the collective genus *Idalus* resemble in their habitus species of other genera, a fact often met with in the American region. Thus *tetrodonta* and *affinis* resemble *Amaxia pyga* (45 e); *agastus* and *agricus* the *Automolis critheis* and *herois* (49 k); *J. xanthia* resembles *Automolis orbona* (50 g), *J. neja* is like *Amaxia pardalis* (45 e), *J. flavoplaga* like *Automolis persimilis* (51 h) and with the latter like *Prumala flavoplagiata* (44 g), and some of these resemblances may be founded on real affinities. Thus *J. viridis* *Drc.* I consider to be nothing else but a form of *Chloroda rufoviridis* (39 i) with distally paler hindwings.

I. tetrodonta *Dgn.* (44 l). One of the largest and most beautiful *Idalus*. The purple-brown basal half of the forewing, bordered by red, is obliquely defined towards the yellow distal part decorated with fine nebulous dots and with a characteristic, centrally strangulated apical spot. Hindwing white, anal third pink. Thus an assortment of colours is produced, often recurring in Tropical America, as we find e. g. in *Neonerita syriassa* (45 h), *haemasticta*, *Epimolis zatrephica*, *Antaxia meridionalis* etc. Venezuela. — In the form **anodonta** *form. nov.* (44 l) from the Rio Songo in Bolivia the purple-violet basal area does not send any teeth into the yellow of the marginal half, the apical spot is more slender, the middle of the border of the hindwing sooty black, the under surface more yellow. A form very much like this is also before me from Colombia, from the Pacho.

- affinis*. **I. affinis** Rothsch. (45 a) entirely resembles the preceding, but the violettish-brown parts of the forewing are more compact: the apical spot is curved like a crescent, the hindwings of a pure white. Colombia, Peru. In Peruvian specimens the brown apical spot is more slender than in the figured specimen from the Pacho.
- rufobasalis*. **I. rufobasalis** Rothsch. (45 a). From the Upper Amazon: here the brown apical spot is absent; otherwise like *affinis*.
- catenata*. **I. catenata** Schs. (45 a). The large, purple-violet basal spot of the forewing is here so strongly intermixed with the yellow ground-colour that it is dispersed into single, small, brown clouds. Of the small, brown, punctiform spots in the yellow distal part of the forewing mostly the proximal one of those situate behind the transverse vein is larger and somewhat flown out. More to the south, Bolivia, South Brazil.
- neja*. **I. neja** Schs. (45 a) from Guiana. The whole forewing is intermixed with smaller and larger guttiform spots; hindwing dark sooty, in the anal part lighter.
- laurentia*. **I. laurentia** Schs. (45 a). The small spots are more uniformly distributed over the whole forewing, so that the colouring approaches that of *Phaeomolis lepida* and *Amasia pardalis* (45 f), but in *laurentia* there are instead of brown punctiform spots, distinctly marked small black rings. Guiana.
- favillacea*. **I. favillacea** Rothsch. (45 a) is marked almost exactly like *catenata*, but the forewings are paler, the spots much smaller, more diffuse, in some places almost entirely extinct: the hindwings are dark sooty-grey. Surinam.
- reticulata*. **I. reticulata** Rothsch. (45 a). Ground-colour diaphanous whitish, the small dark spots dirty yellowish-grey, irregularly arranged like a net; in the basal and marginal parts of the forewing and at the middle of the border in the hindwing more densely congregated. Upper Amazon.
- rosea*. **I. rosea** Schs. (45 b). Through the bright yellow forewings being densely covered with small red-brown drops there extend violettish-grey macular bands, particularly before the marginal part and before the middle. Venezuela and Colombia; the butterfly is common and widely distributed; small and very red specimens are found near Muza; a large and beautifully variegated form in which the blackish spots of the forewings are smaller and darker, is before me from Pacho; owing to the veins distinctly streaked red I denominate it **strigifera** form. nov. (45 b). — The species varies very much.
- rubens*. **I. rubens** Schs. (45 b). More slender and with narrower wings than *rosea*; the small streak-spots between the red veins of the forewing are prominently black; hindwing hemochrome, with a white, oval male spot below the costa. Guiana.
- irrupta*. **I. irrupta** Schs. (45 b). Instead of the black streak-spots there are between the red veins distinctly black small rings; the costa of the forewing is broader brown. Otherwise like *rubens*. Guiana.
- punctata*. **I. punctata** Rothsch. (45 b). Forewing and thorax dark brown, sometimes more coarsely, sometimes more finely speckled yellowish-white; abdomen dark brown; hindwing brown, in the middle lighter or also quite whitish, only with dark speckled fringes. Strongly recalls certain *Opharus*-species, such as *sestia*, *intermedia*, flying in the same district. Peru.
- costaricensis*. **I. costaricensis** Rothsch. (45 c) almost looks like a small, stunted form of *affinis* (45 a), but the 3 small subapical spots forming there the dark apical crescent, are here so small that they do not touch each other. It was described as a *Neaxia*. Costa Rica.
- doncasteri*. **I. doncasteri** Rothsch. (45 c). On the sulphureous forewing there is only a premarginal row of red-brown rings, with larger, brownish nebulous spots before the apex and proximal angle. Hindwings semi-diaphanous whitish-grey, anal part pink. The ♀ has brownish dots instead of the small rings. Venezuela.
- citrarius*. **I. citrarius** Dgn. (45 c) is closely allied to *doncasteri*, but the ♂ forewing has here a violettish-brown oblique stripe bending round on the submedian fold and turning then towards the base of the wing. There usually also runs a spur-like continuation from the flau towards the anal angle. The ♀ has only very fine, small black dots on the forewing, it is also without the rosy-red reflection exhibited in the ♂ on the dorsum of the abdomen and in the anal part of the hindwing. Colombia, Ecuador, and Bolivia.
- pandama*. **I. pandama** Drc. (45 d) is as large as the preceding, the wings are likewise yellow, but by a rather uniform, dark striation it somewhat resembles a *Halisidota*, in which genus it was also described. The somewhat paler yellow hindwing shows towards the margin large, dull black internerval spots. Ecuador, Bolivia.
- lutescens*. **I. lutescens** Rothsch. (45 c). Body and wings unicolorously unmarked light yellow, only before the apex the costa is a little brownish. Peru.

I. xanthia *Hmps.* is smaller, unicolorously orange-yellow, only the 4 last abdominal rings are black with lustrous blue spots, and the border of the hindwing is slightly brownish above the anal angle. Venezuela. — The species resembles numerous other Aretiids from the same district, such as *Automolis bonora sulfurea*, *pauperis* (50 h) etc.

I. flavobrunnea *Dgn.* resembles *xanthia*, larger, likewise orange-yellow with a black abdominal apex: but the whole apex of the forewing is here pale red-brown. This colouring extends from the apex of the wing almost to the cell-end, and from above the anal angle there runs a thick ray filling up the whole space between the median veins as far as the lower cell-wall. Peru.

I. flavoplaga *Schs.* (45 e) also approximates by its exterior numerous other Aretiids, such as *Automolis priscilla*, *persimilis* (51 h) etc. Here the whole forewing is dark brown except a large, costal, yellow triangle and a stripe above the proximal margin. Through the dark ground of the forewing there run lighter veins: hindwings pale yolk-coloured. Guiana.

I. pseudameoides *Rothsch.* (45 c). The exterior of the ♂ is so very similar to that of *Prumala ameoides*, that the two species might easily be mistaken. The *Idalus*-species, however, is easily discernible by the scent-organ resting on the costal part of the hindwing like a discoid pad. The ♀ is quite different, the yellow colour reduced to central spots in the forewing and to the basal part in the hindwing. Guiana, Amazon, Peru: the figured ♂ originates from the Rio Songo in Bolivia.

I. venata *Dgn.*, (= *veneta* *Dgn.*) (45 b). Body and forewings dull ochreous-orange, the forewing in the distal half somewhat brownish; hindwings pale yellow, antennae and legs black. The ♂ has on the forewing beneath, near the base below the cell, a small round scent-spot. Colombia.

I. hippia *Cr.* (= *albicollis* *Wkr.*, *lemba* *Drc.*) (45 d). The proximal half of the forewing is greyish, violettish-brown, the distal half pale yellow with obsolete guttiform spots. Easily recognizable by the scent-organ of the ♂ exhibiting on the forewing beneath a chalky, round felt-spot with a shiny border, and on the hindwing above a similar scent-spot occupying almost the whole costal part of the hindwing. In the ♀ the middle of the forewing is crossed by a yellow macular band bordered with red, and the hindwings are dark red. From Panama to Central Brazil; particularly in Costa Rica, on the Volcano Irazu.

I. albicoxae *Schs.* Rather similar to *hippia*, but the colours are brighter, the proximal half more distinctly marked purple, the distal half of a bright yellow. Easily discernible by the scent-spot being so much smaller than in *hippia*, that it by far does not distort the hindwing so much. Guiana.

I. melanopasta *Dgn.* (45 g). Scheme of markings similar to the preceding, but the dark part of the forewing is expanded so far towards the margin, that there remains only a yellow marginal band of 2 or 3 mm width, being above and below pointed and above the middle of the border indented. Besides the dark part of the forewing is intermixed with black dots and small streak-spots and purple interspersions. Hindwing with a dark scent-spot in the dull yellow costal half, anal half pink. Guiana, also in East Colombia.

I. lineatus *Drc.* (45 d) has entirely the shape of an *Automolis* or *Evius* and was also described as the latter. Body pale yellow, marked red, thorax with distinct black dorsal dots. Forewings dirty yellowish-grey, towards the base darker and tinged yellowish, with numerous internerval streaks; hindwings pale reddish-yellow. Panama.

I. agricus *Dyar* (45 d). This animal discovered by ROBERT MÜLLER near Misantla in Mexico initiates a series of species copying the colouring of *Automolis herois* (50 k) which likewise flies near Misantla. Through the pale-yellow forewings being centrally more strongly tinted orange, there extends a somewhat curved transverse band composed of brown longitudinal spots (above and below) or transverse spots (in the middle, round the cell-end). Base of the wing with a violetish-brown basal spot formed of thick internerval streaks. Hindwings whitish, abdomen red. Apparently rare or difficult to discover from among the number of similar *Automolis*.

I. agastus *Dyar*. Like *agricus* resembles *Automolis herois*, *agastus* is like *Automolis pichesensis* (52 a) to such an extent that it is difficult to discern. The type of marking is that of *agricus*; body white with a dark red marking. The main difference from *Automolis pichesensis* is, beside the more slender structure of the latter, that in *I. agastus* the dark streaked basal spot forms a strong contrast with the disc of the forewing, in a projecting angle, similarly as in the smaller *I. agricus* (45 d), whilst its distal margin in *A. pichesensis* runs from the base of the costa obliquely downward and outward, towards the middle of the proximal margin. Peru.

I. admirabilis *Cr.* Forewing almost exactly like in *agastus*, and like the latter very similar to *Automolis admirabilis*, *citheis* (50 k), but easily discernible from *agastus* by the crimson hindwing being only whitish at the margin. Also the abdomen is above red except the white apex. Panama to Central Brazil.

I. albidior *Rothsch.* (45 d) is to be distinguished from the preceding by the purely white distal part of the forewing, by the uniform, little curved median band, and by the basal spot being replaced by a dark

wedge extending from the base of the forewing through the cell. Hindwings white, abdomen red as far as ring 4, with white dorsal spots. Venezuela.

- daga*. **I. daga** Dgn. occurs in 2 forms; in typical *daga* from Venezuela to Peru the abdomen above is orange-yellow, whilst in **dares** Drc. (45 d) from Costa Rica it is above dark red. Across the dorsum of the abdomen a coherent row of white dots; the white forewings tinged yellowish at the margins show at the base, proximal margin and right through the middle small black transverse streaks arranged similarly as in the preceding species. This species also nearly resembles in its colouring the *Automolis*-group *critheis-pichesensis* (50 k, 52 a).
- fasciipuncta*. **I. fasciipuncta** Roths. (45 d). Entirely white, the macular transverse band of the forewing is replaced by a band of dispersed dots, and also at the base of the forewing there are only 1 or 2 fine, distinct, black dots. From the Upper Amazon through Peru and Bolivia; the figured specimen from the Rio Songo.
- ortus*. **I. ortus** Schs. Also white, the ♀ abdomen above pink. The median band similar as in the preceding, but in the ♂ showing more black streaks than dots. The ♀ also shows a small black spot before the apex (between the cell-end and distal margin), which, however, is absent in the ♂. Venezuela and South Brazil.

31. Genus: **Amaxia** Wkr.

The 14 forms composing this genus are mostly very much alike, and their type of colouring closely approximates those species of the preceding genus, that were separated from the *Idalus* as the genus *Lampruna* by SCHAU, so that we might denote the *Lampruna*-group as the transition from the typical *Idalus* to the *Amaxia*. Particularly *A. pyga* (45 e) repeats all the details of the exterior of *Idalus affinis* (45 a), whereby it also approximates the numerous copies of this form from other genera, such as *Neaxia theon* (45 k), the ♀♀ of several *Paranerita* etc. Head with a rather robust proboscis and in the ♂ doubly combed antennae, the last palpal joint stunted. Forewing with a long costal margin and short proximal margin, the border there fore very oblique, hindwing in the ♂ distorted (partly by scent-organs), and the venation therefore inconstant. Sometimes the costa is lobately indented anteriorly (*A. osmophora*), in order to cover an androconium on the forewing beneath, sometimes the shape of the forewing approximates the normal one (*A. pardalis*). Between the submedian and the median vein there is always a broad area, being so large that e. g. in *osmophora*-♂ it occupies more than half the wing. The butterflies are presumably without exception taken at the light; nothing is known of the larvae.

- pulchra*. **A. pulchra** Roths. (45 e) is the largest and most beautiful species of the genus. Before the apex of the forewing an indistinct purple-brown cloud. Hindwings pale pink, abdomen above dark red. Central Brazil and Peru.
- apyga*. **A. apyga** Hmps. (= *pyga* Drc. nec Schs.) (45 e) is almost the size of *pulchra*, but the cloud before the apex of the forewing is broken up into minute round spots, and the hindwings are dark brown, so is the dorsum of the abdomen. Costa Rica to the Amazon.
- pyga*. **A. pyga** Schs. is marked and coloured almost exactly like *apyga*, and differs merely by the ♂ hindwing beneath not exhibiting the large, distinct androconial spot, and being therefore a little differently shaped. Honduras, Rio de Janeiro.
- hebe*. **A. hebe** Schs. (45 e). Like the preceding, but the abdomen above of a bright purple-red instead of brown. Rio de Janeiro and Minas Geraes; it greatly resembles *Idalus costaricensis*, but it has a large, double, brown preapical spot surrounded by a joint purple line.
- flavipuncta*. **A. flavipuncta** Hmps. (45 e) is somewhat smaller than the preceding species; the violettish-brown spot of the base of the forewing is not so intensely coloured; nor do the small spots before the apex of the forewing come out prominently anymore. From the peak of the Tijuca near Rio de Janeiro.
- dyuna*. **A. dyuna** Schs. (45 e). Spotting of the forewings particularly abundant and the minute spots very regularly arranged. The scent-organ of the male on the hindwing beneath only small. Like the preceding from South Brazil; reported also from Peru.
- osmophora*. **A. osmophora** Hmps. (= *dyuna* Drc. nec Schs.) (45 e) greatly resembles *dyuna* Schs., but it is to be recognized by the costa of the hindwing, in order to get room for a larger scent-organ, being much more indented to a lobe; on the forewing above the dark spot above the proximal margin is more intermixed with yellow. Costa Rica, Venezuela.
- consistens*. **A. consistens** Schs. (45 e). Hindwing of the ♂ still smaller than in the preceding. The yellow distal part of the forewing is much more scantily spotted. The hindwing which is tinged rosy-red in *dyuna*, exhibits here the middle part covered with brown. — **maroniensis** Roths. is a form of it, in which the brown of the hindwing is reduced to a dot below vein 6 and to a subterminal band in the inner-marginal area, interrupted by the submedian fold. Guiana.
- pardalis*. **A. pardalis** Wkr. (45 e, f). Here also the large, violettish-brown spot near the base of the forewing begins to dissolve into an interrupted cloud owing to yellow and red embeddings; particularly above the

middle of the proximal margin and at the base of the forewing there appears bright yellow bordered with red. Hindwings above pink, in the ♂ beneath with a large scent-spot. Mexico and Amazon District.

A. parva *Rothsch.* (45 f) is recognizable by its small size, the pale spotting and the almost transparent *parva*. hindwings. Surinam and Amazon (Manaos).

A. chaon *Drc.* (53 e). Easily recognizable by brilliant silvery dots at the base of the forewing, above *chaon*. the proximal margin and below the middle of the costa. Otherwise very much like *Zatrephes Pseudopremolis* (53 b). From Costa Rica, Ecuador, Amazon and Guiana.

A. divisa *H.-Schäff.* This butterfly figured by HERRICH-SCHÄFFER without the patria being stated, *divisa*. has not been found anymore. It undoubtedly belongs here. HAMPSON presumes it to be the ♂ of a species the ♀ of which was described as *Automolis marcapota* from Peru by DRUCE in 1907. (Comp. p. 370).

A. erythrophleps *Hmps.* (45 f). This small butterfly also greatly deviates from the otherwise very *erythro-* similar *Amasia* and forms already a transition to the closely allied *Phaeomolis*. Forewings yellow, the violettish-*phleps*. brown colouring arranged to 3 transverse macular bands dying away towards the proximal margin. At and before the border 3 rows of small black dots. Guiana and Amazon District.

32. Genus: **Aphyle** *Wkr.*

A genus partly consisting of butterflies with broad and ruddle-red forewings, partly of such with narrow not red forewings. Easily discernible from the *Amasia* by the upper median vein of the forewing rising in *Aphyle* with the last radial from the upper cell-angle, while in *Amasia* it branches off far before it. The ♀♀ which are, strange to say, in this genus more frequently taken than the ♂♂, have very stout abdomens. The centre of the range of the genus is near Teffé on the Amazon, from where few species are distributed as far as Guiana, one to Costa Rica.

A. steinbachi *Rothsch.* (45 f). The smallest and southernmost species. Sooty greyish-brown, the *steinbachi*. forewings striped lighter; head and collar yellow. Bolivia.

A. margaritacea *Wkr.* (45 f). White, the costal margin of the forewing in the ♂ yellowish, hindwings *margarita-* with a rosy tint. On the forewing a small black band defines the apical part, another the basal part, and another *cea*. being interrupted in the middle extends from the middle of the costal margin to the anal angle. The figured specimen originates from Teffé (Ega). — **affinis** *Rothsch.* (45 f) has a yellow ground of the forewing; from the *affinis*. Upper Amazon and Peru.

A. cuneata *Hmps.* Forewings white, the dark streaks more irregular; base, costa and border of the *cuneata*. forewing marked darker and tinted buff. Hindwing diaphanous white, at the anal margin tinted dark red; abdomen quite vermilion. Only very little larger than the preceding. Guiana.

A. albipicta *Dgn.* (45 g). Forewing at the costal margin broad brown, which colour emanates into *albipicta*. the wing and forms yet a large, irregular, cloudy spot at the proximal angle; hindwings and abdomen dark purple pink. Guiana.

A. incarnata *Hmps.* (45 g). Body and wings above bright ruddle-red with a yellowish-hyaline distal- *incarnata*. marginal spot projecting towards the cell-end in an obtuse tooth towards the base. Through the forewing extend 2 delicate, dark transverse lines. From the Amazon; the figured specimen from Teffé. — In the very similar **incisa** *Rothsch.* (45 g) from Fonte Boa the yellow marginal band in the apical part of the forewing is *incisa*. very narrow. — **intorta** *Schs.* (45 g) from Costa Rica is much larger, and the dark transverse lines of the forewing *intorta*. are extinct.

A. conifera *Dgn.* (45 g) is still larger than the preceding; quite ruddle-red, except a laciniiform, faintly *conifera*. yellowish hyaline spot on the lower marginal half, above the proximal angle. Beneath the hindwings are almost white. Before me only from Medina (East Colombia, at an altitude of 500 m), from the Coll. FASSL.

33. Genus: **Neonerita** *Hmps.*

This genus is composed of 7 or 8 medium-small Arctiids, in the colouring and also in the structure almost exactly like the preceding, except the lower radial of the forewing having a footstalk of about 2 or 3 mm length in common with the upper median vein. This footstalk is effected by the discocellular extending not transversely, but quite obliquely from in front and outside towards behind and inside. The genus based upon this chance occurrence might be the more artificial as the antennae of the ♂♂ are in some species plain, in others rather long doubly combed; the abdomen is sometimes long and slender, sometimes it projects a little beyond the anal angle; the hindwings are sometimes round, small and of the usual shape, sometimes changed in their shape and venation by complicated scent-organs covering the whole surface of the wings. The larvae not yet being known of a single species, are probably partly brushy partly tuft-haired bear-caterpillars.

- minerva*. **N. minerva** Schs. (45 h). From South Brazil (Novo Friburgo). Almost exactly coloured like the preceding, but the yellow hyaline spot of the forewing extends broadly from the distal margin almost to the costa, where it only leaves a thin red stripe.
- dorsipuncta*. **N. dorsipuncta** Hmps. (45 h) entirely resembles *minerva*, but it is somewhat smaller, the hyaline yellow band-like spot of the forewing is narrower by two thirds, more oblique and somewhat irregularly defined. In the discal part of the ground-colour of the forewing there are orange yellow spots embedded, encircled by hemochrome. Hindwings and abdomen purple-red, the latter with a white dorsal dot. Described from South Brazil; the figured ♂ from Villavicencio in Colombia, taken by FASSL; several specimens before me also from Mexico.
- perversa*. **N. perversa** Rothsch. (45 h) is much smaller than all the other species of the genus; the hyaline band of the forewing still narrower, less curved, its proximal edge irregular. The ♂ hindwing beneath covered with dense hair. Guiana and Amazon District.
- arcifera*. **N. arcifera** Dgn. (45 h). The yellow hyaline part does not only form a band on the forewing, but it occupies the whole distal part and only leaves a brown costal spot before the apex, thus producing a colouring exhibited also by many neotropical Arctiids, such as *Amavia pulchra* (45 c), *Idalus affinis* (45 a) etc. Colombia, discovered by FASSL on the Quindiu Pass.
- haemasticta*. **N. haemasticta** Dgn. is almost exactly like *arcifera*, but the yellow hyaline part is inside irregularly defined and set with scarlet dots. Peru, Colombia; in Colombian specimens the proximal part of the wing and the costal spot before the apex are often paler.
- syrrissa*. **N. syrrissa** Drc. (45 h) likewise greatly resembles *arcifera*, but the spot before the apex is reduced to small brown crescents. Peru.
- yahuasae*. **N. yahuasae** Joicey. Very much smaller than *syrrissa*, scarcely half its expanse; the proximal, pale purple-red part of the forewing extends from the middle of the costa beyond the anal angle; on its somewhat curved distal border some small black scales; before the apex a large, round, pale purple-brown spot bordered with dark. Hindwings pale yellow, in some places tinted pink. Peru.
- metaphoenicea*. **N. metaphoenicea** Joicey. Still smaller than the preceding which it resembles, but the round, subapical spot of the forewing is proximally dark and at the margin lighter. The hindwings are pale purple-pink, the basal and costal-marginal areas whitish. From French Guiana; discovered by LE MOULT.

34. Genus: **Evius** Wkr.

This genus consisting so far only of 3 species is allied to the preceding, but the upper median vein of the forewing rises separately from the lower cell-wall, a good distance before the lower cell-angle. In the system of the subcostal the species comprised here correspond, but they show sometimes longer sometimes shorter antennal combs, and sometimes the ♂ hindwing is distorted by scent-organs.

- aurococcinea*. **E. aurococcinea** Wkr. approximates the forms of the *arcifera*-group (45 h) from the preceding genus, but it differs by the yellow distal part of the forewing occupying only about a third of the wing and bordering on the purple-brown proximal part in an entirely uniform semi-circle, beginning exactly in the apex, extending below the costa, passing by close at the transverse vein and terminating exactly in the anal angle. Through the basal part of the costa there extends a white ray; beneath the costal margin is streaked dark. Body and hindwings purple-red, the body in some places tinted brown, the hindwing towards the margins paler. The type (from Pará), which is not before me, has an expanse of 38 mm.
- cochenouri*. **E. cochenouri** Schs. Size and marking of the forewing somewhat similar to that of *Aphyle incarnata incisa* (45 g), but the forewings at the costal margin are more brown, the terminal yellow area more than twice as broad as in *incisa*, and its proximal edge projects proximally behind the cell in a sinus. Between the radial veins 2 brownish dots. Hindwings pale yellow, in the inner-marginal part tinted pink. From Costa Rica. — The colouring of this species is so exactly reproduced in the Arctiid *Premolis flavithorax* Rothsch. (50 b), that we can refer to its figure. The *Premolis*-♂, however, has a different venation, particularly in the hindwing, on the under surface of which it shows a large, subcostal, oval stigma being absent in *Evius*.
- albascripta*. **E. albascripta** Schs. (53 f) is presumably scarcely congeneric with the preceding, the ♂ with greatly distorted veins. Expanse hardly more than 30 mm; recognizable by 2 long hair-locks hanging in the ♂ down at the sides of the abdomen. The latter itself very long, projecting far beyond the anal angle. In the disc of the forewing there is on the brown forewing marked somewhat purple a large, diaphanous yellow spot being indented below the costal margin; below and before the latter, as well as in the apex white, short streaks partly bordered with purple. ♂ hindwing in the anal part extended like a lobe, purple-red, the inner-marginal fold white. French Guiana.

35. Genus: **Araeomolis** *Hmps.*

This genus consisting of 6 forms likewise contains both normally shaped butterflies and such with long lobated hindwings. Colours throughout yellow and red, the latter colouring being often preponderant. ♂ antennae doubly combed; tibial spurs short, abdominal base above roughly haired. In the forewing the upper median vein rises close before the lower cell-angle; the 4 subcostal veins are arranged in such a way that the lowest rises yet before the middle between the cell-end and apex. Cell somewhat more than half the length of the costa; discocellular proximally angled. No areola. The genus is scarcely to be called normal: the diagnose of the genus: „forewings long and narrow“ is not correct with regard to the ♂♂ of some species (e. g. *A. sanguinea* *Hmps.*). Of almost all the species but one or few specimens are known; they consequently seem to be very rare and are confined to the northern parts of South America.

A. persimilis *Rothsch.* (45 i). Forewings violettish-red and spotted pale yellow, in the pale yellow *persimilis*. ring-spots small red dots, behind the cell-end a small white vitreous spot. Hindwings quite pale pink. Head and thorax pale yellow with a red line, abdomen crimson pink. A rather small butterfly; presumably the most widely distributed species. From Surinam to the Amazon and Peru.

A. rhodographa *Hmps.* Size and shape of the preceding, but the small white vitreous spot behind *rhodographa*. the cell-end smaller, the basal part of the forewing more finely marked, containing red, partly strongly curved lines in the light yellow spaces between the veins. Hindwings yellow, tinged pink in the apex.

A. guianensis *Joicey* from French Guiana is almost $\frac{1}{3}$ larger than *rhodographa*, the forewings pale *guianensis*. greyish-brown, speckled bone-white and with red vein-streaks; in the submedian space purple embeddings; in and below the cell white spots proximally bordered with red, at the border white internerval spots, in front of them black streaks; hindwings pale purple pink, the costal-marginal area as far as beyond the middle whitish. Head and thorax white, marked purple, abdomen purple. Only 1 ♀ known, discovered by LE MOULT on the Maroni River.

A. sanguinea *Hmps.* (45 i). Immediately recognizable by the shape of the ♂ hindwing being lobatedly *sanguinea*. extended in the apex and anal part, and between deeply indented. Somewhat larger than *persimilis*. Forewings of a bright dark red with yellow veins in the distal part and small yellow rings and streaks in the proximal part, the hindwing purple with a yellowish brown inner-marginal area. St. Jean Maroni in French Guiana. The species recalls *Eriostepta bacchans* (45 i), the border of the hindwing of which, however, is in the ♂ not indented below the apex.

A. nigripuncta *Joicey* (45 l), from the same district, is the size of the preceding and has also scarlet *nigripuncta*. forewings marked yellow, with a white costal margin streaked red-brown, in and below the cell black dots, in and behind the cell-end bands of brown punctiform spots, being united downwards, an antemarginal row of small brownish spots. Hindwings light purple-pink, behind the cell hyaline.

A. haematoneura *Joicey* from Colombia. ♂ somewhat smaller than *nigripuncta*, head and thorax *haematoneura*. like in most of the *Araeomolis* yellow, marked purple, and the abdomen red. Forewings greyish-brown with white-yellow spots and red markings, the spots mostly bordered with red and some pupilled white; hindwings pale pink with a whitish costal area. ♀ unknown.

36. Genus: **Neaxia** *Hmps.*

This genus also contains about half a dozen of species known, the ♂♂ of which mostly exhibit very much altered, stunted hindwings. Beneath the typical species — *theon* — shows a furry scent-spot round the upper cell-angle of the hindwing, and also the forewing has an oval stigma above the submedian, before its centre. Moreover, the very small hindwing of the ♂ is at the costa very far bulged out, in the apex, however, indented and below it curtailed. The genus is very natural and the species are very much alike; the butterflies are apparently rare; the ♀♀ are mostly unknown.

N. klagesi *Rothsch.* (45 k). Yellow, the forewings rather scantily spotted violettish-red, hindwings *klagesi*. tinged quite pale rosy-red, at the border broadly shaded with brown. Surinam.

N. ockendeni *Rothsch.* (45 k). The forewings quite similar, but broader, the hindwing of the ♂ without *ockendeni*. the brownish-grey marginal shade. Upper Amazon (Fonte Boa) and Peru.

N. theon *Drc.* (45 k). This typical species shows the dark spots of the forewing in the proximal half *theon*. of the wing flown together to a purple brown cloud being only at the base interrupted by yellow and marked violettish-red and grey. The hindwing is white, towards the margin darker; the scent-spot denoted by HAMPSON to be orange, is likewise white in the figured specimen from Merida. Venezuela and the adjoining Colombia (Villavicencio).

egaënsis. **N. egaënsis** *sp. nov.* (45 k). Forewings very much like in *theon*, but the hindwing considerably smaller, at the proximal margin rosy, in the anal part tinged dark grey. The scent-spot of the hindwing beneath more than twice as large, pink in a yellow ground, the abdomen above purple-pink, not greyish-brown as in *theon*. Teffé on the Amazon; type (♂) in the Museum Senckenberg at Frankfurt on the Main (Coll. SEITZ).

bella. **N. bella** *Schs.* (45 k). Spots of the forewings very intensely coloured, but smaller than in *egaënsis* and not so close together; an antemarginal row of dots, in the place of the sagittiform spots of *egaënsis*. Hindwing of a bright purple pink, the whole distal half blackish. French Guiana.

kennedyi. **N. kennedyi** *Rothsch.* (45 k) is larger than *bella* with a rounder border of the forewing; the spots of the forewing in the distal part pale and blurred, in the inner-marginal area flown together, the base of the forewing yellow. Hindwings much larger and more regularly shaped, yellow with a rosy basal part. Minas Geraes.

flavicollis. **N. flavicollis** *Rothsch.* (45 k). Forewing in the yellow apical half intermixed with but few pale reddish dots, only before the apex a small, costal, violettish-red cloud; on the whole proximal margin there rests a violettish-red nebulous spot being convex above with darker margins. Hindwings pink; head and collar yellow, thorax violettish-brown, abdomen dark red. The distribution of colours on the forewing is already more like that of *Neonerita arcifera*, *syriassa* (45 h) etc., whilst the other *Neaxia* resemble *Amoxia pardalis*, *osmophora* (45 c, f) etc. Fonte Boa (Amazon).

gnosia. **N. gnosia** *Schs.* entirely resembles the preceding, but in the yellow part of the forewing, between the radial veins, some large, purple-brown spots are embedded. British Guiana.

37. Genus: **Eriostepta** *Hmps.*

Like the preceding genera this also contains about half a dozen forms; they deviate, however, more from each other, than the *Neaxia* do. Even the fleecy-like hairing of the surface of the hindwing, mentioned in the diagnose of the genus, does not apply to all the species having been inserted here later on. Also here the hindwing of the ♂ is often distorted by scent-organs; sometimes the proximal margin, sometimes the area of the median is monstrously prolonged. The forewing, as a rule, is broader than in most of the *Neaxia*, but similarly coloured and marked. Palpi and proboscis, like there, strongly developed, the palpi with a long middle joint and very short terminal joint. The 1st subcostal vein rises far before the upper cell-angle; the cell itself is longer; the uppermost median vein rises almost at the cell-corner, close at the lower radial. Hindwing beneath with a large, subcostal androconial pad. All the species have become known only after 1900, and we know nothing about their early stages nor their habits.

bacchans. **E. bacchans** *Schs.* (45 i). Forewings scarlet with yellow veins and yellow streaks, small, blackish guttiform spots in, behind and below the cell and in an angled chain extending from the costa before the apex to the middle of the proximal margin. Hindwing purple with a yellow border. French Guiana.

fulvescens. **E. fulvescens** *Rothsch.* (45 i). Forewings yellow, with a fine, vanishing red vein- and streak-marking. At and before the margin, and dispersed in the costal half, there are numerous, small brown dots; the hindwings coloured almost like the forewings, somewhat paler, without any distinct marking. Guiana to the Amazon.

roseireta. **E. roseireta** *Hmps.* from the Amazon is almost like the preceding, and also shows distinctly the hairing of the hindwings, but the red striation of the forewings is more distinct, in the anal angle more intense macular marking.

peruana. **E. peruana** *Rothsch.* (45 k) entirely resembles again *Neaxia* by its shape, colouring and marking: in the yellow area there are beside smaller violettish-brown dots 4 larger oval spots before the apical area. Peru.

beata. **E. beata** *Dgn.* is almost exactly like *peruana* (45 k), but the subapical spots of the forewing are flown together to an irregular cloud. Guiana and Peru.

pseudamaxia. **E. pseudamaxia** *Rothsch.* likewise shows the colouring of *peruana* (45 k), but it is smaller and in the apical area of the forewing there is, instead of a transverse cloud formed by the 4 oval spots below each other having flown together, a spot being slit up at all its edges, and the hindwings being without markings in *peruana* exhibit here the border shaded dark and in its middle a violettish-brown cubiform spot. Guiana.

38. Genus: **Paranerita** *Hmps.*

This genus bears a relationship to the following genera (*Neritos*, *Hyponerita*) similar to that between the *Prumala*, *Neaxia*, *Idalus* etc., i. e. certain colorial types are repeated again and again. In the catalogues which have exclusively laid great stress upon the neuration (in this instance upon the presence or absence of an anastomosis of the subcostal system) *Neritos* (without an areola) is, therefore, separated far from *Paranerita*.

and *Hyponerita* (with an areola). HAMPSON, however, already in the supplement to his well-known Catalogue, has eliminated this rigour by bringing the undoubtedly allied genera together, and we may be in doubt whether these genera are not merely subgenera. We see here nothing else but the repetition of parallels of forms, as we have recognized in the groups of day-butterflies *Hypoleria*, *Pseudoscada*, *Pteronymia*, *Leucothyris* and still more conspicuously in *Melinæa*, *Mechanitis* and *Ceratinia* in Vol. V of the *Macrolepidoptera* (t. 31 to 40). The larvae of the genera *Neritos*, *Para-* and *Hyponerita* presumably also resemble in being densely covered with variegated brushes and at the anterior and posterior parts with long pencils. These larvae being sometimes quite curiously disfigured by their hairiness bring the group of these genera decidedly nearer to the *Syntomidæ*, the strict separation of which from the *Arctiids* we have already several times denoted to be very difficult, if tenable at all. With respect to this we may mention that we have seen also in the *Syntomidæ* certain types being again and again repeated in the most various genera, so that often only by means of examining the neurulation it could be decided, whereto the specimens belonged, exactly like in the *Ithomiinæ*, too. But also in the *Syntomidæ* it has proved, particularly by recent breeding experiments, that the venation is by no means decisive in all cases, and we may, therefore, expect that the examination of the veins also sometimes misleads us in the *Arctiids* of the *Neritos*-group; the more so since the differences of venation are frequently founded upon male specimens having in very many cases strongly developed secondary sexual marks, whereby the wings may sometimes be entirely disfigured and the venation disarranged. The separation of the following genera must, therefore, for the present be regarded more as a means for a generalization of the very multiform groups than for the expression of natural directions of the development. — The genus contains almost 40 forms known, all of which — except one — have been discovered during the two last decades. Except some few, somewhat deviating species, all the types are very much alike. Mostly a boundary-line extending obliquely from the costa towards the anal angle separates a purple-brown proximal part from a yellow apical half of the wing, which again surrounds an apical disc of a dark colour. Nearly all the species of the genus seem to be rare; they rest in day-time hidden on the under surface of leaves and come to the light in the evening. Of the genus *Paranerita*, the life-history of no species is known as yet, but the larvae are presumably similar to those of *Neritos*. From the latter the *Paranerita* are distinguished by the anastomosis between the 2nd subcostal vein with the footstalk of the 3rd to 5th, from *Hyponerita* by the areola being formed by the connection of the 2nd subcostal vein with the third. Type: *P. polyxenus*.

P. maculata Rothsch. (45 l) is one of the smallest forms. Forewings greyish red-brown with 3 rows *maculata*. of silvery white guttiform spots forming angled chains near the base and before the middle, standing alternately, however, in the marginal area. Hindwings yellowish-pink with a blackish marginal band. From Fonte-Boa (Amazon).

P. fenestrata Rothsch. (45 l). Likewise from the Amazon; it somewhat recalls *Neonerita dorsipuncta fenestrata*. (45 h); but the hyaline window in the disc of the forewing is narrower and does not reach the border; the hindwings quite light whitish-grey, also the abdomen yellowish-grey, not red. At the middle of the border of the forewing some minute light spots.

P. rosacea Rothsch. (45 l) is only as large as *maculata*; forewings, costal part of the hindwings, head *rosacea*. and thorax pale yellowish-brown; abdomen and hindwing carmine-pink. Venezuela and Amazon District.

P. haemabasis Dgn. (45 l). Blackish-brown, head, thorax, bases of the wings and of abdomen light *haemabasis*. red. Forewings with a dull, violettish-blue reflection. The posterior legs of the ♂ are transformed into stout paws by woolly hair; the scent-organ on the forewing beneath is an extensible, thick, white pencil. From Muzo in Colombia; discovered by FASSL.

P. alboapicalis Rothsch. (45 l). Head, thorax, and forewings except a white apical spot blackish-brown, *alboapicalis*. hindwings, except the black border, light pink, and the abdomen red, except the black apex. Surinam.

P. polyxenoides Rothsch. (45 l). Hindwings like in the preceding, but the blackish-brown forewing *polyxenoide*. has a yellow apical spot, a small yellow triangle in the middle of the costa and a still smaller one in the middle of the margin. Vertex yellow, the whole abdomen red. Guiana, Amazon and Peru.

P. polyxenus Drc. (45 l) is quite similar, but the yellow triangle at the costa larger, that at the border *polyxenus*. smaller than in the preceding. Hindwings almost quite black, except the yellow basal part. Bolivia.

P. grandis Rothsch. (46 a) is twice as large as the preceding with broad wings; hindwings large, so *grandis*. that the abdomen scarcely projects beyond the anal angle. Costal spot much larger than in *polyxenus*, at the border a series of small yellow spots, that in the middle of the margin being the largest. Hindwings light honey-coloured, head yellow, abdomen red. Colombia to Peru; the figured specimen from Medina in East Colombia.

P. niobe Schs. (46 a) from Costa Rica is somewhat smaller and quite similarly marked and coloured, *niobe*. but the apical spot of the forewing is connected with the small spots in the middle of the margin by yellow, and the hindwings are not yellow, but rosy-red.

- bione*. **P. bione** Jones (45 k) is coloured like the preceding, but the yellow costal spot extends proximally along the costa to the base, and the spot in the middle of the border extends farther into the wing. Santos (São Paulo, Brazil).
- irregularis*. **P. irregularis** Rothsch. (46 a) is about only half as large as *bione*; the yellow costal spot of the forewing, being quite flatly triangular there, is here very large and high, so that it reaches as far as the submedian area. From the direction of the proximal margin it is approached by another yellow spot bordered with red, and the marginal yellow is well developed. Surinam.
- complicata*. **P. complicata** Schs. (= *plagosa* Rothsch.) (46 b) is larger than *irregularis*, but smaller than *bione*. The whole distal margin is occupied by 3 large yellow spots pupilled red; the yellow costal triangle is also bordered by a bright scarlet. Hindwings pink. Guiana.
- patara*. **P. patara** Drc. (46 b). Larger, the structure of the body much stronger. The forewing has a very large, lemon-coloured costal spot, a large apical spot and a third spot extending from the middle of the border to the anal angle. Hindwings pink with a dark border. Guiana.
- suffusa*. **P. suffusa** Rothsch. (46 b) shows on a purple-brown forewing marked red, in the middle of the costa, a large, dark yellow, saeciform spot and an irregularly defined, yellow marginal spot. The yellow colour of both is surrounded by hemochrome, besides the forewing is marked red; thorax brown, marked red; hindwings and abdomen of a beautiful purple-pink. British Guiana. — In the form **trinitatis** Rothsch. from Trinidad the red markings on the forewing are more strongly developed, particularly in the apex, and the yellow, saeciform costal spot of the forewing is narrower.
- peruviana*. **P. peruviana** Rothsch. (46 a) is quite similarly coloured and marked as *patara*, but the yellow spots on the forewing are somewhat smaller and of a deeper yellow, the hindwing without the dark border, unicolorously dark pink, the abdomen brown with a yellow apex. Peru.
- flexuosa*. **P. flexuosa** Schs. (46 a). The costal spot is here more trapeziform, the yellow apical spot is broadly connected with that above the anal angle, the hindwings are sooty dark below the cell, and the abdomen is dark purple-red. Costa Rica. Discovered by SCHAUS.
- amelia*. **P. amelia** Schs. (46 a). The yellow extends here as a regular marginal band along the distal margin, the costa and base of the proximal margin being likewise yellow, bordered with red: the yellow spot on the middle of the costa is irregularly shaped. Closely allied to *flexuosa* and perhaps only a form of it. Likewise discovered by W. SCHAUS in Costa Rica.
- rubrosignata*. **P. rubrosignata** Rothsch. (46 b) is one of the smallest species. The yellow extends from the base in a broad band along the costa and occupies the whole apical half of the forewing; in the disc it encloses red markings. Chocolate-brown are only the thorax and a broad triangle situate on the whole proximal margin. French Guiana.
- peninsulata*. **P. peninsulata** Dgn. (46 a). At the costa a large, yellow trapezoid, the apex and a marginal band distending above the anal angle being likewise yellow. Somewhat larger than the preceding. Venezuela.
- aurantiipennis*. **P. aurantiipennis** Rothsch. (46 b) is one of the largest species of the genus. The violettish-brown areas the inner-marginal area and a discous spot before the apex, are inside intermixed with yellow and marked red. The discous spot is connected with the inner-marginal brown by a narrow footstalk. Body yellow, in some places tinted rosy. Guiana, Amazon.
- metapyria*. **P. metapyria** Dogn. (46 a) is coloured similarly to the preceding, but the discous spot at the apex is isolated, separated afar from the border of the inner-marginal area. Beneath the dark areas of the forewing are deep brown. Guiana, Bolivia; the figured specimen from the Rio Songo.
- metapyrioides*. **P. metapyrioides** Rothsch. (46 b). Forewings more pointed, hindwings far extended, with a long proximal margin. Next to *grandis* the largest species of the genus. Similarly marked as the preceding, but the yellow brighter and the violettish brown areas inside still lighter. Discovered by A. H. FASSL on Mount Tolima (Colombia).
- hampsoni*. **P. hampsoni** Rothsch. (46 b). One of the smallest though most beautiful species. On the forewing the violettish-brown apical area is proximally straightly cut off, before the apex itself it contains bluish-white embeddings. From the brown colour of the inner-marginal area it is separated by a large, apple-green median area. The inner-marginal area is distally secluded by a white band bordered with a dark tinge. Hindwings pink. Amazon and Bolivia; the figured specimen from the Rio Songo.
- metaxantha*. **P. metaxantha** Dgn. Instead of the green discal area the apical brown is separated by a broad, hyaline band; the hindwing is not pink but yellow. Somewhat larger than *hampsoni*; the inner-marginal area on the hindwing beneath being long-haired like a fleece in the latter species, is smoothly scaled in *metaxantha*. Colombia.

P. translucida Rothsch. (46 b) from Peru has the hyaline band of the forewing almost just as broad *translucida*, as *metaxantha*, but it is steeper, so that it terminates directly above the anal angle, not in the middle of the border. Hindwing greyish-brown with a light border, abdomen bright red. Smaller than *metaxantha*.

P. carminata Schs. (46 b). The yellow oblique band separating the purple apical part from the purple *carminata*, proximal area of the forewing, runs quite straight from the middle of the costa to the anal angle. Thorax purple, marked yellow. Abdomen red. French Guiana.

P. lophosticta Schs. (46 c). The yellow oblique band of the forewing is widened on both its ends, before *lophosticta*, the border, however, strangled; thereby the purple apical spot has already the round discous shape. Below the median, near the base a small white spot, where we notice a white hair-lock on the under surface of the wing. Hindwings pink; head with a yellow vertex, body red, above the base of the abdomen a white transverse spot. Hindwings at the apex in the ♂ deeply notched. Costa Rica, on the volcano Irazu near Orosi etc.

P. persimilis Rothsch. (46 b). The yellow oblique band more uniform, not so much strangled before *persimilis*, the border; the apical discous spot smaller, abdomen without the small white transverse band at the base. Surinam and Peru. In the ♀ the discous spot may be confluent with the purple inner-marginal area.

P. perversa Rothsch. (46 c) exceedingly resembles *lophosticta*, but it is much smaller, the apical disc *perversa*, smaller, almost exactly circular, forewing without the small white spot below the middle of the cell. Fonte Boa on the Amazon.

P. phaeocrota Dgn. (46 c). Thorax and forewing much darker brown; on the forewing the apical disc *phaeocrota*, is small and separated afar from the innermarginal brown. Hindwing pink, darkened at the proximal margin. Abdomen red. Discovered by LE MOULT on the Maroni River in Guiana.

P. androconiata Rothsch. (46 c). Very small; it rather exactly resembles *granatina* (46 c), but it is *androconiata*, considerably smaller, the hindwing of a paler light pink, and below the middle of the cell a white androconial spot. Peru.

P. orbifer Hmps. (46 d) resembles the two preceding, but it is larger than *androconiata*, the brown *orbifer*, basal area towards the yellow apical part of the forewing smoothly cut off, the apical disc darker brown; hindwing pink with a broad, black border. Abdomen pink. Colombia.

P. granatina Rothsch. (= *postrosea* Rothsch.) (46 c). Similar to the preceding, but the dark inner- *granatina*, marginal area defined in a distally convex bow towards the yellow band, hindwings and abdomen purple. Guiana, Venezuela and Bolivia.

P. sithnides Drc. (46 c). Forewings very similar to *granatina*, but at once discernible by the unicolorously *sithnides*, dirty grey hindwings. Brazil and Peru. — **P. lavendulae** Rothsch. (46 c) is a somewhat smaller form, the apical *lavendulae*, discous spot much smaller and more smoothly defined, the hindwing has a whitish-yellow costal area with a pink tinge. Guiana, Amazon, Peru. — In **P. meridionalis** Rothsch. from South Brazil the hindwing is whitish *meridionalis*, also at the base.

P. occidentalis Rothsch. (= *rosacea* Rothsch. p. p.) (46 c). A rather small species; the apical discous *occidentalis*, spot is removed more inward from the apex of the forewing, so that the apex remains rather broadly yellow; the disc itself is surrounded by purple. The basal brown spot is cut off before the anal angle, so that the anal angle itself remains yellow. Body purple; hindwing of the ♂ dark wooden-brown as in *sithnides*, in the ♀ pink. Amazon and Ecuador.

P. triangularis Rothsch. (46 c) is much larger than the preceding, more slender, the hindwing with *triangularis*, a straighter border. The dark parts of the forewing of a purer purple, the apical spot larger, irregularly defined and not surrounded by purple. Hindwings yellowish-brown. At the base of the abdomen a white transverse spot parted in the middle. Guiana and Peru.

P. inequalis Rothsch. (46 d). Size between the two preceding, the shape, colour and marking almost *inequalis*, exactly as in the following species, *Neritos macrosticta*, distinguished by exhibiting an areola in the forewing, and by the absence of the ♂ mark on the upper surface: the hindwings are also somewhat differently shaped. From Guiana through Brazil to Bolivia and Peru.

39. Genus: **Neritos** Wkr.

The genus *Neritos* likewise contains 40 forms which have only lately become known except three. These butterflies are also nearly only taken by the lantern, and on using more intensely illuminating devices their number will also increase considerably. We find here parallels to most of the colorial types of the *Paranerita*:

thus *macrostidza* mentioned above resembles *P. inequalis* (46 d) except the small fine silvery band at the base of the abdomen; *pandera* resembles *P. metaxantha* or *hampsoni* (46 b), *cotes* is like *P. niobe* (46 a), *kennedyi* like *P. peruviana* (46 a). In a similar way the colorial designs exhibit transitions to the next genus, and we find e. g. in *drucei* the image of *Hyponerita tipolis* (46 h), in *cotes* a parallel to *Hypon. ockendeni* (46 h) etc. The *Neritos* are without the areola in the forewing; the 1st and 2nd subcostal veins rise with a common pedicle rather far before the upper cell-angle; the 3rd to 5th subcostal veins are mostly petioled, too. Only of 1 species (*N. onytes*) the larva is known; a peculiar animal strongly recalling the *Syntomid* group, the 8 middle segments exhibiting strange, above truncate brushes directed to all sides, similar to the dorsal brushes of the *Dasychira*. The anterior and posterior parts exhibit 6 to 8 long white hair-pencils each. The obtuse, light brown pupa is embedded in an oviform web intermixed with hair, likewise similar as in the *Syntomidae*. Most of the species are just as rare as the *Paranerita*, only the two first are more common.

- macrostidza*. **N. macrostidza** *Hmps.* (= *onytes* *Hmps.* p. p. ncc *Cr.*) (46 d) is a small species; the purple disc in the apex broadly touches the costa and extends very precisely in front of the distal margin, leaving a very fine yellow margin. Margins of the yellow oblique band only very feebly dentate; abdomen hemochrome, with a conspicuous white transverse spot at the base. Hindwings pink, at the apex parted into 2 tips by a deep indentation. Guiana to Brazil and Bolivia; the most common species of the genus.
- onytes*. **N. onytes** *Cr.* (♂ = *psamas* *Cr.*) is quite similar, larger, without the distinct white abdominal spot, the ♂ hindwing indented at the apex, but not sharply serrated, the hindwing itself in both sexes above greyish-brown. In the ♀ — according to HAMPSON, however, also sometimes in the ♂ — the dark apical disc flows in the middle of the forewing together with the brown of the basal half, so that it resembles *N. cotes* (46 f) which, however, has honey-coloured hindwings. Widely distributed, from Panama through Colombia and the Amazon District as far as Bolivia and Peru. — To this butterfly presumably belongs a yellowish-green larva showing across the dorsum and on the sides rows of pink, truncate brushes with purple crowns. Anterior and posterior parts light yellow, with 6 to 8 long white pencils each; head brown. It lives on the lemon-tree, changes into a red-brown pupa in an oviform cocoon intermixed with hair, yielding the imago already after 7 days. — Not rare.
- neretina*. **N. neretina** *Dyar* (46 d). Recognizable by the purple-brown apical disc of the forewing thinning the yellow oblique band in the middle of the wing by growing towards the basal brown; hindwings almost purely white. Venezuela, Peru.
- metaleuca*. **N. metaleuca** *Dgn.* (46 d). On the contrary, here the yellow oblique belt of the forewing is particularly broad, and the proximal margin of the apical disc somewhat indented. Hindwings whitish. Venezuela.
- albicollis*. **N. albicollis** *Hmps.* (46 d). Band of the forewing still broader than in *metaleuca*; apical disc and base brown in the forewing with intermixed, bluish-violet, lighter parts. Hindwings pink. Recognizable by the white collar. British Guiana.
- cyclopera*. **N. cyclopera** *Hmps.* (46 d). The yellow belt of the forewing extends here particularly flatly, the apical disc being very ellipsoidal. Hindwings orange-yellow, broadly bordered with a dark brown. French Guiana.
- purpurascens*. **N. purpurascens** *Rothsch.* (46 d). One of the smallest species of the genus. The apical disc circular, somewhat removed from the distal margin which remains broadly yellow. The hindwings comparatively large, circular, hardly noticeably retracted at the apex, yellow, with a faint pink hue. Fonte Boa (Amazon).
- phaeoplaga*. **N. phaeoplaga** *Hmps.* (46 e). Size and colouring of the preceding, discernible by the much smaller apical disc leaving the apex, costal margin and border broadly yellow; the distal margin of the brown basal area is dentate; hindwings small, below the apex very much retracted, purple pink with a dark brown spot at the middle of the border. French Guiana.
- odorata*. **N. odorata** *Rothsch.* (46 e). Also in this species the apical disc is small and is distant from the border which remains yellow; but the wings are much broader, the hindwings almost circular, below the apex somewhat retracted, yellow, with a faint rosy hue; the head yellow. Fonte Boa (Amazon).
- samos*. **N. samos** *Drc.* (46 e). Recognizable by the straightly cut-off distal margin of the brown inner area; the yellow oblique belt of the forewing rather broad; hindwings with a faint rosy hue. Honduras.
- sanguipuncta*. **N. sanguipuncta** *Schs.* In contrast with the preceding, the distal border of the basal brown is here undulate and also the periphery of the apical disc is not smooth, but irregular. Venezuela.
- drucei*. **N. drucei** *Rothsch.* (46 e). Distinguished by the quite uniform, somewhat hyaline oblique band, the margins of which are quite smooth. Hindwings dull pink, in the anal part somewhat extended. Guiana. — **fassli** *form. nov.* is quite similar, but the hyaline yellow band at the costa almost twice as broad. From Villaviecio in East Colombia; type in the Coll. FASSL.

N. repanda Wkr. (= *earnea* Weym., *diversa* Rothsch.) (46 d) is likewise very similar to *drucei repanda* (46 e), but it differs by the apical disc of the forewing not being smoothly margined and somewhat removed from the border; the ♂ hindwing below the apex very much retracted, light yellow, with a rosy hue. In the ♀ the apical spot flows together with the basal dark brown, as in many others of the genus, whilst in *drucei* and *fassli* it remains far apart. South Brazil: Rio, Santos.

N. pandera Schs. (= *ampla* Dogn.) (46 e), from Guiana and Venezuela, has the oblique band of the *pandera* forewing still much broader than all the others and almost quite hyaline; the brown inner area lighter at the base and proximal margin; hindwings yellow.

N. purpureotincta Joicey (46 e). As large as *abdominalis* (46 g). The basal chocolate-brown extends *purpureo-* here to the middle of the costa and to the border above the anal angle, towards the pearl-white apical part *tincta*. finely bordered with red, the apical part towards the apex faintly tinted ochreous; the apical disc rather large, elliptic, purple grey, finely encircled with red, extending down to the lower radial. Hindwings whitish, tinted dull pink, particularly in the inner area. Beneath the hindwing has a purple-pink costa. French Guiana, based upon 1 ♂ captured by LE MOULT.

N. gaudialis Schs. (46 c). Instead of the apical disc, a broad, dark violettish-brown distal band extends *gaudialis* from the costa towards the proximal angle of the forewing, where it is fused with the basal brown, leaving a large costal triangle and the border yellow. French Guiana.

N. carmen Schs. (46 e) entirely resembles *gaudialis*, but before the middle another yellow band *carmen* crosses the forewing. Hindwings blackish-brown, at the costa and proximal margin lighter. French Guiana.

N. coccinea Schs. Entirely like the preceding, distinguished only by the subbasal yellow band *coccinea*, being divided into 3 spots, and the abdomen not being brown but yellow with a rosy tint. Likewise French Guiana.

N. kennedyi Rothsch. (46 f). Smaller and with more pointed wings than the preceding; not the whole *kennedyi* margin of the forewing is yellow, but there remain only yellow marginal spots at the apex and between the median veins. Hindwings not dark brown, but quite light pink. Minas Geraes. Brazil.

N. cotes Drc. (46 f). Almost exactly like *gaudialis* (46 e), but the yellow border projects triangularly *cotes* towards the disc, above the proximal angle. Thereby similar to the total exterior of *onytes*. Central America.

N. flavorosea Wkr. In the ♂ the forewing has a violettish-red oblique shade from the middle of the *flavorosea* costa to the middle of the border; otherwise the colour of the forewings is purple violet. Hindwings orange-yellow. The ♀ has an orange-yellow triangular spot at the middle of the costa and of the border. Mexico and Honduras.

N. flavimargo Joicey from the Rio Ueayali in the Amazon District resembles the following species, *flavimargo*, but it is a little smaller. The costal yellow triangle extends into the purple-brown forewing as far as the transverse vein; it is continued at the costa, bends round at the border which it leaves very narrowly yellow, this colour projecting in the middle of the border very little into the wing. Hindwings yellow with a faint rosy tint; abdomen above purple-red, below white.

N. sardinapalus Rothsch. (46 f). Smaller than the preceding, recognizable by the yellow costal spot *sardinapalus* of the forewing and particularly the marginal yellow being strongly confined, widening scarcely appreciably between the median veins. Upper Amazon and Peru.

N. tremula Schs. (= *subgaudialis* Rothsch.). Easily recognizable by the brownish-grey forewings *tremula*, being vividly marked with small transverse streaks. Before the middle of the costal margin a small, sacciform, yellow spot, and a similar coniform spot above the anal angle of the forewing. Hindwings scarlet like the abdomen above. Size of *cotes*. French Guiana.

N. cardinalis Dgn. (46 e). Body and wings purple pink. Forewing with an antemedian, whitish- *cardinalis*, yellow transverse band being narrower in the ♀, and whitish-yellow triangular spots behind the middle of the costa and above the anal angle; also in the apex a similar small spot of a variable size. Colombia (Muzo).

N. steniptera Hmps. (= *basalis* Rothsch.) (46 f). Forewings coloured as in *tremula* and indistinctly *steniptera*, striated; in the basal part yellow embeddings marked red, above the anal angle small, bone-white spots. Hindwings yellowish, marginal half dull black. Guiana to Bolivia.

N. ockendeni Rothsch. (46 f) greatly approximates *steniptera*, but it seems to fly in the same district *ockendeni*. (Guiana to Peru); forewings somewhat more distinctly spotted, and the dark marginal band of the hindwings narrower.

N. holophaea Hmps. (46 g). Unicolorously sooty black, abdomen and hindwings faintly reflecting *holophaea*, bluish. Only the male scent-pencil on the under surface is white. French Guiana. By its exterior being unicolorous, it resembles numerous Aretiids and Syntomids of its range.

- nigricollis*. **N. nigricollis** Dgn. (46 g). Body and forewings quite similar to *holophaea*, also the blue reflection of the hindwing is present, but the hindwing is white as far as beyond the middle. Ecuador. Like the preceding it resembles numerous Syntomids and Arctiids.
- flavibrunnea*. **N. flavibrunnea** Dgn. Smaller than *nigricollis*, forewings red-brown as in *steniptera* (46 b), but without distinct spots, with light veins. Easily recognizable by the hindwing showing a light central area, from which a yellow light patch extends through the cell towards the base. French Guiana.
- abdominalis*. **N. abdominalis** Roths. (46 g). Dark brown, forewing with light veins and a whitish spot below the cell-end; vertex and posterior half of abdomen yolk-coloured. Upper Amazon.
- discophora*. **N. discophora** Hmps. (46 g). Twice as large, head, collar, and the whole abdomen yolk-coloured. Forewing with a larger, round disc behind the cell, and the hindwings in the middle whitish. Peru.
- sorex*. **N. sorex** Drc. (46 g) is almost exactly like the preceding, the spot of the forewing, however, elliptical and hyaline, the hindwing in the costal region whitish. Peru and Bolivia.
- leucoplaga*. **N. leucoplaga** Hmps. (46 g). Distinguished from the preceding by the abdomen being above dark brown. French Guiana.
- prophaea*. **N. prophaea** Schs. (46 g). Much smaller than the preceding, particularly the hindwings are small; wings dark brown, only the analmarginal area and the hindwing yellowish-pink, so is the vertex and dorsum of abdomen as far as towards the apex. French Guiana.
- eximius*. **N. eximius** Roths. (46 g). Only as large as *prophaea*, thorax and forewings dark brown with purple markings on the collar, patagia and near the base of the forewing; from there as far as beyond the middle of the forewing hyaline. Hindwing dark brown with a hyaline centre and purple at the proximal margin. Peru.
- flavipurpurea*. **N. flavipurpurea** Dgn. (46 g). Black, forewing with a broad golden yellow oblique band from the middle of the costa towards the anal angle. Hindwings and abdomen with a dull blue reflection. Colombia; discovered by A. H. FASSL near Muzo.
- chrysozona*. **N. chrysozona** Schs. Much smaller, the orange-yellow oblique band narrower, hindwings blackish-brown, but without the blue reflection. Easily discernible from the preceding by a cuneiform basal ray in the middle of the hindwing. French Guiana.
- maculosa*. **N. maculosa** Schs. The type of this species unknown to me in nature, from French Guiana, is in the National Museum at Washington and seems to have remained unique. It deviates from all the others of the genus by the thickened and woolly haired hindlegs and the plain antennae of the ♂. Forewings yellowish-white, thick, dark internerval streaks in and behind the cell, from the cell-end as far as 2 or 3 mm before the border; finer and shorter ones before the middle and at the end of the submedian space. Hindwings yellowish-white, below the cell strewn with a dark colour. Size of *flavipurpurea* (46 g), but the forewings broader and the hindwings smaller. Thorax dull greyish-brown, head and abdomen orange.

40. Genus: **Hyponerita** Hmps.

To this genus 16 species have so far been reckoned, being like the preceding genera confined to the northern parts of South America and the southernmost part of Central America. All the species represent variegated, elegantly marked forms often repeating the images of *Nerita* and *Paranerita*. They also, except one, have been discovered of late and vary very little: like in the *Ithomiinae* resembling them in the homoechromy of parallel genera, ample collections of specimens from the same district may be examined without finding the least deviations. Nor is there a geographical variation known in the genus. Whether it is itself a natural one, we have already doubted above, and these doubts are increased by the fact that e. g. a very peculiar and extreme specialization of the hindlegs appears in a *Hyponerita* (in *rhodocraspis*), not recurring in any other species of the genus, but in a *Paranerita* (in *P. haemabasis*) (45 l). Like the *Paranerita*, the *Hyponerita* have an accessory cell being produced by the 2nd subcostal vein, which is sent out from the 1st, anastomosing with the 3rd. Otherwise the *Hyponerita* entirely resemble the preceding genera; nor do they differ by the border of the hindwing being also retracted below the apex, by the scent-organ in the submedian space on the hindwing beneath, or by the antennae being mostly provided with entirely white tips. The larva is not yet known of any species, but we may expect brushy larvae with long hair-pencils at both ends.

- viola*. **H. viola** Dgn. (46 h) repeats the colouring so often recurring in the preceding genera, of *Neritos macrosticta* (46 d), *Paranerita inequalis*, *Neonerita perversa* (45 h) and others. Apical disc and inner-marginal half of the forewing uniformly violettish-brown, the rest of the wing, as well as the hindwing and abdomen honey-coloured. Guiana.

H. tipolis Drc. (= *viola borealis* Rothsch.) (46 h). The band separating the apical disc is much broader *tipolis*, and more hyaline than yellow. Thereby it resembles more a *Neritos drucei* (46 c). Southern part of Central America and Colombia; the figured specimen from Villavieeneio.

H. lucens Schs. (46 h) is nearly exactly like the preceding species, but the dark parts in the forewing *lucens*, are deep dark violettish-brown instead of light purple brown. French Guiana.

H. interna Schs. (46 h) is easily recognizable by the purple red abdomen and by the dark apical *interna*, spot being removed from the margin, but situate on the costa. French Guiana.

H. klagesi Rothsch. (46 h). The discous spot before the apex is at the apex itself pushed back by a *klagesi*, smaller spot of the yellow ground-colour; it is contingent with the dark inner-marginal spot by a narrow bridge. The latter spot from the direction of the proximal margin lighter, bluish-white. From Fonte Boa on the Amazon.

H. rhodocraspis Hmps. (46 h) represents a parallel form to the *Neritos* of the *cotes*-group (46 f) and *rhodocraspis*, to the *Paranerita* of the *niobe*-group (46 a). The ♂ hindlegs are much longer and, by means of sprawling hair-brushes, transformed into woolly paws. Colombia and Peru; the figured specimen from Villavieeneio (Coll. FASSL).

H. ockendeni Rothsch. (♀ = *ockendeni* posterior Rothsch.) (46 h) has much broader wings than the *ockendeni*, preceding which it otherwise resembles. The tooth of the marginal area projecting into the forewing is here placed higher than in *rhodocraspis*, the ♂ legs not conspicuously changed. Venezuela, Peru.

H. tramoia Joicey. Size of *ockendeni*; the yellow spot of the middle of the costa extends along the *tramoia*, costal margin towards the base and to the apex; the marginal yellow from the apex almost to the anal angle projects proximally on the uppermost median. Hindwing yellow, the inner-marginal part slightly tinged pink. Abdomen purple-red. Colombia.

H. carinaria Schs. (46 i). The yellow costal triangle and the small spots of the middle of the border *carinaria*, on the forewing very small; hindwings yellow, tinted reddish. French Guiana.

H. incerta Schs. (46 i) very closely allied to *carinaria*, the small costal spots not larger, but the marginal *incerta*, yellow in the forewing more extensive. Forewings more pointed, hindwings smaller, more intensely tinged red. French Guiana.

H. declivis Schs. (46 i) is one of the smallest species; forewings almost like in *incerta*, but still darker; *declivis*, hindwings still smaller than there, yolk-coloured, not red. French Guiana.

H. furva Schs. (46 i). All the wings quite unicolorously dark brown, only at the border of the forewing *furva*, some yellow, like the apex of the abdomen. Costa of the hindwing somewhat ochreous. Surinam.

H. similis Rothsch. (46 i). Yellow; forewings with rows of small hemochrome, guttiform spots flown *similis*, together to clouds; they give room to an antemedian transverse band and torn up groups of spots in the distal half of the wing. Head and body hemochrome, marked yellow. Hindwings pale yellow. Guiana and Amazon.

H. lavinia Drc. (46 i). The red on the hindwing increased so much that it only admits yet a yellow *lavinia*, antemedian chain, some traces at the base and few small spots in the distal area. Body hemochrome; hindwings pink. Guiana and Colombia.

H. persimilis Rothsch. (46 i). Here the yellow appears more in spots as costal triangles and as an irregu- *persimilis*, lar, light cloud above the anal angle. In the ♂ the hindwing and abdomen are yellow, in the ♀ tinged purple red. Widely distributed; from Guiana across the Amazon to Peru; the figured ♀ from the Upper Rio Negro.

H. pinon Drc. (46 i). The largest species of the genus. It distinctly repeats the colouring of a *Melese pinon*, *peruviana* (43 e); but on the forewing there is in the middle of the submedian vein another yellow spot. Hindwings of a deeper red. Santos in South Brazil.

41. Genus: **Parevia** Hmps.

This genus, composed of 13 species, likewise belongs yet to those genera resembling in their exterior such genera that do not exclusively belong to the Aretids; the *P. syntomioides*, for instance, derives its name from its resemblance to certain *Syntomidae*, such as the *Dycladia*-species (from the affinity of *D. xanthobasis*, 28 d). — All the species of the genus are very small; some have an expanse of scarcely 15 mm. From *Evius*, which the genus resembles in the venation of the forewing, it deviates by the subcostal coming from the upper angle of the cell of the hindwing mostly bifurcating before the margin. In the forewing there is no areola. Sometimes, however, also the ♂ hindwings are changed by scent-organs in such a way (*lobata*), that the course of the veins becomes quite abnormal.

- paruelli*. **P. parnelli** Schs. (46 k). From Costa Rica; it has violettish-brown forewings marked red above the proximal margin, with yellow costal triangles at the costa and at the border above the anal angle; hindwing yellow with a broad, black marginal band. Posterior femora of the ♂ very stout. The figured specimen from the Orosi.
- metachryseis*. **P. metachryseis** Hmps. (46 k) is quite similar, the yellow spot in the middle of the costa smaller, that above the anal angle larger; in the hindwing the whole distal half is black. Guiana.
- guianensis*. **P. guianensis** Joicey is also similar, but smaller, and the hindwings are above red-brown, at the proximal margin narrowly yellowish. British Guiana.
- mathani*. **P. mathani** Roths. (46 k) is of a lighter colouring, the yellow spots of the forewing at the costa and border enlarged and some more yellow spots above the proximal margin and at the base. Hindwing yellow with a black marginal band. From Teffé (Ega) on the Amazon.
- methaemia*. **P. methaemia** Schs. (46 k). A very small species; the yellow spots on the forewing are small and reduced in number, hindwing purple-red without a marginal band. Guiana.
- affinis*. **P. affinis** Roths. (46 k). Forewings unicolorously brownish dusty-grey, hindwings pink, costa, costal margin and apex dark grey; middle of the abdominal dorsum pink, too. Colombia to Guiana and Brazil.
- sisenna*. **P. sisenna** Drc. is almost exactly like *parnelli* (46 k), but the yellow costal spots are quite small, the hindwings are red instead of yellow, and their whole distal halves black. Espiritu Santo, and Peru.
- cinerea*. **P. cinerea** Roths. Size of the preceding, but the hindwings larger and longer. Quite dirty brownish-grey, wings at the border darker; the forewing also at the cell-end darker, above the end of the proximal margin before the border somewhat lighter. Fonte Boa in the Amazon District.
- griseotincta*. **P. griseotincta** Roths. (46 k). Only the size of *methaemia*, but the forewings dark brown without spots and the hindwings unicolorously blackish-brown. Surinam.
- schausi*. **P. schausi** Roths. (46 k). Dull straw-coloured with darker transverse bands of the forewings before and behind the middle, between them fainter yellow lines. A somewhat larger species; Fonte Boa (Amazon).
- griseata*. **P. griseata** Roths. (46 k) from the same district as *schausi*, but smaller, the forewing greyish with whitish veins and small white spots, placed in the shape of a Y, enclosing the cell-end; hindwing white with a narrow brownish border. It somewhat resembles several *Syntomidae* (*Eucereon*).
- syntomoides*. **P. syntomoides** Roths. (46 k) entirely resembles certain *Syntomidae* (*Dycladia*). Forewings with ante- and postmedian, discal vitreous patches, hindwings yellowish with a narrow black border. Surinam.
- lobota*. **P. lobota** Dgn. resembles certain Arctiids (*Premolis*, *Prumala*, *Eupseudosoma*); the bright, yellowish-red forewing exhibits a light yellow distal-marginal part, extending semicircularly from the border below the apex along the costa and discocellular and then towards the anal angle. Easily distinguishable by the very small whitish hindwing of the ♂, with a very short costal margin and twice as long proximal margin, the latter being tinted pink above and exhibiting a short scent-fur beneath. Size of *schausi*. Colombia.

42. Genus: **Haplonerita** Hmps.

Based upon 1 male butterfly. Distinguished from the preceding genus by the areola in the forewing, from the other allied genera by the strongly angled discocellular in the (very large) hindwing. The genus is presumably naturally allied to *Araeomolis* or *Hyperandra*.

- simplex*. **H. simplex** Roths. (43 c). Body and wings quite purple, the forewings darker with a yellow border being narrow in the middle, the hindwings lighter, more pink. Surinam.

43. Genus: **Schallotomis** Hmps.

The two species for which HAMPSON established the genus, have very little in common, and their affinity would first have to be proved. Both are remarkable for the early bifurcation of the subcostal in the hindwing, and for the absence of the areola in the forewing; in *roseothorax*, however, the median veins are distorted to such an extent that the lower one, at its rise, takes first the direction towards the middle of the submedian, then turns towards the border and terminates at the border quite close at the termination of the submedian. In the palpi the terminal joint is almost as long as the middle one. In the second species (*curta*) we do not find this anomaly of the venation, and the terminal joint of the palpus is rudimentary; here, however,

the ♂ hindwing is extracted into a long, furry anal lobe. — The two species have been described by LORD ROTHSCILD only in 1917; the first as *Diarhabdosia*, the second as *Hyponerita*. Neither of the species is known to me.

S. roseothorax Rothsch. ♂ 24, ♀ 30 mm. In the shape in fact somewhat like a Lithosiid, the long *roscolthorax*. extended forewing reddish-brown with a narrow, white stripe each close below the costal margin and close above the proximal margin. Hindwing white, at the border slightly brownish. Peru.

S. curta Rothsch. (26 mm). Forewings coloured and marked about similarly as in *Paranerita peninsulata curta*. (46 a), but the hindwings light yellow, only in the costal area tinted reddish, with an oblong anal part showing on the under surface a felt-like cover in the submedian space. Guiana.

44. Genus: **Antaxia** Hmps.

Described as a Syntomid genus by the author and only later on reckoned among the Arctiids, together with the genus *zatrephes* Hbn. closely allied to the *Antaxia*. Closely allied to the *Automolis*; distinguished from the preceding genera by the absence of the subcostal (free costal) in the hindwing. Palpi short and stout, with dense hairing. Cell of the hindwing obliquely defined, the lower cell-wall longer than the upper one. Except 2 species, all the *Antaxia* have rather long-combed antennae. 11 species in Tropical America, to the north as far as Mexico.

A. similis Rothsch. (46 l). The dark apical spot of the forewing is connected with the brown of the *similis*. inner-marginal area by a chain of spots; in the said brown a small, yellow, round spot below the cell and a crescentiform yellow spot above the middle of the proximal margin are embedded; abdomen hemochrome. Peru.

A. pyrgion Drc. (46 l) greatly resembles the preceding, the connection of the apical spot with the basal *pyrgion*. brown of the forewing is only produced by some very fine, small dots. The hindwing has a bright red proximal half and exhibits above the anal angle a grey nebulous spot parted by the veins. Panama and Costa Rica, on the Volcano Irazu.

A. meridionalis Schs. (46 l) is lighter coloured than the preceding; the whole basal part of the forewing *meridionalis*. except one fourth light yellow, the brown above the proximal margin brightened up by violettish-white embeddings, the yellow spot at the middle of the proximal margin extended to a longitudinal stripe, the hindwing of a purer white, at the proximal margin only quite pale pink and without the nebulous spot. Peru.

A. creon Drc. Forewings again as in many *Idalus*, *Prumala*, *Neaxia* etc. divided into a dark basal *creon*. and a light yellow apical half. From the apex emerges an oblong oblique spot being strangulated in the middle and encircled by hemochrome, not being connected with the basal brown. Near the base below the costa, a small yellow longitudinal spot is embedded in the brown. Hindwing in the anal part tinted pink. 40 mm. Mexico.

A. primulina Dgn. (46 l). Nearly the whole forewing purely light yellow, only the apical spot is yet *primulina*. brownish, the costa and small, feeble spots round the middle of the cell; hindwings purely white. Colombia.

A. collaris Jones (46 l). In this species being one of the few of this genus with almost plain antennae, *collaris*. quite contrary to the preceding, the brown is strongly increased, so that the apical spot is connected with the brown of the inner-marginal area by a thick band. Hindwings purple pink, at the border blackish spots. In the ♀ the thorax and hindwings are tinged more purple than brown. Santos in South Brazil.

A. apiciplaga Rothsch. (46 l). Quite purple pink; on the forewing a broad yellow band, beginning *apiciplaga*. directly below the costa, extends to the middle of the border and cuts off a circular apical spot from the ground-colour. Fonte Boa on the Amazon.

A. dichroma sp. nov. (46 l). Like *apiciplaga*, but the yellow band separating the apical spot is twice *dichroma*. as broad and somewhat diaphanous in the middle; hindwings lighter. From Mount Tolima in Colombia; discovered by FASSL.

A. flavomarginata Rothsch. resembles about some *Paranerita*; forewing purple brown, the costa, a *flavomargi-* triangle behind the middle of the costal margin, and the border broadly yellow. Hindwings pink with yellow *nala*. fringes. Fonte Boa (Amazon).

A. abdominalis H.-Schäff. (46 m). Light yellow, head and thorax orange, marked black. Forewing *abdomina-* yellow with ochreous veins, and fine, interrupted black streaks between; at the cell-end an orange crescent *lis*. surrounded by black; behind it an undulate transverse stripe bending far outwards behind the cell; an ante-marginal, broad, orange-yellow band with a row of dark dots; hindwings semi-diaphanous, at the proximal margin tinged orange; abdomen orange. South Brazil.

A. hyalina Rothsch. (46 l). Body and base of forewing orange-yellow, through the middle an obliquely *hyalina*. curved transverse band filled up with blue, encircled and marked with black, behind it a transparent spot before

the darkened, greyish-brown marginal part. Peru, Costa Rica, on the volcano Irazu; in specimens from there the anal part of the border in the hindwing is brownish. — *amaculata* Rothsch., described from Colombia, has the border not covered with brown; but there are also specimens from the Orosi in Costa Rica, taken together with typical ones. — On the contrary, however, specimens from the Rio Songo in Bolivia show the black shading increased and extending into the hindwing.

45. Genus: **Eupseudosoma** Grt.

About 12, not homogeneous forms compose this genus. One group, being the typical one, has snow-white butterflies with a hemochrome abdomen. The larvae are wrapped up in a dense fur, in which they stick like in a sack from which the head looks out; the head, however, is again crowned by bownet-like projecting brushes. The pupa is red-brown encased in an oviform furry cocoon. In this division the subcostal of the hindwing bifurcates before the cell-end. In the second division we find variegated butterflies, scantily haired larvae, a loose cocoon, and in the ♂ hindwing the subcostal bifurcates behind the cell-end. The ♂♂ of the first division have also more pointed forewings, those of the second such with a rounder border. The first division is probably allied to the Syntomids, the second more to the genuine *Arctiinae*; at any rate it is a mixed genus.

A. Butterflies snow-white, mostly with a hemochrome abdominal dorsum.

- involuta*. **E. involuta** Sepp (= *floridum* Grt., *immaculata* Graef) (50 a). Wings white with a satin gloss, only the apical part of the costa of the forewing with a very fine black cover. In the ♀ mostly an extremely fine, somewhat curved longitudinal streak, appearing black only in a certain exposure to light, runs through the whole submedian space of the forewing. On the abdomen the dorsum is hemochrome, the 3 last segments, the base and a minute median spot behind it are white, behind it often yet minute white dorsal dots. — In *flavida* *Dgn.* from French Guiana the abdomen is above orange-yellow. — *nivea* H.-Schäff. (50 a) has more purely white, less diaphanous wings, and on the red dorsum of the abdomen there are small white transverse bands. On the forewing, beside the submedian ray, another dark streak runs from the transverse vein to the border. — *agramma*. **agramma** Hmps. (= *involutum* Drc. p. p.), according to its author a distinct species, is somewhat smaller, the forewing without the black costa, the ♂ with smaller hindwings. — Larva in a dense furry cover by which it is sacciformly surrounded and which may be red-brown, grey, orange-yellow, even velvety black. On the 2nd and 3rd ring there are whitish pencils projecting in front beyond the head. On *Psidium pyrifera*, *Eugenia buxifolia* and *E. procera*. The species is widely distributed, from Florida to South Brazil; *agramma* described from Mexico. The butterfly likes to come to the lantern and is in some places not rare; in Guiana it leaves the pupa already on the 9th day.
- aberrans*. **E. aberrans** Schs. (50 a), from South Brazil and Paraguay, is quite similar, but the costa of the forewing much more intensely dark brown, and the inner-marginal part of the ♂ hindwing often intensely tinted pink.
- bicolor*. **E. bicolor** Rothsch. (50 a) from Colombia (Santa Marta) has the abdomen red almost to the apex, the thorax being marked red, the forewing at the costa yellowish and at the base at the proximal margin tinted pink; the discocellular is very finely dotted black. Hindwings purely white; very closely allied to *involuta*.
- grandis*. **E. grandis** Rothsch. (50 a) from Peru is recognizable by the large size, the purely white wings and the prothorax being marked yellowish.
- nigropunctata*. **E. nigropunctata** Rothsch. (50 a). White, the forewing with black punctiform spots in and below the cell and before the apex, near the border; costa profusely blackish-brown; abdomen not red but above white, faintly tinted yellowish-brown. Amazon: Fonte Boa.

B. Wings variegated, not white.

- bifasciata*. **E. bifasciata** Cr. (50 a). Purple brown, with lighter patagia. Body and wings in some places reddish; forewing with 2 ante- and postmedian dark lines parallel to the border. Surinam. — *eurygania* Drc. is the form from the Chiriqui in Panama, more yellowish-brown, without the red tinge. — Larva scantily short-haired, black, with lateral and subdorsal bands composed of numerous white dots head yellowish-brown, ventral feet and their ramifications light reddish; on coffee.
- affinis*. **E. affinis** Rothsch. (50 b) from Peru is rather exactly like a small *Neonerita syriassa* (45 h) which is often repeated in the South American Arctiids (e. g. in *Zatrephes pseudopremolis*), the basal half of the forewing purple-brown, apical half diaphanous light yellow, costa and a small costal spot before the apex purple brown; hindwing whitish-yellow, inner-marginal part tinted purple.

E. marpessa Drc. (50 b) is quite similar, the purple of the basal half more extensive; the small preapical *marpessa* spot larger. Likewise from Peru.

E. parapessa Dgn. (50 b), from the same district as the preceding, has $\frac{3}{4}$ of the forewings purple, *parapessa*, which colour extends at the costa broadly to the apex; only the marginal area, proximally bordered with an irregularly undulated, dark line, remains diaphanous.

46. Genus: **Premolis** Hmps.

This genus of which 5 species are described has, like the last division of the *Eupseudosoma*, no uniform character owing to imitations from other genera. Remarkable is the small proboscis, the entirely rudimentary palpal terminal joint and above all the strong antennal teeth being thickened towards the ends. Forewing without an areola, the 1st subcostal vein branches off directly before the upper angle of the long, cuneiform cell of the forewing, the upper median with the lowest radial veins almost simultaneously from the lower cell-angle. The species seem not to be common.

P. flavithorax Roths. (50 b). Parallel form of *Prumala pyrostrota* (44 i). The violettish-brown basal *flavithorax* half is bordered with purple red and sinuately defined towards the yellow distal area in which there are 4 black dots between the veins. Abdomen vermilion. Amazon District.

P. ridenda Dgn. (50 b) from Guiana is a form parallel to *Eupseudosoma marpessa*. The purple brown *ridenda* of the basal half of the forewing extends as a costal band along the costal margin and bends round towards the margin at the apex in a hook.

P. rhyssa Drc. (50 b) is quite similar, larger, the costal stripe in the apical half very dark blackish-*rhyssa* brown, in the purple brown part of the wing whitish embeddings surrounded by dark. Peru.

P. semirufa Wkr. (50 b) is a large species resembling somewhat *N. minerva* (44 h); in the distal *semirufa* half of the forewing a hyaline yellow band being very broad at the costa, ending only half as broad at the border, extends in front of the apex. In this band the veins are dark, the spaces between dotted red. Hindwings pink, towards the costa lighter. Panama and on the lower Amazon, as well as Peru.

P. amaryllis Schs. is the smallest species. Still smaller than *flavithorax* (50 b). Head and thorax *amaryllis* yellow, marked red. Forewings honey-coloured, the costal margin broadly red-brown; behind the cell, from this costal band a similarly red-brown, equally broad, straight band runs towards the proximal margin which it touches just at the anal angle. Hindwings yellow with a red hue; abdomen orange. 32 mm. From French Guiana. The type in the National Museum at Washington.

47. Genus: **Automolis** Hbn.

In this genus HAMPSON combines more than 12 other genera, with about 200 forms. The very name of this collective genus offers difficulties, since the typical species is doubtful, although the imago, larva, pupa and cocoon are figured. The single groups of the genus are certainly rather little allied to each other, as we see already from our superficial knowledge of their early stages. The first divisions show as larvae distinct relations to the Syntomids, but also to the *Pelochya* which are perhaps neither genuine Arctiids. The *rutilus*-group has unmistakable *Halisidota*-larvae, and others again emerge from larvae scarcely differing from the common *Arctia*-larval form provided with uniform hair-tufts. — In the way as the genus is at present composed, chiefly according to the venation being unreliable in the Arctiids, it contains the most heterogeneous formations: large and small, clumsy and slender species, angled and entire-margined forewings; small, stunted hindwings and also such showing no abnormality whatever; the venation itself also often deviates considerably; the hindwing has sometimes 7 (*sanguinolenta*) sometimes 8 (*ventralis*) veins; the subcostal vein of the hindwing may branch off far before the cell-end, or also only at it; furry spots may be absent or present in the ♂, on one wing (*larissa*) or on both (*semiopalina*). The antennae also vary in length. On the whole, the genus makes the impression of being an assortment of species rather remote from one another, which will be dissolved into a greater number of genera later on, when more females and larvae will be known. We must here restrict ourselves to mentioning the few characteristic marks being common to most of the species and arrange them one after another in such a way that the colourings may be denoted with but few words and be developed one from another.

Head rather large with thick round eyes; palpi rising, the terminal joint mostly short, often quite rudimentary, sometimes also long (*semiopalina*); proboscis always strong. On the forewing the lower median vein always rises far before the cell-end, the upper median vein emerges from the lower cell-angle and the uppermost

(last radial) comes from the same place, but it may also branch off yet before the cell-angle. The 2nd radial comes from the upper cell-angle, the subcostal veins 2 to 5 with a common footstalk, the first rising from the upper cell-wall, sometimes close sometimes farther before the cell-end. Hindwing sometimes entire-margined, sometimes retracted below the apex, in the ♂ sometimes costally (*herois*) or also anally (*reducta*) lobated; cell almost invariably of exactly half the length of the wing. Nearly all the butterflies are very conspicuously variegated and very beautifully marked species, some with metallic colours on their body. The larvae often have brush-shaped pads on the 5th and 11th rings or woolly transverse puffs, before or behind them long pencils formed of few bristles; otherwise they are short-haired. Some live on trees (*Psidium pyrifera*) and are not easy to breed. The butterflies come to the lantern at night and many appear to be very rare; most of the species have been discovered during the last years.

- sypilus*. **A. sypilus** Cr. (50 c). The orange longitudinal band of the forewing is broad at the base of the wing and terminates pointed behind the cell; before the apex a spindle-shaped, orange-yellow oblique spot. Hindwing in the costal part orange. Abdomen with an orange transverse streak on the 1st and 2nd rings, the posterior half black with metallic blue dorsal and lateral spots. — Larva dark brownish-grey with a light dorsal and lateral stripe and an ochreous brown head, on the 5th and 11th rings there is a yellowish-brown dorsal brush, similar to that of an *Orgyia*-larva, but above rounded off, behind each of these brushes 4 to 6 very long white hair-pencils. Pupa yellowish-brown, in an oviform, Syntomid-like, grey cocoon intermixed with hair. Surinam.
- sypalettius*. **A. sypalettius** sp. nov. (50 c). Only half the size of *sypilus*; the small apical band almost forms the continuation of the yellow basal ray ending taperingly soon behind the cell-end. From Villavieencieio (Colombia); type in Coll. FASSL.
- metallica*. **A. metallica** Joicey (50 e). Head and body above blackish-brown, vertex and abdominal dorsum spotted metallic blue. Forewing greyish-black with yellow-streaked veins, below the cell a yellow stripe as far as into the disc, and before the apex a small yellow spot; hindwing black with an orange costal spot. The patagia are always striped orange, but the abdomen only sometimes at the base yellow; the orange stripe in the forewing may be more intense or fainter. From Colombia and the Chiriqui.
- packardi*. **A. packardi** Btlr. (= *sypilus* Wkr. nee Cr.) (50 c) differs by the quite black abdominal dorsum, almost entirely black thorax, narrower orange stripes of the forewing, the preapical one of which is prolonged like a band; hindwing in the costal part lighter, but not orange. Amazon; Pará, Teffé.
- saturata*. **A. saturata** Rothsch. (50 c). Body above quite feeble with a narrow, yellow patagial margin; longitudinal stripe of the forewing narrower and much more curved, hindwing with a yellow costal half. Perhaps the ♂ of *sypilus*. Guiana, Santa Catharina.
- neira*. **A. neira** Schs. (50 c) only differs from *saturata* by the small, preapical, orange band of the forewing being placed more steeply. Rio de Janeiro.
- sphingidea*. **A. sphingidea** Perty (= *vittigera* Fldr.) (50 c) is immediately recognizable by the orange band extending into the apex of the forewing itself, not to the border below it. Amazon.
- ataenia*. **A. ataenia** Schs. (= *collateralis* Rothsch. nee Hmps.) (50 d) is much larger and stouter, the longitudinal band of the forewing ends in the upper third of the border. In the ♂ the stripe of the forewing is narrower and its end does not pierce the fringes; costal part of the hindwing yellow, in the ♂ the apex is black. Amazon District from the Rio Negro to Pará. — In **rosenbergi** Rothsch. (50 d) from Venezuela and Ecuador the longitudinal stripe of the forewing ends 2 or 3 mm before the border and the apex of the hindwing is broader black.
- taeniata*. **A. taeniata** Guér. (= *sphingiformis* Clem., *imitata* Drc.) (50 d). The orange stripe of the forewing is broader, but not curved, but straight. Abdomen orange with a black dorsal stripe. Mexico to Costa Rica; one of the most common species of the genus.
- underwoodi*. **A. underwoodi** Rothsch. (50 d). Longitudinal stripe of the forewing more than twice as broad as in the preceding; abdominal dorsum posteriorly quite black. Costa Rica.
- guapisa*. **A. guapisa** Schs. (50 d). The longitudinal stripe of the forewing is quite thin and dull dark orange, besides the veins are very finely marked orange. Costa Rica.
- pseudoguapisa*. **A. pseudoguapisa** Rothsch. (50 d, e). The yellow median stripe of the forewing is in the ♂ only quite thin and in Peruvian ♀♀ only yet noticeable in the basal third of the forewing. Venezuela, Peru. — Distinguishable from the preceding by the abdominal dorsum being above quite dark, the basal part of the abdomen in *guapisa* showing lateral yellow spots.
- fulgurata*. **A. fulgurata** Btlr. (50 e). The yellow band of the forewing extends broadly as far as behind the cell-end, but then it ends pointed into the propinquity of the border. The veins are quite faintly marked yellow. South Brazil.

A. melea *Drc.* (50 e). The band of the forewing is quite straight and at the end rather broader than *metea*, at the base. Venter beneath with yellow transverse bands on the rings 1 to 6. In the yellow costal region there is below the middle of the costa in the ♂ a small black spot being absent in the ♀. Venezuela, Upper Rio Negro.

A. maura *Schs.* (50 e). Above almost exactly like *melea*, but recognizable by the abdomen beneath *maura*, not being banded yellow, but black, with metallic blue spots. Costa Rica.

A. collateralis *Hmps.* (nec *Rothsch.*) (50 f). Band of the forewing much broader than in the prece- *collateralis*. ding; recognizable by the entirely orange-yellow patagia. Besides the border of the forewing is tinged orange. Colombia.

A. pratti *Drc.* (50 e). The orange band of the forewing is so much widened that only the margins *pratti*. remain blackish-brown. Colombia.

A. tanialoides *Rothsch.* (50 e). The orange area of the forewing extends in its whole length as far as *tanialoides*. the costa, so that only in the apical part the costal margin remains yet very finely black. At the sides of the abdominal base 1 small orange spot each. Costa Rica.

A. taniala *Schs.* (50 e) almost exactly resembles the preceding above, only the small orange spot at *taniala*. the abdominal base is absent and the costal part of the hindwing is not quite so extensively yellow. Venezuela.

A. latania *Drc.* (50 f). Forewings quite orange, only the distal margin quite narrowly black, extending *latania*. round the apex and proximal angle. Abdominal dorsum at the base with yellow lateral spots; venter with orange transverse bands. Colombia, Upper Rio Negro, Venezuela. — In the form **vulcanica** *form. nov.* (50 f) *vulcanica*. the yellow ventral bands are reduced to 2 small spots and the yellow lateral spots at the base of the abdominal dorsum are absent altogether. At the proximal margin of the forewing a jet-black wedge-shaped spot; from the volcano Irazu in Costa Rica.

A. nabdalsa *Schs.* (50 f). Orange; forewing with black streak-spots along the costal margin and bet- *nabdalsa*. ween the veins in the marginal area. Border of the hindwing narrow black. End of abdomen black, spotted lustrous blue. Mexico, Vera Cruz; apparently rare.

A. opposita *Wkr.* (= *ochrophila* *Fldr.*) (50 f) has always an orange basal part of the abdomen. Fore- *opposita*. wing with an oval orange spot behind the middle of the costa, extending towards the anal angle, and with another one from the lower cell-angle towards the middle of the proximal margin; the veins streaked light. Hindwing orange with a marginal band growing broader towards the proximal margin. Still smaller than *nabdalsa*. Apparently very rare. Amazon and Guiana. The type in the British Museum.

A. chrysomelas *Wkr.* (= *geometrica* *Fldr.*) (50 f). Forewing orange-yellow, divided into 2 areas *chrysomelas*. by a black ray from the base being bent round at the cell-end and extending above the anal angle into the border. Guiana, South Brazil.

A. sicilia *Drc.* (= *parma* *Schs.*) (50 f). Orange; forewing with a white apex encircled by black, *sicilia*. hindwing with a blackish border. Mexico, Central America, and Colombia.

A. contraria *Wkr.* (50 g). Smaller, otherwise quite similar to the preceding, but the white apical *contraria*. spot much broader encircled by black. Colombia and Amazon District.

A. albimaculifera *Hmps.* (50 g). Like *contraria*, but the costal margin of the forewing broad blackish- *albimaculifera*. brown. Manicoré (Amazon).

A. zenzeroides *Btlr.* (50 g). Orange, the dark apex of the forewing contains 2 light pupils; at the *zenzeroides*. border above the anal angle a small, dark spot. Rio Purus (Amazon).

A. orbona *Schs.* (50 g). Orange, the forewing with a dark apex, which, however, has no white pupil; *orbona*. before the border some small, dull nebulous spots. Hindwing yellow with small dark marginal spots. Mexico (Vera Cruz).

A. bonora *Schs.* (50 g) entirely resembles *orbona*, but the apex of the forewing only very narrowly *bonora*. encircled by black; at the border of the hindwing only 2 very small black dots. French Guiana.

A. ochreomarginata *Joicey.* Like the preceding species orange, but the abdomen already from the *ochreomarginata*. 3rd ring blackish-brown with blue lustrous spots on the dorsum of the 3 last rings; the forewing have only at the apex dark brown fringes, the hindwing is pale orange. French Guiana.

A. sulfurea *Schs.* (50 g). Likewise yellow, but here the thorax and forewings are pale yellow, the hind- *sulfurea*. wings orange; the latter with a black marginal band from the anal angle to beyond the middle of the border. Abdomen beginning from the 4th ring black, spotted blue. French Guiana.

- salma*. **A. salma** Drc. (= *superba* Hmps. p. p.) (50 g). Sulphureous, forewing with a minute black spot before the anal angle; abdomen orange, at the end a dark, lustrous blue dorsal spot. The ♀ has also at the anal angle of the hindwing a small dark spot. Central America. — In the quite similar **superba** Drc. (50 g) from Colombia and Ecuador the small spot of the forewing is more intense and the hindwing paler orange-yellow; besides another black apical dot in the forewing and black dusting at the middle of the border of the hindwing.
- pauperis*. **A. pauperis** Schs. (50 h). Yellow, the forewings orange, without any small black spots, the hindwing in the disc pale diaphanous. Apex of abdomen blackish. The hindwing are much larger than in *salma*, the shape more squat. Costa Rica.
- fassli*. **A. fassli** Dgn. (50 g). Quite orange, the apex of abdomen neither black; the hindwing only in the costal half lighter. ♂ hindwing with a pointed anal lobe. From San Antonio in Colombia.
- virescens*. **A. virescens** Rothsch. (50 h), like *fassli*, deviates considerably in the shape from the other *Automolis*, and according to HAMPSON's investigations it belongs into the genus *Hypomolis*, near *H. ockendeni* and *H. rothschildi*. Unicolorously pale green, only the costa of the forewing and fringes orange; abdomen and inner-marginal area of the hindwing sulphureous. Peru.
- leucoptera*. **A. leucoptera** Hmps. (= *albescens* Rothsch. p. p.) (51 c). The largest *Automolis* known; body with appressed white scales and wings thinly scaled white, the latter therefore somewhat transparent and with a faint bluish-green reflection. Guiana.
- albescens*. **A. albescens** Rothsch. (50 h). Unicolorously milky white, body and wings. Not quite half the size of *leucoptera*. Surinam.
- noira*. **A. noira** Jones (50 h). Likewise white, but the thorax finely marked rosy-red, forewing with a yellowish costal stripe, darker veins and internerval streaks in and below the cell. Santos (South Brazil).
- surinamensis*. **A. surinamensis** Rothsch. (50 h). White, body and forewings bone-white, hindwings milky-white; forelegs inside purple. Much larger than *noira*. Surinam.
- schausi*. **A. schausi** Rothsch. (50 h). All the wings pale yellow, thorax light yellow with 2 dots on the tegulae and a black spot between the patagia. Abdomen black with a broad, orange-yellow belt, on which there is a black spot. Costa Rica.
- elissa*. **A. elissa** Schs. (50 i) is very much like *schausi*, somewhat smaller, of a lighter colouring, thorax without spots, the black of the apex of the abdomen only above, whereas beneath the whole venter is orange. Venezuela, Brazil and Bolivia (Rio Songo).
- pseudelissa*. **A. pseudelissa** Dgn. (50 i) from Venezuela, Peru and Bolivia is exceedingly similar to the preceding, but across the mesothorax, between the patagia, a black streak, and the abdomen at the end not black, but yellow with small black transverse spots and with punctiform lateral spots.
- elissoides*. **A. elissoides** Rothsch. is almost exactly like the preceding, only paler, more bone-white than pale yellow, but beneath easily recognized by the chest being orange-yellow, whereas *pseudelissa* has a blackish chest and only orange-yellow anterior hips. Venezuela, Trinidad, and Bolivia.
- ventralis*. **A. ventralis** Schs. (50 i). Size, shape and colour of wings like in the preceding, but the forewing at the base black, and bordered with black at the costa and anal angle. Besides the body is above black except the creamy-white tegulae and patagia, beneath, however, orange. Colombia (Villavicencio) and Venezuela.
- tripunctata*. **A. tripunctata** Drc. (50 h) is much smaller than the preceding; pale yellow, head, and collar yolk-coloured, forewing with black, lustrous blue spots at the base, anal angle and between the radials. A dark costal streak proceeds from the base and cuts off the apical part. Panama.
- brachystriata*. **A. brachystriata** Dgn. (50 i). White, somewhat opalescent, abdomen banded red; round the cell-end of the forewing small dark punctiform spots, one near the base and one between the cell-end and border; short, golden brown transverse streaks on the median veins, the submedian, and between in the submedian space. Hindwings entirely white. Colombia.
- aleteria*. **A. aleteria** Schs. (50 i) resembles the preceding; abdomen above except apex and base quite red, spotted whitish; forewing without dark dots before and behind the transverse vein, the yellowish-brown streak-spots in the disc longer, the ♂ with a round sexual spot at the costa of the hindwing. French Guiana.
- aletis*. **A. aletis** Schs. (50 i). Thoracic dorsum with 4 dark dots, ♂ with prominent brown streaks round the cell-end and a small punctiform streak far behind them; ♀ with a double row of streaks in the submedian space and below it. Costa Rica and Panama.

A. idalia *Hmps.* (50 i). Abdominal dorsum quite red except the base and apex. Forewing without *idalia*, spots round the cell-end, but with a broad, brown costal margin and groups of streak-spots at the base and above the anal angle. Wings tinted pink. Rio de Janeiro.

A. crinis *Dre.* (52 a). White, thorax and head orange and spotted red. Through the middle of the *crinis*, forewing runs a small, greyish-yellow transverse band being on both sides distinctly, though irregularly, bordered with black. Before the distal margin a small black streak and almost invariably 2 or 3 distinct black parallel streaks above the proximal margin; also at the base some marking. Mexico and Central America; in some places common.

A. metacrinis *Rothsch.* (52 a). Similar, larger; the small transverse band of black transverse lines is *metacrinis*, replaced by a series of brown internerval spots from the costa to the middle of the proximal margin. Otherwise the wings are white except some small basal streaks. Colombia, Ecuador.

A. tenuifascia *Dgn.* (50 k) from Colombia is quite similar, but the abdomen only at the base red, *tenuifascia*, thorax unspotted. At the base of the forewing 4 long streaks, the small transverse band is only a row of punctiform spots and bordered with black only at the cell-end, before and behind it the wing is tinted ochreous-yellow. Colombia.

A. delicata *Möschl.* (50 k) is quite similar, the size of *crinis*. Abdomen purple red with white dorsal *delicata*, dots. Forewing with a grey basal spot striped black, below it a pink inner-marginal spot. In the cell-end and below the middle of the cell a yellow spot, through the middle of the wing a narrow grey oblique band exhibiting transverse streaks at the costa and above the proximal margin, with a black border at the cell-end. Jamaica.

A. pichesensis *Dyar* (52 a). Dorsum of abdomen red, thorax variegated. Forewing with a violettish- *pichesensis*, grey basal quarter finely traversed by the veins, the transverse band somewhat curved, the wing before and behind it slightly tinged yellowish. Peru.

A. crithéis *Dre.* (50 k). Thorax spotted yellow, abdomen red with traces of rows of white dots. Fore- *crithéis*, wings yellowish, the basal spot extending almost equally far at the costa and proximal margin, traversed by the veins, bordered with white, the transverse macular band proximally convex. Panama, Brazil.

A. herois *Schs.* (50 k). Somewhat smaller, the basal spot of the forewing extends at the proximal *herois*, margin farther than at the costal margin and encloses a pink inner-marginal spot. The small transverse band has the proximal border almost straight, the distal border very convex. Mexico, Venezuela, South Brazil. — **iragorri** *Dgn.* are specimens from Venezuela, Ecuador and Brazil, chiefly distinguished by their larger size *iragorri*, and the rounder shape of the ♂ hindwing.

A. ochracea *Rothsch.* (50 k) is quite similar, but the transverse band duller and the basal spot of the *ochracea*, forewing forms a wreath of short rays reaching the costa only with a dot, extending, however, at the proximal margin, where it encloses a yellow basal spot, almost to the middle. Abdomen ochreous yellow. — **dorsalis** *dorsalis*, *form. nov.* (50 k), perhaps a distinct species, shows the transverse band distinct, also the rays at the base growing shorter towards the costa, but the abdomen is hemochrome. On the forewing the yellow tinge of the median area reaches neither the costa nor the proximal margin. Central Colombia (Villavicencio, discovered by FASSL).

A. decisa *Rothsch.* (50 k) is larger than the preceding, easily recognized by the thicker, somewhat *decisa*, irregular spot at the transverse band through the middle of the forewing. Guiana.

A. dognini *Rothsch.* (52 a) is quite similar to *decisa*, but the transverse band straighter, the thorax *dognini*, marked red and the basal spot in the inner-marginal half only yet represented by a dot above the proximal margin before its middle. Peru.

A. monostidza *Hmps.* (52 a) is very closely allied to *dognini*, but between the cell-end and the border *monostidza*, of the forewing there is yet a black, oblong dot. Peru.

A. carinosa *Schs.* (51 a). Transverse band and basal spot scarcely appreciably and very finely crossed *carinosa*, by the light veins, whereby both appear darker and more intense. Base of proximal margin bright red. Rio de Janeiro.

A. ochreata *Schs.* (52 a), from Guiana, has yellow wings, the centre of the forewing of a deeper colour, *ochreata*, and an ochreous-yellow abdomen. The very broad transverse band approaches at the proximal margin very much the dark basal band. Beneath both wings show a scent-fur in the disc.

A. luteorosea *Rothsch.* (52 a). The transverse band of the forewing still much broader than in the *luteorosea*, preceding, forewings otherwise yellowish. Hindwings and abdomen purple-pink. Guiana.

A. multicolor *Rothsch.* (52 a). Marking almost like in *luteorosea*, but the ground-colour of the forewings *multicolor*, dark brownish-yellow. At the costa of the forewing 2 white patches representing the beginning of the white border defining the transverse band and basal spot in the allied species. Guiana.

A. ditissimus *Dre.* (51 a) is unlike the *Automolis* owing to its slender body as well as to the relatively *ditissimus*, long wings; also the marking of this and the 2 or 3 next species deviates from all the other *Automolis* by the

resemblance to numerous *Neritos*, *Paranerita* etc. Forewings brown, marked red, along the border and costa a yellow band, the latter in the middle of the cell broadest. Abdomen and hindwing dark brown. A small species; Panama, Amazon, South Brazil.

chrysopera. **A. chrysopera** Schs. (51 a) is still smaller, the costa marked red, not yellow, at the border irregular, orange-yellow spots. Hindwings in the basal half pink, distal half black. Guiana.

pulverosa. **A. pulverosa** Schs. Thorax white, marked yellowish-brown, abdomen above orange, beneath white. Forewing pale brown with white streaks on the veins in the marginal area or small white dots. Near the base a white transverse streak, also the transverse vein white, round the lower cell-angle brownish shading; postmedian line white, incomplete. Hindwing diaphanous white, in the middle of the border tinged brownish. Size of *fassli* (50 g). Surinam.

neritosia. **A. neritosia** Jones is very little larger than *ditissimus* (51 a); forewing pale red-brown with a large pale yellow distal spot, the border of which extends from the anal angle to the cell-end, from there below the costa distally and making below the apical part a small, downward convex bow. Abdomen red, hindwings pale yellow. South Brazil (São Paulo).

semirosea. **A. semirosea** Wkr. (51 b) is still smaller than *neritosia*, the light yellow distal spot proximally irregularly defined, a second, conical spot on the submedian. Hindwing light pink, at the proximal margin darker. Amazon (Teffé).

perflua. **A. perflua** Wkr. (51 a) is much larger than the preceding. Forewings violettish-brown; large yellow spots at the base, middle of proximal margin and at the border, smaller ones in the ♂ round the cell-end; hindwings in the ♂ deep pink, in the ♀ browner. Rio de Janeiro.

juvenis. **A. juvenis** Schs. (51 a). Very dimorphous; particularly the ♂ repeats the colourings of numerous *Amaxia*, *Neritos*, *Paranerita*, *Neaxia* etc. A violettish-red proximal part of the forewing, resting broadly on the proximal margin, but leaving free the costa, is in a dentate incision defined towards the light yellow apical half which shows rows of fine dots and small rings and large spots marked red before the apex. In the ♀ the violettish-red basal part is very much mixed with yellow, and the preapical spots are connected with the brown at the proximal margin by an oblique chain of spots parallel to the border and more or less complete. Mexico, apparently not rare.

divisus. **A. divisus** H.-Schäff. (= *marcapata* Drc.) (46 l). Purple red, forewing at the base with a white dot. From the middle of the cell 2 curved, dark lines proceed; marginal area pale yellow with a purple apical spot; hindwing in the costal half hyaline, in the proximal half red. The ♀ has a hyaline spot encircled by red from the costa to the 1st median vein, hindwings light rosy-red. Size of *juvenis*. Peru *).

ilioides. **A. ilioides** Schs. (51 a) resembles some *Carathis* in the colouring (comp. p. 335); forewing light yellow with brown spots along the proximal margin and border, and marked with dark rings in the disc. Hindwing diaphanous white, at the proximal margin pink; abdomen orange. Guiana.

ilus. **A. ilus** Cr. (51 b) is larger (50 mm), the shape recalling *Halisidota*. In the whole forewing, except the apical quarter, the dark brown colour is preponderant, the yellow being interspersed in differently shaped small spots near the base, at the costa, and before the border. The small rings marked much smaller than in *ilioides*. Hindwing and dorsum of abdomen purple pink. Guiana, Colombia, and in a great part of Brazil.

formona. **A. formona** Schs. (51 b). Forewing pale yellow, in the disc dispersed dark markings, the veins red. A dark stripe extends from the base of the forewing to the anal angle, and a postmedian, densely dotted, dark line parallel to the border. Hindwings pink; abdomen above purple. Guiana. — This species also resembles a *Halisidota*.

baritioides. **A. baritioides** Roths. (51 b) is much smaller; on the forewing the pale yellow ground-colour is almost entirely covered by red shades, tinges, margins, and vein-streaks. Body and hindwings purple pink, the latter at the costal margin lighter. Amazon.

ignivena. **A. ignivena** Joicey (53 f). Size of *juvenis*-♀ (51 a). Forewing light red-brown, cell and the space behind it tinged dark brown, with which the brown of the marginal half of the proximal area is connected; veins red, red markings in the cell and disc; marginal half pale yellow; hindwings dark brown; abdominal dorsum purple. Peru; founded upon 1 ♀.

citrina. **A. citrina** Drc. (51 b). Forewing bright yellow with a red streak-spot from the base and above the proximal margin at the anal angle, above both red streaks grey markings; at the cell-end a small, greyish-red band, a minute ring-spot before the apical part. Hindwings white, abdominal dorsum purple. Venezuela and South Brazil.

rosa. **A. rosa** Drc. (51 b). Larger; forewing lemon-coloured with a purple cloudy spot below the cell, a red transverse spot at the cell-end and a red, curved, above broad postmedian band; hindwings white, body yellow. Colombia.

* The position is doubtful; p. 363 by mistake denominated as *Antaxia dichroma*, by HERRICH-SCHAEFFER at first as *Cretonotus*, then as *Echeta*. Nor did DRUCE recognize it, and placed it as *marcapata* to *Automolis*, in spite of the venation of the hindwing. The paragraph on p. 363 is therefore to be eliminated.

A. juno Schs. Forewings ochreous-yellow, suffused with greyish-brown. Below the cell a white spot *juno*. near the base, an antemedian yellow band bordered with red, at the cell-end a feeble purple spot, in the distal part yellow spots bordered with red in a curved row as far as beyond the proximal margin, between the radial veins 3 yellow, diaphanous moon-spots, behind them a row of 5 similar spots and a row of yellow antemarginal spots. Hindwing pink, in and below the cell yellow streaks, also the fringes yellow. The ♀ has before the apical area of the forewing a small vitreous spot, but no yellow spots behind it; the antemarginal spots mostly smaller. Size of the preceding. Guiana and South Brazil.

A. rubrireta Dgn. (51 b, c) is larger than the preceding, particularly the ♀. In the ♂ the forewing is *rubrireta*. *rubr*coloured with red dentate lines, a costal stripe and a stripe across the cell-end to the anal angle dark brown; the ♀ has quite brown forewings in which the yellow ground-colour appears only yet in single, small, round spots. Hindwing yellowish pink, the part round the cell lighter. — **rhodocyma** Dgn. (51 c) is presumably only *rhodocyma*. a form of this species, in which the dark brown postmedian band is interrupted and its lower part bent down towards the border. — **brunneireta** Dgn. (51 d) are ♂♂ in which the dark brown of the forewing is almost as *brunneireta*. expanded as in *rubrireta*-♀. — To this the form **rhodographa** Dgn. (51 d) may belong as the ♀, deviating from *rhodogra-* the *rubrireta*-♀ by the darkened yellow spots of the forewing and by the hindwings being uniformly brownish. — *pha*. Peru.

A. flammans Hmps. (51 d). A magnificent, purple-brown, large butterfly tinged rosy, with an irre- *flammans*. regularly shaped, discal vitreous spot dotted purple, and silvery white spots near the base, at the costal margin and border. Hindwings diaphanous white, at the costal and proximal margins broadly pinkish-brown. Colombia, apparently rare; before me only ♂♂ from the malarious village of Muzo.

A. subflammans Roths. (51 d) is a closely allied form, somewhat smaller, the dotted vitreous spot *subflam-* of the forewing more band-shaped and more remote from the border. South Brazil and Bolivia (the figured *mans*. specimen from the Rio Songo). It might be the southern form of *flammans*, but the latter is reported to have been found also in Santa Catharina. — **fulminans** Roths. (51 d) is perhaps only the ♀ of it or of a very closely *fulminans*. allied form, distinguished by the absence of the marginal spots and a smaller discal spot and by the absence of the black dorsal dots on the abdomen. South Brazil.

A. perflammans Dgn. (51 e) is much smaller than *flammans* and has a much smaller discal spot and *perflam-* very small marginal spots. From Guiana. *mans*.

A. grandis Drc. (51 c). Next to the white *leucoptera* the largest *Automolis*. Forewings purple-brown, *grandis*. in the disc 5 oval vitreous spots, the costal one being the smallest, and in the cell a hyaline triangle. ♂ hindwing yellowish, towards the base tinged pink, costal area diaphanous. Bolivia (Rio Songo) and Ecuador.

A. sanguinolenta Cr. (51 e) is quite ruddle-red, suffused with purple, between the cell-end and border *sanguino-* in the forewing a small, oblong vitreous spot, a violet ante- and a postmedian stripe meet before the middle *lenta*. of the proximal margin and enclose an orange-red layer encircled by purple; hindwings purple-pink; Surinam, Bolivia. — **justina** Cr., before me from Villavicencio (Coll. FASSL), is smaller, the postcellular vitreous spot *justina*. is rounder and the violet oblique transverse stripes are more separated. — **cruenta** Roths. (51 e) is still *cruenta*. smaller, the vitreous spot of the forewing round, the hindwings quite diaphanous, only at the border of a brighter pink. — The larva deviates so much from the other *Automolis*-larvae known, that the insertion in this genus is scarcely maintainable. It lives on the Papaya-tree, is quite uniformly densely covered with very fine, whitish hair on dark tubercles, without any pencils or brushes, the colour at first reddish-yellow, in the grown-up state above black, only the venter and sides being yet red.

A. buckleyi Drc. from Ecuador differs from the figured **harterti** Roths. (51 e) by more uniformly *buckleyi*. orange-red colouring. *harterti* comes from the Amazon (Fonte Boa) and Colombia; we figure it from Muzo. — **whitfordi** Roths. is quite similar, but the proximal half of the forewing is quite vermilion, and the black *whitfordi*. lines bordering on the bone-coloured costal and basal spots, are more intense; from Guiana.

A. garleppi Dr. (= *mirabilior* Dyar) (51 e) resembles the preceding, of a bright vermilion with rosy- *garleppi*. red hindwings, the whitish-yellow costal spots of the forewings smaller; above the anal angle there is yet a large, oval, grey spot; from Peru and Bolivia. — **inversa** Roths. (51 e) from Peru connects this species with *inversa*. the preceding, for the bone-coloured costal spots are as large as there, and the grey spot above the anal angle of the forewing is not even half as large as in typical *garleppi*, though still larger than in *buckleyi*. — In **maronensis** Roths. the grey anal-angular spot is not quite so small as in *inversa*, but still smaller than in *maronensis*. typical *garleppi*; from Guiana. — **pallidipennis** LORD ROTHSCILD denominates specimens from Fonte Boa, *pallidipen-* where the hindwings are only tinged scarlet at the inner-marginal area, otherwise they are diaphanous of a *nis*. buff colour. — The assertion that *buckleyi* and *garleppi* are separate species can be hardly upheld.

A. docis Hbn. (= *basalis* Wkr.) (51 f) is a still more variable form than the preceding. The type *docis*. has a black head and body, an orange-red stripe on the patagia, on the abdomen a red-yellow saddle-spot and behind it lustrous blue dots; forewing with a red stripe angled at the cell-end, extending from near the base of the proximal margin to below the apex, sending a thick branch from the cell-end towards the costal margin.

- Hindwing with red at the base and cell. This is, however, not always the exterior of the butterfly; the stripe on the forewing may be reduced to traces and even disappear altogether, just like the basal red of the hindwing. I denominate this form having already been figured by LORD ROTHSCILD, in its extremest development, ab. *tenebrata*. ***tenebrata* nom. nov.** (51 f). On the contrary, the yellow stripe on the forewing and the basal red of the hindwing may be widened to such an extent that only the margins of the wings remain yet black; this form having likewise been already ascertained by LORD ROTHSCILD I denominate ab. ***laeta* nom. nov.** (51 f). Between these extreme forms all transitions imaginable seem to occur: among them also such approximating species from the *taeniata*- and *maura*-group by the widened stripes of the forewings. I figure *docis* from Villavicencio in Colombia; it occurs besides in Guiana and the Amazon District; the colorial varieties, however, are not bound to localities.
- crocopera*. ***A. crocopera* Schs.** This species is easily recognized by the deeply indented border of the hindwing. It is but very little larger than *docis*, but it has more slender wings. The forewings are unicolorously dull greyish-green, the hindwings blackish-blue with a hyaline centre; head orange, thorax brownish-green, abdomen blackish-blue, the 3 last rings orange. Guiana. Apparently only the type is known, one ♂ in the Museum at Washington.
- inexpectata*. ***A. inexpectata* Rothsch.** (51 g) is larger, though similarly shaped as *docis*. Head, thorax and abdominal end orange, dorsum otherwise black with a very faint greyish-blue reflection. Forewing mostly diaphanous whitish, darkened by brown; at the base, costa, cell-end, and in the apical third sepia-brown layers. Venezuela, Colombia and Peru; the figured specimen from Muzo.
- lutosa*. ***A. lutosa* Hbn.** Almost quite greyish-brown, forewing with a light postcellular macular band as far as the upper median; hindwing in the middle yellowish-brown with traces of a light postmedian band. Paraguay.
- linaza*. Typical specimens also show a broad, faded, white band in the forewing, which is absent in the form ***linaza* Dgn.** Body yellowish-red.
- dissimilis*. ***A. dissimilis* Drc.** (51 g) is still larger than the preceding; in the shape more like an *Amastus* or a large *Halisidota*. Wings dull creamy-white with yellowish-brown veins, the forewing darkened cloudily in the apical part and with a brown crescentiform shade at the cell-end. Thorax whitish with orange stripes in the middle, on the collar and patagia; abdomen dark brown with orange bands and spots, beneath and below yolk-coloured. Peru.
- soror*. ***A. soror* Rothsch.** (51 g). Size of *dissimilis*. Forewing dark nut-brown, hindwing with a white, distally and costally darkened demi-band behind the darker cell-end, hindwing in and behind the cell lighter, yellowish-grey. Head and body orange. Amazon.
- felderi*. ***A. felderi* Rothsch.** (51 g). Much smaller, about the size of *docis*. Forewing somewhat lighter brown than *soror*, the white postcellular cloud not band-shaped but reniform, lessening distally. Hindwings and body light greyish-yellow. Colombia.
- sordidipennis*. ***A. sordidipennis* Rothsch.** (51 g). Wings dark greyish-brown, forewing with a light centre. Body blackish, tegulae, patagia, and abdominal end bright yellow. Venezuela.
- stenotis*. ***A. stenotis* Dgn.** (51 g). Much smaller than *sordidipennis*. Forewings and thorax dark brown, hindwings whitish, head and collar tinged in a yolk-colour. Guiana.
- fuliginosa*. ***A. fuliginosa* Rothsch.** (51 g). Deep sooty black, margins darker, the disc somewhat lighter; at the proximal margin of the hindwing a white spot. Body black with minute white spots on tegulae, metanotum and middle of abdomen. Fonte Boa (Amazon).
- uniformis*. ***A. uniformis* Rothsch.** (51 h). Forewing dark greyish-brown with light veins, hindwing blackish-brown, in the basal half lighter grey; beneath this lighter patch is chalky-white. Head orange; middle of abdomen with a yellow longitudinal spot, like the venter. Described from Surinam, but before me only from Colombia (Villavicencio). — In the Bolivian form from the Rio Songo, ab. ***mesoleuca* form. nov.** (51 h), the centre of the hindwing is also above white; transitions to the typical form are not rare.
- separata*. ***A. separata* Wkr.** (51 h) is somewhat larger than *uniformis*, forewings like there, but the hindwing with an orange-yellow proximal half, and the abdomen with a broad yellow belt. Colombia and Amazon.
- priscilla*. ***A. priscilla* Schs.** (51 h). Forewing with a large, bone-coloured, sacciform spot behind the middle of the costa. Hindwing yellow, only along the middle of the border a dark band. Abdomen with a yellow belt. Costa Rica.
- persimilis*. ***A. persimilis* Rothsch.** (51 h). Smaller, the sacciform costal spot in the forewing yellow, beneath more pointed. Hindwing small, in typical specimens as we figure from Bolivia, but as they also occur in Peru, quite unicolorously yellow. — ***marginata* Rothsch.** (51 h) has on the forewing much brighter, almost white veins,

and in the hindwing a marginal band being broader in the ♂. Costa Rica; in Amazon specimens only the costal-marginal part of the hindwing is yellow. — Abdomen always with a yellow belt.

A. strigosa Wkr. (51 h). Black, forewing in the distal half with long, dull whitish-grey longitudinal spots, behind the cell-end a long snow-white spot; hindwing with a whitish diaphanous centre. Patagia with a white centre, dorsum of abdomen with a yellow lateral spot divided by a dark tinge. Panama, Colombia, Brazil. — In the ♀ (= subulifera Fldr.) the light longitudinal spots are shorter, broader, more oval. Apparently rare.

A. albiplaga Schs. (51 h) is black with a white, round postcellular spot on the forewing and a white centre of the hindwing; patagial apex white; dorsum of abdomen with an orange lateral spot. Guiana and South Brazil.

A. chionoplaga Dgn. (51 i) is much larger than *albiplaga*; forewing with a large, white postmedian disc; hindwing with a whitish centre. Head yellow, abdomen with a red belt. Panama.

A. niveomaculata Roths. (51 i). Like the preceding, but the wings of a much duller colouring, on the veins and in the innermarginal area and submedian space of the forewing white, dorsum of abdomen with a yellow lateral spot. From Peru and the Upper Rio Negro (Colombia). — **leucoplaga** Dgn. (51 i) has a larger disc of the forewing, the white vein-stripes in the inner-marginal area are almost confluent, and the hindwings are quite white except a narrow margin. Described from the Chanchamayo in Peru, the figured specimen, however, also originates from Colombia.

A. dolens Drc. (52 b). Blackish-brown, forewing with a white antemedian transverse band and apical oblique band, from the exit of which the border is white as far as the anal angle, the basal half of the hindwing being also white. Tegulae and patagia white, the ring at the abdominal base yellow. South Brazil (Castro) and Paraguay.

A. zonana Schs. (51 i) is quite similar, but above the anal angle on the border a sacciform, whitish-yellow spot, the border otherwise not white; — in ab. **incompleta** ab. nov. (52 b) the sacciform spot is absent altogether or only traces left of it. Guiana and Bolivia.

A. moma Schs. (51 i) resembles the two preceding, but the bands of the forewings are lemon-coloured, the apical one steeper, the antemedian one in typical specimens very broad, in the form **tenuifascia** Roths. (from South Brazil) narrow. Collar broad lemon-coloured; abdomen, however, at the base not white, but with a postmedian orange ring being broad in the ♂. Guiana, Venezuela, Colombia and Bolivia.

A. angulosa Wkr. (= flavicinctus H.-Schäff.) (52 b). Marking of the preceding, but the bands of the forewings and the collar orange, and instead of the orange belt before the end of the abdomen, the base of the abdomen is here dark yellow. In the typical form from Colombia and Brazil the bands of the forewing are quite narrow, as in *moma tenuifascia*, in **griseonitens** Roths. (52 b) from Bolivia and Peru they are much broader, and in **ardesiaca** Roths. (52 b) from Guiana to Venezuela the ground-colour of the forewings is bleached to a dull brownish-grey.

A. schistaceus Roths. (52 b) is like *angulosa*, but the forewing without the band in the apical part. Venezuela.

A. tegyra Drc. (52 c). Bands of forewings yellow, the posterior one being steeper and angled behind the cell; the abdomen except the black apex quite golden yellow. From the Chiriqui in Panama.

A. gyrata Schs. from Guatemala is entirely like *tegyra*, but the basal half of the abdomen above black.

A. rectiradia Hmps. (52 b). The light bands of the forewings more blurred, the posterior one only in the costal part, separated from the dark greyish-brown inner-marginal area by a light longitudinal ray through the middle of the forewing. Also on the hindwing there is a dark brown margin, but no sharply defined marginal band. Head, collar and patagia bone-white, marked pink, abdomen on both sides black. Surinam, Amazon, and Colombia.

A. catharinae Roths. (52 b). Similar to *rectiradia*, larger, the proximal band of the forewing at the proximal margin quite narrow, the distal transverse band absent, instead of it along the costa a yellow stripe. South Brazil: Santa Catharina, Organ Mountains.

A. diluta Fldr. (52 c). Here the yellow transverse bands of the preceding are altogether absent; dark dusty-grey, costal margin of the forewing broad sulphureous; near the base a small dark transverse band, along the median faintly lighter. On the under surface also the base of the hindwing is sulphureous. Mexico, Central America, Pará.

A. vampa Schs. (52 c), much smaller than the preceding, quite ochreous-yellow; forewing with a dark cell-end dot, blackish veins in the apical part and a yellowish-brown band beginning broad before the middle of the costa and terminating much narrower into the border above the anal angle. Costa Rica.

A. polystria Schs. (52 c) is quite similar, of a paler yellow, the vein-streaks in the apical part of the forewing shorter, but stronger, also in the brown oblique band of the forewing distinct, black streaks. Guiana.

A. vittipes Drc. (52 c). Pale ochreous-yellow, the forewing with black parallel rays above, in below the cell, growing shorter towards the proximal margin; another pencil of parallel rays goes through the middle of the marginal area. In typical specimens the dorsum of the abdomen is purple-red, and the yellow of the forewing has a reddish tone. Such specimens occur on the volcano Chiriqui in Panama, and in Muzo

in Colombia. Specimens from the Rio Songo in Bolivia have scarcely yet the red tinge on the abdomen, and in such from the Upper Rio Negro and Villavicencio the forewings and abdominal dorsum are decidedly yellow; *vitellina*. I denominate the latter *vitellina form. nov.* (52 c); they are smaller than typical *vittipes*.

internervosa. **A. internervosa** Dgn. (52 c). Scarcely larger than *vittipes*, wings pale yellow, forewing with fine black veins and streaks between them; body yolk-coloured, thorax dotted black. Colombia (Medina).

erythronotus. **A. erythronotus** H.-Schäff. (52 c). Forewing pale yellowish, almost hyaline with black veins, the transverse vein bordered with black, and a black streak in the submedian space terminating an oval, chalky-white longitudinal spot. Hindwings white, abdomen above hemochrome, at the base and apex white. Colombia, Venezuela.

lineosa. **A. lineosa** Wkr. (= *erythronota* Drc. nec H.-Schäff., ♀ = *perlineosa* Rothsch.) (52 d). Smaller, the vein-streaks shorter, not joining each other. Particularly behind the cell-end a large, hyaline spot is produced by the base of the radials remaining uncoloured. In typical specimens, as we figure them from Colombia (Rio Negro), but as they also occur in Costa Rica, there are in the distal area, cell and submedian space chrome-yellow longitudinal, diffuse spots embedded between the black vein-streaks. — In *sublineata* Rothsch. (52 d) from Peru they are absent, and the radial veins are streaked dark as far as near the transverse vein.

dilucida. **A. dilucida** Rothsch. (52 d). Forewing diaphanous white, of the black longitudinal streaks only the beginnings are yet visible in the costal and basal parts, and the ends (at the border, and besides the border of the transverse vein. Thorax in some places and abdomen above tinged purple-pink. Peru.

vinasia. **A. vinasia** Schs. Forewing brown, apical area yellow from the costa above the cell-end to the upper median vein, below which there is a short yellow oblique streak. Proximal border of this yellow area irregular; between the radial veins the brown ground-colour projects towards the margin. Veins delicately streaked light; round the base of the wing faint light dots; from the lower cell-angle a deeply dentate chain of white small crescents to the middle of the proximal margin. Hindwings brown, towards the costa whitish. Head and thorax whitish, tinged brown, abdomen above purple-red. Costa Rica. The type in the Museum of Washington. Size of *A. bonora* (50 g).

turidoides. **A. luridoides** Rothsch. (52 d). Pale yellow, light bluish-grey oval spots are between the patagia on the mesothorax, near the base of the forewing, obliquely through the middle of the forewing and before the apex of the forewing; the 3 oval spots on the wings are encircled by white. Minas Geraes (Brazil).

turida. **A. lurida** Fldr. (52 d). The spots are arranged like in the preceding, but the one at the base of the forewing is small, that in the middle very large, the preapical one circular. Colombia (Rio Negro) and Peru.

pseudoflavescens. **A. pseudoflavescens** Rothsch. (52 d). Smaller, only one large, round, grey spot on the disc of the forewing. Hindwing greyish, dorsum of abdomen sooty black, apex yellow. Minas Geraes (Brazil).

aureogrisea. **A. aureogrisea** Rothsch. (52 d). Yellow, the large, greyish-violet spot on the forewing occupies almost the whole inner-marginal half of the forewing. Abdominal dorsum likewise dull yolk-coloured. Peru.

flavescens. **A. flavescens** Wkr. (52 d). The violettish-grey spot on the forewing forms a horse-shoe-like arch over the proximal margin of the forewing and is not so sharply defined as in *aureogrisea*. Amazon and Bolivia. A specimen from Colombia (Rio Negro) is much paler than the specimens before me from the Rio Songo, but also rather much flown, so that the difference may be only individual.

asara. **A. asara** Drc. Likewise from Ecuador, is so closely allied to *flavescens*, that it was formerly included with it as synonymous; here the violettish-grey arcuate shade begins to break up into 3 spots; one before the anal angle, a large cloud in the disc and a third spot above the proximal margin near the base.

reducta. **A. reducta** Wkr. (= *lobifer* H.-Schäff., incerta Drc.) (52 e). Easily recognizable by the distorted hindwing of the ♂, the proximal margin of which terminates into a long lobe exhibiting a scent-fur. Pale yellow, a violet costal stripe from the base to the middle of the wing, and an oblique nebulous stripe from the apex as far as behind the middle of the proximal margin. Panama and South Brazil (Rio de Janeiro).

larissa. **A. larissa** Drc. (52 e). Forewing hyaline, a brown stripe along the costal margin, from which right behind the base a thick branch runs towards the anal angle. Abdomen above hemochrome. On the under surface the brown stripes of the forewing are absent. Colombia and Amazon.

unifascia. **A. unifascia** Drc. (52 c). A very variable animal, the forms of which, however, are scarcely to be separated geographically. Forewing milky-white with a black oblique and inner-marginal band, meeting each other at the anal angle. Hindwing with a broad black proximal margin. Guiana. — In *borussica form. nov.* (52 e) from the Rio Songo in Bolivia also the apex of the forewing is black and in *alboatra* Rothsch. (52 e) from Guiana, the Amazon and Peru also the costa, apex, and distal margin of the hindwing are blackened. — On the contrary, *hamifera* Dgn. (52 e) from French Guiana has the black colour reduced, the transverse band of the forewing showing a break, and in *apicata* Schs. (52 f), likewise from French Guiana, only the apex of the forewing

and a double inner-marginal stripe of the forewing are yet black. Otherwise the wings are quite white. — In all these forms the body is above brownish-black, head and abdominal end orange, marked black, patagia white.

A. klagesi *Rothsch.* (52 e). Black, forewing with a yellow transverse band, hindwing with a white *klagesi* centre; abdomen laterally spotted yellow. Fonte Boa on the Amazon.

A. ockendeni *Rothsch.* (52 e). Like the preceding, but the band of the forewing more uniform and *ockendeni* more oblique, hindwing quite black, only at the base of the costa whitish. Abdomen laterally not yellow, Peru. — **A. lativitta** *Rothsch.*, from Fonte Boa on the Amazon, has a much broader band of the forewing. — This species *lativitta* superficially resembles numerous South American night-butterflies from other groups (Syntomids, Agaristids), even *Rhopalocera*(*Lymnas*) flying in the same districts.

A. apicalis *Wkr.* has the band of the forewing shaped and situate almost exactly like in *klagesi apicalis* (52 e), but the abdomen is posteriorly metallic blue and the hindwings are unicolorous, without the white middle spot. Pará.

A. cingulata *Rothsch.* (52 f). Forewing with white veins and a very broad, yellowish oblique band *cingulata* abdomen with a broad, yellow ring. Ecuador.

A. semicostalis *Rothsch.* (52 f). Veins of the forewings not white, but along the costal margin a white *semicostalis* costal stripe as far as behind the middle of the wing; before the apical part a white oblique band; sides of abdomen yellow. Beneath at the base of the hindwing a white, wedge-shaped spot being distally smoothly cut off. Amazon; Teffé, Fonte Boa.

A. apicella *Strd.* (= *apicalis Rothsch.* nec *Wkr.*, *albiapicalis Hmps.*) (52 f) has a somewhat longer *apicella* white costal-marginal stripe of the forewing than *semicostalis*, and the whole apical third of the forewing is yellowish-white. Bolivia.

A. godmani *Drc.* (= *striata Drc.*) (52 f) has the forewings veined light and almost the whole apical *godmani* half of the forewing is light yellow. Hindwing white with a black border. Costa Rica and Panama.

A. rutila *Stoll* was formerly taken to be the ♀ of *godmani*, but LORD ROTHSCCHILD ascertained the ♀ *rutila* which resembles the ♂. Accordingly, *rutila* is a distinct species, but is very closely allied to *godmani* and differs essentially by the forewing exhibiting only a yellow transverse band, but a dark brown apical part. — According to the larva, the species seems not to belong at all to *Automolis* (it was formerly placed in the *Ischnocampa*). The larva is black and in the hairing it resembles more a *Halisidota*-larva, since it is without brush-shaped hair-bundles, whilst long, yellowish-white pencils project on the anterior and posterior parts. On *Psidium pyrifera*. Guiana and Venezuela as far as Peru.

A. sanguistrigata *Dgn.* (52 f). Much smaller than the preceding, basal half of the forewing purple- *sanguistrigata* brown, apical half pale yellow, costa and border tinged golden-yellow. Hindwings pale yellow, abdomen red. Guiana.

A. sordida *Rothsch.* (52 f) is somewhat larger, forewing in the basal half marked purple, in the apical *sordida* part the veins are red; the pale yellow part of the forewing is comparatively small, only about $\frac{1}{3}$ of the wing. Paraguay, Bolivia and Peru.

A. prumaloides *Rothsch.* (52 f). Smaller than *sordida*, easily distinguishable from the preceding by *prumaloides* a bright purple tinge of the hindwings. It repeats the colourings of numerous *Neaxia*, *Prumala*, *Neritos* etc. from the same district. Amazon (Fonte Boa).

A. submarginalis *Rothsch.* (52 g) is still smaller than the preceding, of an expanse of only 26 mm, *submarginalis* otherwise similarly coloured and marked as *sordida*, but in the pale yellow apical third of the forewing there are violettish-red spots embedded between the cell and apex. Minas Geraes in Brazil.

A. leucopera *Dgn.* (52 g) has a whitish thorax with black dorsal dots and, like the preceding, a *leucopera* crimson dorsum of the abdomen. Forewing dark brown, the apical third white; hindwing blackish-grey. Colombia.

A. tuisana *Schs.* (52 g). Here the apical part of the forewing is white as far as beyond the middle *tuisana* of the wing; the smaller, brown basal half striped dark. Between the radials a small white longitudinal dot. Hindwing whitish, proximal half pink; abdomen except the apex purple. Costa Rica.

A. semiopalina *Fldr.* (52 g). Forewing in the (larger) basal part brown with blackish internerval *semiopalina* streaks; apical third snow-white, between the radials projecting somewhat proximally, hindwings whitish-grey, shaded darker. Thorax white, abdomen above orange. Apparently very widely distributed, from Nicaragua through Guiana and the Amazon District to Bolivia and South Brazil.

A. vitrea *Stoll* (52 g) resembles the preceding, but the dark, very much black-streaked basal area *vitrea* of the forewing is irregularly defined towards the hyaline-white apical part, and particularly in the internerval region finely surrounded by yellow and bordered with a fine black line. Above the anal angle and in the

basal part whitish embeddings. Some black antemarginal dots. Hindwing in the costal and inner-marginal area tinged pink. Abdomen above pink. South and Central Brazil and Bolivia. — **meridionalis** Rothsch. (52 h) is a form from Paraguay with a more yellowish-brown disc of the forewing, intermixed with numerous white clouds. — **occidentalis** Rothsch. from Peru greatly resembles the typical form, but like *meridionalis* it has a yolk-coloured, instead of rosy-red abdominal dorsum. — **borealis** Rothsch. (52 h), finally, from Mexico and Central America, which I figure from Orizaba, has the dark part of the forewing light yellowish-brown, striped jet-black, above slightly intermixed with white. Abdomen above orange; the largest form.

intermedia. **A. intermedia** Rothsch. (52 g) is very much like the preceding, but the dark basal part is very much intermixed with white, and in the hyaline apical part there are again numerous, yellowish-brown dim spots. Between the radials before the border there is an oval brown spot and above the proximal margin there is a thick, dark longitudinal spot extending as far as into the submedian space. Colombia (Villavieja) and Peru.

tybris. **A. tybris** Cr. (52 g). Larger than *intermedia*, through the apical part along the border a yellowish-brown macular band, proximally accompanied by a chain of small crescents. Hindwings dull greyish-yellow, at the proximal margin more yellow. Panama, Demerara.

irregularis. **A. irregularis** Rothsch. (52 h). Only the ♂ is described, according to one specimen from Fonte Boa in the Tring Museum. Immediately recognizable by the border of the forewing being somewhat indented in the middle and by 2 uncommonly large furry scent-spots on the under surface, in the forewing over the whole proximal margin, in the hindwing in the costal area covering almost the whole cell. The colour of the wings is a dark yolk-colour, the hindwings paler, the forewing in the disc somewhat lighter, intermixed with small light spots, those between the radials below the cell and above the anal angle being the most distinct; besides there are also fine, red markings. Hindwings tinged rosy; abdomen red.

pandiona. **A. pandiona** Rothsch. (52 h). This and the following species already greatly approximate the *Zatrephes* and differ from all the *Automolis* by the forewing being angled at the exit of the middle radial. Forewing of *pandiona* purple-brown mixed with smaller and larger spots which are mostly margined by reddish and tinted ochreous, of which, however, one in the cell, a row of 4 or 5 behind the cell-end and 1 below the apex are hyaline. A white spot near the base. Hindwings yellowish-pink, in the ♀ purple-red. Guiana, Bolivia and Peru.

subtruncata. **A. subtruncata** Rothsch. (52 h). Similar to the preceding, larger, in the forewing only 2 spots between the radials are faintly diaphanous and larger, one above them and one below them small, punctiform. The distal half of the forewing, except the yellowish marginal spots, uniformly violet. Hindwing yellowish-pink, towards the base lighter. Described from South Brazil; the figured specimen from the Rio Songo in Bolivia.

excavata. **A. excavata** Schs. (52 h). Still larger than the preceding; forewing uniformly red-brown, little marked, only the two spots between the radial veins and 4 at the border yellowish hyaline; hindwings and abdomen purple, tinted ochreous. Costa Rica.

abdalsan. **A. abdalsan** Schs. from Guatemala has a dark grey thorax with orange stripes across the patagia. Abdomen black, above and laterally with blue metallic spots. Forewing with an orange-yellow longitudinal stripe and ochreous-yellow veins. Hindwing with an orange-yellow costal half 26 mm. Guatemala. (Sphingidea-group.)

goloma. **A. goloma** Schs. Orange-yellow, abdomen posteriorly black with metallic blue spots; forewing yellow, between veins 2 and 5 there are 3 marginal spots sometimes flown together to a marginal band; hindwing with a dark marginal shade. ♂ 37, ♀ 42 mm. Guatemala. (Salma-group.)

obscurata. **A. obscurata** Schs. Quite recently described according to a ♀ from Cayuga, Guatemala. Type in the Museum at Washington. Thorax grey, marked purple, abdomen above purple. Forewing dark brownish-grey, purple streaks at the base, of the costal and proximal margins, in and below the cell, on the submedian and median, the latter as far as the border; yellow shades and spots at the cell and middle of the proximal margin; veins 3 to 6 streaked red; between 6 and 7 a greyish-red postmedian spot; border irregularly yellow; an antemarginal brown spot on vein 7; on the veins small brown marginal spots. Hindwings black. 28 mm. Unknown to me *).

48. Genus: **Zatrephes** Hbn.

By far the greatest part of this genus consisting almost only of quite similarly coloured and marked species was described by LORD ROTHsCHILD in 1909 and the outlines adduced here are chiefly based upon his statements, verbally and pictorial. The marking of the forewings almost invariably consists of 2 or 3 parallel transverse lines on a yellow or red ground and frequently of an irregular vitreous spot behind the cell-end. The forewings are in a number of species angled, and these species are closely allied to the species enumerated last

*) **A. ochreogaster** Joicy (53 f). All white with a pale yellow abdomen. This Arctiid was described as *Automolis*, but according to HAMPSON, it is said to belong to the genus *Prumala* (p. 344). Paraguay.

under the *Automolis*, so that the line of separation of the two genera would perhaps be better drawn at some other place. The larvae have nothing to do with the Syntomid-like larvae of the typical *Automolis*; they are scantily haired in uniform light tufts, of a quite normal and inconspicuous, genuine Arctiid larval shape. The *Zatrephes* themselves, according to HAMPSON's new catalogue form a genus to be separated from the butterflies having formerly been denominated so and being now called *Azatrephes*; they have, however (as is already seen from the larvae) nothing in common with the Syntomids to which the *Zatrephes* were formerly reckoned. As an essential difference in the venation from the *Automolis* it is stated that in the hindwing the costal approaches the upper cell-wall, before the middle of the cell, and runs with it for some distance, in order to turn away again behind the middle of the cell. Thereby a small accessory cell is produced at the base; upon this peculiarity great stress is laid by some authors, but it is also found in other greatly specialized groups (*Agaristids* etc.) and it seems to have been of great moment in the separation of the *Hypsiidae* from the *Arctiidae*. — From the fact that almost all the *Zatrephes* have been discovered during the last years we may infer their infrequent occurrence. They are not to be found in day-time, but taken by the lantern.

A. Forewing with a distinct projection or angle above the middle of the margin.

Z. gigantea Rothsch. (52 i) is very similar to the preceding species (*Automolis excavata*), but the *gigantea*, forewing somewhat more obtusely angled, without the light marginal spots and with a large discal vitreous patch composed of several partly fused hyaline spots. Amazon (Fonte Boa).

Z. foliacea Rothsch. (52 i) is much smaller, the hyaline spots almost the same as in *gigantea*, but *foliacea*, the ground-colour is sometimes lighter, sometimes darker reddish yellowish-grey, the two dark transverse lines of the forewing bordered with whitish. The tooth at the border of the forewing is somewhat sharper than in *gigantea*. From the Amazon. — In **griseorufa** Rothsch. (52 i), like the preceding from Fonte Boa on the Amazon, *griseorufa*, the vitreous patch on the forewing is somewhat larger, and the antemedian line runs somewhat curved and less obliquely.

Z. bilineata Rothsch. (52 i) is presumably scarcely to be separated from *foliacea*; the transverse *bilineata*, lines on the forewing run almost quite straight, the antemedian line without any curve; the vitreous spot of the forewing is narrower, distally irregularly defined; from the Amazon and Peru. — **rufobrunnea** Rothsch. (52 i) *rufobrunnea*, likewise from the Amazon, has a more ruddle-red than yellowish-grey ground-colour of the forewings and the two transverse lines diverge very feebly at the proximal margin.

Z. trilineata Hmps. (52 l). Here the colouring is dull ochreous-yellow as in *bilineata*, slightly powdered *trilineata*, with pink, but the forewing has a much smaller hyaline spot and 3 transverse lines instead of 2. Surinam and Amazon. — The form **peruviana** Rothsch. is more white and less yellow, and the pink dusting is very trifling. *peruviana*, From Peru.

Z. cardytera Dyar. (52 l), from British Guiana, has only the proximal transverse line which, however, *cardytera*, is rather thick and not very distinct; the postmedian line is absent. The hyaline spot of the forewing is much larger than in the preceding. The hindwings pink, in contrast with the ochreous-yellow forewings.

Z. flavida Hmps. (= *albotestacea* Rothsch.) (52 i). Forewing monotonously ochreous-yellow, without *flavida*, any transverse lines; the vitreous spot bipartite, rather small. Hindwing brimstone-coloured. French Guiana.

Z. binotata Rothsch. (52 i). Similar to *flavida*, larger, darker, the two transverse lines faintly indicated, *binotata*, the vitreous spot on the forewing confined to 3 hyaline dots. Amazon.

Z. atrata Rothsch. (52 l). Recognizable by the deep dark brown ground-colour. The vitreous spot on *atrata*, the forewing tripartite, the tooth at the border of the forewing almost vanished, but the border in the middle somewhat indented. Demerara (Guiana).

Z. miniata Rothsch. (52 k) is quite similar, larger, the ground-colour of the forewing deep purple- *miniata*, brown, the two transverse lines recognizable as faint shades. Amazon (Fonte Boa).

Z. modesta Schs. (52 k) from Guiana is quite similarly coloured as *miniata*, but the forewing shows *modesta*, 3 parallel, grey transverse lines, and the angle at the border is quite obtuse, scarcely perceptible.

B. Margin of the forewing without a distinct tooth or angle above the middle.

Z. propinqua Rothsch. (52 k). Colouring lighter ruddle-red than in *miniata*, the vitreous spot similarly *propinqua*, shaped, but much larger. Peru.

Z. carmesina Rothsch. (52 k). Colouring as in *propinqua*, but the hyaline spot of the forewing only *carmesina*, about half as large and its distal margin not so deeply indented. Amazon (Fonte Boa).

- fasciola*. **Z. fasciola** *sp. nov.* (52 k) from Teffé (Amazon) shows the vitreous spot below blotted as far as the border above the anal angle. Perhaps only a form of *carmesina*.
- crocos*. **Z. crocos** *Cr.* (= *istria Drc.*) (52 l). Considerably larger, the yellowish hyaline spot reduced to a small curved band situate behind the cell-end of the forewing and projecting beyond the discocellulars downward in the ♂ little, in the ♀ not at all. Thorax and forewing otherwise violettish-brown, in the disc and at the border orange-yellow; speckled red; through the wing some red transverse lines. Hindwing and dorsum of abdomen purple. — Larvae rather scantily haired, when grown up with a black dorsal shabraek exhibiting on each segment 2 light transverse lines and 1 or 2 rows of dots; sides, venter and sham feet are either dark green or purple-red (which is said to be a sexual distinction). It lives on the coffee-tree and yields the imago already after a 6 days' pupal stage. Pupa dark purple-brown. Guiana and Amazon.
- flavipuncta*. **Z. flavipuncta** *Rothsch.* (52 k) from Surinam has, like *fasciola*, the spot on the forewing somewhat prolonged, but not yellow, but purely whitish hyaline; the transverse lines, being fiery red in *fasciola*, are scarcely visible, the whole animal much smaller. In the cell of the forewing a small, but distinct yellow dot.
- rosacea*. **Z. rosacea** *Rothsch.* (52 k). Forewing purple-brown with a narrow vitreous patch composed of 3 or 4 spots; hindwings deep pink, abdomen dark red. Amazon: Fonte Boa and Teffé. — **Z. rufescens** *Rothsch.*, likewise from the Amazon, has only a somewhat broader vitreous patch, more distinct transverse lines and more yellow hindwings.
- brunnea*. **Z. brunnea** (53 a) has the size of the preceding, but through the middle of the forewing extends a broad, darker transverse band, in the cell there is a black dot, and the vitreous spot is formed by a chain of 4 white, distally black dots. Body and hindwing yolk-coloured, the inner-marginal area of the hindwing with a pink tint. Peru.
- dithyris*. **Z. dithyris** *Hmps.* (52 l) is quite similar, but without the vitreous spot, which is replaced by a small white dot between the radials; hindwings crimson. Guiana.
- irrorata*. **Z. irrorata** *Rothsch.* (52 l). Forewing buff, densely strewn with red-brown, instead of the vitreous spot of most of the other *Zatrephes* there are here before the apical area some disperse white dots. Hindwings yellow, tinged pink. Amazon (Fonte Boa).
- variegata*. **Z. variegata** *Rothsch.* (53 a). Forewing similar, but between the cell-end and border there is a yellowish cloud formed of small, dull spots; the hindwing purple-pink, costal margin and fringes white. Amazon (Fonte Boa).
- arenosa*. **Z. arenosa** *Schs.* (53 a). Forewing red-brown with 2 dark transverse lines; behind the distal one, below the costal margin, 3 small white hyaline spots. Hindwings and abdomen purple-pink. French Guiana.
- klagesi*. **Z. klagesi** *Rothsch.* (53 a). Very similar to *variegata*, but the forewing of a clearer ochreous-yellow, the two transverse lines red-brown, the distal one only from the cell-end to the proximal margin; in the disc a white, anteriorly dark hyaline spot. Hindwings pink. Amazon (Fonte Boa).
- ockendeni*. **Z. ockendeni** *Rothsch.* (52 l) is larger, lighter, more thinly scaled and with duller markings, the proximal transverse line more distinct than the distal one; in the cell a black dot; in the disc a whitish, irregular hyaline spot. Hindwings whitish, feebly suffused with pink. Peru, Bolivia.
- bicolorata*. **Z. bicolorata** *Rothsch.* (= *sublutescens Rothsch.*) (53 a). Colouring and size of *ockendeni*, but instead of the white discal spot before the apical part of the forewing only a black dot, both transverse lines dull, but just in front of the apex of the forewing yet a small, fine dot; hindwings yellowish. Peru; presumably only a slightly different ♀ form of the preceding.
- cruciata*. **Z. cruciata** *Rothsch.* (53 a). Smaller than *bicolorata*, but coloured the same. The antemedian transverse line is situate as in the preceding species, but the postmedian one extends from the costa in a proximally convex bow towards the anal angle, and between it and the antemedian line there is a horizontal cross above the middle of the proximal margin. Hindwing whitish, proximal half pink. Amazon (Fonte Boa).
- albescens*. **Z. albescens** *Rothsch.* (53 a). Wings very light, almost bone-white, only the distal margins darker. Forewing with the usual transverse lines being almost parallel and scarcely convergent at the proximal margin and running quite straight. At their uppermost ends a minute black dot scarcely noticeable in the ♂. Abdomen purple-red. Amazon (Fonte Boa).
- subflavescens*. **Z. subflavescens** *Rothsch.* (53 a). Almost exactly like *albescens*, but in the ♂ the border of the forewing is almost straight, the forewings being consequently more pointed. Instead of the hyaline spot on the forewing of most of the *Zatrephes* there are here 2 distantly separated hyaline dots. Amazon (Fonte Boa) and Guiana.
- iridescens*. **Z. iridescens** *Rothsch.* (= *nitida Rothsch. nce Stoll*) (53 b) is almost exactly like the preceding, but the wings somewhat opalescent and the two transverse lines somewhat divergent towards the proximal margin. Amazon (Fonte Boa) and French Guiana.

Z. nitida Stoll (nec Rothsch.) is extremely similar to the preceding, but 2 dull lines in the middle *nitida*. of the forewing cut each other (like in *cruciata*) on the submedian vein, and behind the cell-end there is a small band of 4 or 5 small diaphanous light spots. The wings above with a slight mother-of-pearl lustre; hindwings pink with white fringes. Guiana and Peru.

Z. ossea Schs. (53 b). Forewing dull whitish with a brown border and 2 thick, oblique, brown transverse *ossea*. lines. In the hindwing the whole proximal area is purple-pink, like the abdomen. French Guiana.

Z. lentiginosa Rothsch. (53 b). Forewing yell-coloured, the two transverse streaks distinct only in *lentiginosa*. the inner-marginal area; between the radials a white dot finely excircled dark. Hindwing yellow with a red border and white costal area. French Guiana; discovered by LE MOULT.

Z. pseudopremolis Rothsch. (53 b) is quite unlike the genus by approaching species of the same *pseudopre-* range from other genera (*Neonerita arcifera*, *syriassa*, *Eupseudosoma affinis*, *Premolis rhyssa* etc.). Adjoining *molis*. to the purple-violet basal part a large, diaphanous pale yellow apical part. A purple-brown costal stripe sends from the apex a small faint costal band 2 or 3 mm far into the wing. Hindwings and abdomen pale pink. Peru.

Z. flavonotata Rothsch. (53 b) is somewhat similar, the brownish-violet preapical spot more intense, *flavonotata*. at the basal part a lemon-coloured semicircular spot is situate on the costa. Amazon.

49. Genus: **Azatrephe** Hmps.

5 species, allied to the preceding, chiefly distinguished by the venation of the hindwing, where the upper cell-wall, being unparted and unforked, is continued to the border. They are small butterflies with a large, lobated hyaline spot in the disc of the forewing. The centre of their range is like that of the preceding genus on the Amazon, presumably also near Fonte Boa; from there they are distributed as far as Guiana to the north-east and Peru to the south-west. The species in their habits do not differ from the allied genera and are probably without exception taken at the light.

A. paradisea Btlr. (46 m). Smaller than the smallest *Zatrephe*, recognizable by the large, hyaline *paradisaea*. postcellular spot with a slight silky lustre, on the forewing. Forewing golden yellow with a silvery reflection and a red, net-like marking. Proximally to the hyaline spot a brown oblique line runs from in front of the middle of the costa to beyond the anal angle to the border. Hindwings tinted pink, the costal part somewhat transparent. Abdomen of the ♂ and ♀ purple-red. Amazon, Peru.

A. traili Btlr. (46 m). Easily recognizable by the somewhat irregularly shaped, above narrower, greasy- *traili*. lustrous hyaline spot in the distal area of the forewing, extending from the 3rd costal vein to the submedian space; it is bordered with scarlet and somewhat irregularly defined towards the orange-yellow basal part intermixed with red lines and small spots. Hindwings tinted pink; abdomen above hemochrome. From the Amazon.

A. discalis Wkr. (46 m). The hyaline spot of the forewing is here very large and is defined towards *discalis*. the whitish and also somewhat silvery lustrous apical and basal areas by brown, distally very dull delimitations. Hindwing whitish, towards the border faintly tinted rosy. Abdomen in the ♂ buff, in the ♀ silvery white. Amazon. Peru.

A. argyrotis Hmps. (46 m) is almost like *discalis*, but the non-hyaline part of the forewing almost *argyrotis*. entirely silvery, with very few transverse markings. Peru.

A. fuliginosa Rothsch. (46 m). The typical form has, except the hyaline spot, almost quite purple- *fuliginosa*. brown forewings, and also the hindwings and abdomen are dark brown. There occur, however, transitions to the preceding species as well as quite dark forms, of which already LORD ROTHSCHILD figures a number of intermediate forms. We propose the following denominations only for the extremest forms entirely deviating from the type: ab. **transiens** *nom. nov.* (46 m) for the specimens with very light, partly silvery lustrous embed- *transiens*. ments in the forewings, and ab. **invenestrata** *nom. nov.* (46 m) for such with the hyaline spot being covered *invenestra-* with brown. In the latter the hindwings and abdomen are dark-brown, in ab. *transiens* lustrous yellowish-white, *ta*. faintly powdered with brown. — Amazon: Fonte Boa.

50. Genus: **Castrica** Schs.

This genus was established for a species having been known already for 150 years. It is closely allied to the *Automolis*, but it has a feebly angled border of the forewing, which is exhibited only by those *Automolis* of which it is doubtful whether they belong to the group. It otherwise greatly resembles in the exterior the *Aut. tybris*-group (52 g), differs, however, by the middle and lowest radials (= uppermost median vein) of the forewing not rising from the same place, but by a distinct lower discocellular being present in *Castrica*.

Besides, the ♂ of *Castrica* has an oval seent-pad on each wing; on the forewing in the submedian space, where it forms the centre of a reflecting spot, on the hindwing before the upper cell-angle.

phalaenoides.

C. phalaenoides Drury (= *oweni* Schs.) (53 b). Forewing light olive-grey, in the cell, in the disc, below the apex and along the border yellowish diaphanous spots; the ground-colour towards the proximal margin more yellow. Hindwings pale yellow, abdomen orange. From Honduras through Central and South America to Bolivia. It varies rather much, though not geographically.

sordidior.

C. sordidior Rothsch. (53 c) is darker than most of the *noides*, towards the proximal margin not distinctly more yellow, the hindwings dingy white, the abdominal dorsum dark grey. Described from Trinidad and the Amazon (Fonte Boa); the figured specimen from Villavicencio in Colombia (from where, however, there are also *phalaenoides*).

51. Genus: **Thyrarectia** Hmps.

This genus (*Parathyris* Hbn.) was established for the singular *cedo-nulli*, but so narrowly delimited that new genera had to be founded already for its nearest allies. I comprise therein 3 well-known species, all of which are sepia-brown, with hyaline spots partly covered with fine dots, on the forewing, and a rather sharp angle at the border, where the middle radial terminates. In the ♂ the collar is somewhat erect, the tibiae of all legs are long-haired, the last tarsal joint of the forelegs with a small curl of hair; proboscis small and not capable of action.

cedo-nulli.

Th. cedo-nulli Stoll (53 e). A large and conspicuous butterfly. The hyaline apical area is obliquely cut off from the disc; a large hyaline spot in the cell and one at the middle of the border, divided into two parts by a submarginal chain of brown spots. Abdominal dorsum in the ♀ banded orange; venter chalky-white. The butterfly is very widely distributed, but it is of rare occurrence everywhere and, to my knowledge, it was hitherto only taken at the light. The largest imagines occur in Bolivia, where it attains a size of close to 70 mm. We figure a Bolivian ♀ from the Rio Songo. From Guiana through Brazil as far as Rio de Janeiro, Bolivia and Peru.

semivitrea.

Th. semivitrea Joicey (53 c). In this species the hyaline spots are fused to such an extent that the whole apical half of the forewing is hyaline, only below the apex there is an antemarginal brown, distally pointed spot. Abdominal dorsum in the middle yellow. Peru, on the Upper Amazon.

frigga.

Th. frigga Dre. (53 c). Apical hyaline spot similar as in *cedo-nulli*, the hyaline spot in the cell quite small, the distal vitreous spot large, intensely dotted. This species has been separated as the genus *Gonotrephes* Hmps. Bolivia (Rio Songo). Peru and the Amazon District, more common than the preceding species, but much smaller.

52. Genus: **Zaeavius** Dyar.

The species on which this genus is based is unknown to me in nature. Proboscis small; palpi bent up as far as the middle of the forehead, antennae doubly combed with short branches; abdomen in the ♂ with a large anal tuft. Forewing at the apex somewhat sickle-shaped, the border below it excised, projecting again on the middle radial. The uppermost radial on a common pedicle with the 2nd to 5th subcostal vein. The only species known comes from Guiana.

calocore.

Z. calocore Dyar. Size and approximate shape of *Thyrarectia frigga* (53 e). Head and body orange, tinted red-brown. Forewings yellow, suffused with red-brown. Middle of costa white, before the apical part a small white transverse spot and a dot below it. On the anal marginal half there is a laciniiform, semi-transparent spot, the apex of which extends as far as behind the cell-end. The latter is surrounded by a flesh-colour; hindwings white diaphanous, abdomen pink. From Hoorie in British Guiana. Only the type seems to be known, in the National Museum at Washington.

53. Genus: **Epimolis** Dyar.

ROBERTO MUELLER, in 1913, discovered a butterfly from Misantla in Mexico, strikingly resembling *Zatrephes flavonotata* (53 b), but differing in the venation by no vein on the hindwing proceeding from the upper cell-wall towards the costal margin; only very shortly before terminating into the border the subcostal bifurcates. Thereby, as well as by the longer palpi rising in front of the forehead, the genus differs from the otherwise similar *Zaeavius*.

zatrephica.

E. zatrephica Dyar. Almost exactly like *Zatr. flavonotata* (53 b), from which it is exteriorly easily distinguishable by the yellow costal spot at the base of the forewing not forming one large semicircle, but 2 smaller ones following one upon the other. Mexico.

54. Genus: **Pseudalus** Schs.

In the way it is composed at present, the genus is rather abnormal. Proboscis mostly feeble, palpi sometimes rising before the forehead, but also quite stunted, the middle joint being also much shorter. Antennae combed or ciliated in tufts; cell of forewing closed sometimes with deeply, sometimes with scarcely angled discocellular. Venation of hindwing different nearly in every species. Preponderantly yellow species marked or tinged with red, of a very small size rising to a tolerably medium size. Nothing is known of the life-history.

Ps. leos Drc. (53 d), from Ecuador, is small, golden yellow, with lighter hindwings and often reddish dorsum of abdomen. The forewing shows 2 oblique brown transverse lines, an antemedian one being in typical specimens somewhat interrupted, continuous, however, in the smaller *occidentalis* Roths. (53 d), and a postmedian one from before the apex to the middle of the proximal margin. Between both there is a punctiform spot at the cell-end, being distinct in typical specimens. Bolivia and Peru. — **aurantiacus** Roths. (53 d), from Surinam, shows the cell-dot almost vanished, both lines, however, thick and coherent, the postmedian line almost quite straight. — In **strigatus** Roths. (53 c), from Guiana and Peru, the cell-dot in the ♀ is faint, the antemedian oblique line angled below the costa. — Range from Guiana to Bolivia and Peru; some of the forms mentioned here are probably distinct species, but they are much more closely allied to each other than to the other species of the genus.

Ps. limonia Schs. Quite similar to the preceding in size, shape and colour; like there the forewings are dark yellow, the hindwings whitish, but the forewings show only very fine cell-dots, of the transverse lines either nothing at all is to be seen, or their position is only indicated by very fine (3 antemedian, some postmedian) dots. Abdomen whitish. South Brazil.

Ps. salmonaceus Roths. (53 d). Forewing and body above of a delicate salmon-colour, margins, veins and a narrow stripe in the submedian space of the forewing yellow. Hindwing in the ♂ bone-white, in the inner-marginal area faintly tinged pink. The ♀ is much darker, suffused with a deep pink, and the hindwings are dark pink. Peru and Bolivia (from the Rio Songo).

Ps. pseudalus Roths. (53 d) is the largest species. Forewing honey-coloured, with a thick, dark spot round the whitish transverse vein, and traversed by 6 or 7 partly incomplete, parallel, red-brown dentate lines or macular chains. Hindwing in the ♀ (the ♂ is unknown) deep pink, towards the costa and at the proximal margin lighter. Amazon: Fonte Boa.

55. Genus: **Neidalia** Hmps.

The 4 species composing this genus have no proboscis, but rather long, somewhat rising palpi. The border of all the wings is rounded, wings and body like in the preceding yellow, tinged red, with transverse lines on the forewing, similar as in most of the *Zatrephes* and *Pseudalus*. The venation is in both quite the same except a trifling deviation in the subcostal system of the forewing: the cell of the forewing is more than half the length of the wing, bipartite by the discocellular being angled, that of the hindwing being shorter and broader, clean cut off. The former distant separation from *Pseudalus*, appears to be somewhat artificial.

N. irrorata Roths. (53 d) resembles in the habitus yellow specimens of *Eupseudosoma bifasciata irrorata*. (50 a), *Zatrephes lentiginosa* (53 b), *Pseudalus strigatus*, *aurantiacus* (53 d), and others. Veined and strewn orange-red, forewing with 2 dark transverse lines, the postmedian one forming an arch below the costa towards the margin. In the ♀ the resemblance to *Pseudalus strigatus* is increased by the forewing showing a dark punctiform spot at the cell-end and by its transverse lines being tinged deep red.

N. dognini Roths. (53 d) has more intensely red forewings, and the two transverse lines are more remote from each other at the proximal margin. Peru.

N. ockendeni Roths. (53 d). Coloured like *dognini*, but the transverse lines of the forewing at the costal margin more than twice as far remote from each other, the distal one straighter. Peru.

N. villacresi Dgn. Much larger; here the distal transverse line is absent, only the proximal one being present; it cuts a light yellow cuneiform streak situate in the cell and a light yellow spot below the cell. Veins in the distal area of the forewing black. 46 mm. Ecuador.

56. Genus: **Phaeomolis** Hmps.

Allied to the forms of *Aphyle* and *Prumala*, and like them with a strong proboscis. The venation is not homogeneous, that of the hindwing in the ♂ sometimes confined by scent-organs. By most of the species approximating the exterior of other genera, the colourings of the genus have become very multiform.

- manora*. **Ph. manora** Drc. (53 e) resembles some *Neaxia*, *Amasia*, *Prumala* etc. Body and forewings honey-coloured, covered with numerous small rings and ovals which are distinctly encircled with red. Hindwings of a lighter yellow, towards the costa lighter, towards the margin tinged orange. Peru.
- lepida*. **Ph. lepida** Schs. from Costa Rica is slightly smaller, but instead of the rings it has small blackish and red spots partly confluent in the basal part and near the apex of the wing and forming a large, cap-shaped cloud at the proximal margin. The hindwing tinged rosy in the proximal half.
- obscurata*. **Ph. obscurata** Bttr. (53 e). Forewings paler yellow, powdered with grey; this dusting flows together to oblique transverse bands. Hindwings pink. Amazon.
- mera*. **Ph. mera** Schs. (53 e). Larger; the greyish-brown dusting of the forewing covers the whole wing, leaving free only a submarginal row of small yellow internerval spots. Hindwing dull whitish, the border and the whole proximal half likewise suffused with brown. From the lower cell-angle, between the radials, extends a large, diaphanous whitish cuneiform spot intersected by the lowest radial (uppermost median). The species looks like an *Automolis* and like that it has also a variegated body; abdomen blackish, the 3 penultimate rings and the head orange, thorax dark brown, marked white. Costa Rica.
- brunnescens*. **Ph. brunnescens** Rothsch. (53 e). Smaller, but the abdomen, on the contrary, anteriorly and at the apex orange, the 3 penultimate segments rather darker. Instead of the large cuneiform spot, the otherwise greyish-brown forewing shows only yet a minute white punctiform spot behind the cell-end, which in the Bolivian form **unicolor** Rothsch. from Buenavista grows quite indistinct. Hindwing with a broadly dark shaded border. The typical form from Fonte Boa (Amazon).
- similis*. **Ph. similis** Rothsch. (53 e) resembles *Automolis ockendeni* (52 e) and with the latter also numerous other *Heterocera* (Arctiids, Syntomids, Geometrids) of its range. Quite sooty blackish-brown with a broad, orange transverse band through the wing. Fonte Boa (Amazon).

57. Genus: **Syntomostola** Dgn.

The only species forming this genus so very much resembles a Syntomid in the habitus and colouring, that it is much rather confounded with the latter than with an Arctiid. It actually resembles a Syntomid by the extremely reduced cell of the hindwing, whilst that of the forewing is long and broad. Proboscis well developed, palpi thin, but with a very long middle joint; body slender, abdomen projecting far beyond the anal angle. Hindwing of the ♂ (the ♀ is unknown) with a lobularly extended anal part.

- xanthosoma*. **S. xanthosoma** Dgn. (53 e). Forewing except border and cell-end, hindwing in the middle hyaline, otherwise black; abdomen orange. Discovered by A. H. FASSL near Medina in Colombia.

58. Genus: **Hypidalia** Hmps.

Preponderantly yellow butterflies with a pink abdomen. The anal part of the hindwing not lobated, the palpi much shorter and thicker than in *Syntomostola*. HAMPSON inserts the genus before *Cissura* (p. 338), from which, however, it differs by the absence of vein 5 in the hindwing, and by considerable differences in the veins of the forewing. Of the usual Arctiid shape, as it is found in the *Spilosoma*, *Phissama* etc. also in the palearctic. Only 2 species are known.

- sanguirena*. **H. sanguirena** Schs. (53 e) is brownish-red with black dots on the tegulae and across the dorsum of the abdomen; forewings yolk-coloured, the veins and 3 dentate transverse lines, the middle one of which is double, are red, the hindwings pink. From French Guiana.
- enervis*. **H. enervis** Drc. is much smaller (40 mm); forewings yellow with a white costal and proximal margin, on which there are purple basal streaks. Round the cell-end a purple-grey discal spot, between it and the border a transverse row of dark punctiform spots. Hindwings in the ♂ purely white. Rio, Petropolis and Paraná. Apparently rare.

59. Genus: **Hyperandra** Hmps.

The small butterfly forming this genus is so well distinguished by the shape of the ♂ that it cannot be mistaken for any other. The forewing is extraordinarily broad, particularly by the widening of the submedian space. The proximal margin passes over into the distal margin quite uniformly curved, so that there is no angle whatever at the turning. The hindwing is deeply indented in the middle of the border, and both wings are covered with a distinct scent-fur on the under surface.

H. appendiculata *H.-Schäff.* (45 f). Forewing dull violettish-grey with a light yellow marginal part. *appendiculata*. hindwing dull bone-white, in the costal part an ochreous-brown scent-spot on a creasy lustrous reflection. Brazil; the butterfly is apparently widely distributed and occurs also near Rio de Janeiro, but it is rare.

60. Genus: **Thyromolis** *Hmps.*

In common with *Hyperandra* it has a distorted hindwing the anal part of which is lobated, the lobe, however, being besides inverted. At the inversion itself a scent-pencil apt to be spread out. The hindlegs show long hair-brushes on the femora and tibiae. The cell of the forewing is of scarcely half the length of the wing, that of the hindwing still shorter. The only species of this genus exhibits the widely distributed colouring of numerous *Neritos*, *Paranerita*, *Hyponerita* etc.

Th. pythia *Drc.* (53 f). Forewing with a purple-brown basal half intermixed with yellow and violet, *pythia*. small spots, and a diaphanous yellow apical part; before the apex itself a purple-brown, circular spot with a darker pupil and a lighter bordering. Hindwing yellow with a deep orange inner-marginal area and a costal area dusted with brownish. From the Rio Songo in Bolivia; discovered by O. GARLEPP.

61. Genus: **Demolis** *Hmps.*

Distinguished from the preceding genus by the less distorted shape of the male butterflies. Still both wings show a rather broad submedian space. On the forewing the first subcostal vein branches off shortly before the upper cell-angle; the 2nd rises with the footstalk of the others from the cell-angle itself, from which also the upper radial rises; the cell is long and narrow. In the hindwing vein 5 is absent and the costal parts from the subcostal only behind the cell-end. Only 1 species:

D. albicostata *Hmps.* The species greatly reminds us of *Prumala albicollis* *Fldr.* (44 i) and of *Automolis albicostata sordida* *Rothsch.* (52 f), but it is somewhat smaller, the dark basal part of the forewing more reddish-brown than violettish-brown, with a purely white costal margin, the light marginal third of the forewing being yellow. Abdomen dark red, hindwings tinged light pink. From South Brazil.

62. Genus: **Protomolis** *Hmps.*

Proboscis strong, palpi obliquely rising, ♂ antennae doubly combed with rather long teeth. Wings of the common shape, the forewing with a cuneiform cell of almost two thirds of the length of the costa. On the forewing the upper median vein rises before the lower cell-angle, the lower radial above it; the two first subcostal veins branch off before the cell-end, the transverse vein is slightly angled. In the hindwing the submedian area in the ♂ is scarcely half the width of *Hyperandra* and neither attains that of *Demolis*. Only 1 species is known, an insignificant butterfly looking somewhat like a *Biturys* or *Agoraea*.

P. promathides *Drc.* (44 b). Dull white, the forewing finely dusted dark, abdomen hemochrome with *promathides*. black dorsal dots. Mexico.

63. Genus: **Epierisias** *Dyar.*

Of the usual shape, but immediately recognizable by the long palpal terminal joint attaining almost the size of the middle joint; thereby the palpi project far. On the forewing the two subcostal veins rise before the upper cell-angle, the middle discocellular is quite obtusely angled, the two lower radials are short-petioled. In the hindwing all the veins are present. Only 1 species.

E. eschara *Dyar* (53 f). Bright orange-yellow, head and thorax of a deeper colour, like the costa *eschara*. of the forewing; the disc of the forewing slightly tinged reddish. Hindwings coloured the same. In great contrast with the orange-pink body and wings are the long legs and antennae. Mexico, rare.

64. Genus: **Purius** *Wkr.*

The only species forming this genus is an insignificant, brown Aretiid of an expanse of 38 mm, distinguished by both wings having areolae. In the forewing the 2nd subcostal vein anastomoses with the footstalk of the 3rd to 5th in such a way that the areola produced thereby is as long as the free part of the 3rd subcostal vein. In the hindwing a basal areola is formed by the costal approaching the upper cell-wall only close before the middle of the cell. But right behind the middle of the cell it separates again from the subcostal.

pilumnia.

P. pilumnia Stoll (= sordidus Wkr.) (53 f). Head, thorax, and forewings light brown, the forewing densely strewn with blackish, particularly at the costa, cell-end and apex small blackish spots; hindwings diaphanous brown, abdomen black and banded dark pink. Costa Rica to the Amazon.

65. Genus: **Ammalo** Wkr.

This genus is very little homogeneous and is partly indistinct. The venation is very regular, offering no peculiarities whatever, the wings themselves show neither distortions nor scent-organs. The most conspicuous are the ♂ antennae being in some species very long and strongly combed, attaining a length of more than half the length of the costa. Across the base of the abdomen a long fleec of hair is spread. We come across all sizes, of medium size to large size and with colourings changing from dark brown and variegated to a diaphanous white; in their geographical range the species extend from the United States to South Brazil.

Proboscis strong, palpi with a stunted terminal joint. Forewings sometimes with a pointed apex, with a narrow, euneiform cell and an angled discocellular. The 1st subcostal vein branches off before the upper cell-angle, the 2nd together with the footstalk of the others from the cell-angle, from which also the uppermost radial rises. The radials 2 and 3 come from the lower cell-angle, mostly — though apparently not always — together with the upper median vein. — The larvae, as far as they are known, are genuine bear-caterpillars, with tufted velvety hair, without any pencils or hair-brushes. Some species are common, but are almost invariably taken only at the light.

tenerosa.

A. tenerosa Dyar (53 f). The smallest species, all white, only the collar, the base of the costa and abdomen (except the base) yellow; abdomen above and laterally with a row of dots. Discovered by ROBERTO MUELLER in Misantla in Mexico.

tenera.

A. tenera Hbn. (= collaris Fitch, antica Wkr.) (53 f, g). Very much like the preceding, not so purely white, head and thorax as well as abdomen yellow, the latter with rows of black dots. Beneath the costal part of the forewing is sooty dark except the apical part. Atlantic states of North America. — Whilst in typical specimen the costal part of the forewing appears yellow, in the Californian form: **sciurus** Bsd. (= yosemitae Edw.) only the costal basal part is faintly hued yellowish, and the prothorax is more greyish. — The grown-up larva is dull white with long, silky grey hair on tubercles being dotted black; stigmata black-curved; head flesh-coloured. It lives on *Asclepias* and *Apocynum* and the species is in some districts (e. g. in Carolina and Pennsylvania) not uncommon.

eglenensis.

A. eglenensis Clem. (= inopinatus Edw.) (53 g). Denominated by its resemblance to *Euchaetias egle* (39 f). ♂ dull greyish-brown with a yellow abdomen dotted black, and a white frons. In the ♀ the wings are dull whitish with an orange-yellow costal stripe. — Larva reddish-ochreous with an orange-yellow head, black tubercles and silvery grey hair on them; on *Asclepias tuberosum*. Southern states of the eastern part of North America.

insulata.

A. insulata Wkr. (= cadaverosa Grt., affinis Grt., aurata Btlr.) (53 g). Shape and size of *eglenensis*, but body and wings above unicolorously yellow. — **aravaca** Jord. does not differ exteriorly from *insulata*, but in the structure of the genitals. — Larva black, the 1st, 3rd, 7th and 9th segments brownish-red; across the dorsum a row of white spots, next to them thin subcostal streaks. Hair black, quite in front and behind intermixed with white hairs. Distributed from Florida through Mexico and Tropical America to the south as far as South Brazil and North Argentina, in some districts very common.

cirphoides.

A. cirphoides Rothsch. (53 g). Size of the preceding, but paler yellow, particularly in the disc of the forewing. The forewing is slightly brownish below an apical oblique streak and the fringes before the apical marginal half; also on the median, at the proximal margin and sometimes also above the submedian there is brownish scaling; discovered by FASSL in Colombia, on the Tolima, and the Quindin Pass.

bipunctata.

A. bipunctata Wkr. (53 g). Body and forewing ochreous, densely tinged with red-brown, at the cell-end a darker mark; the hindwings lighter, more yellowish-white, somewhat diaphanous. Pará.

signata.

A. signata Wkr. (53 g). The species which is said to originate from „Brazil“ and is not before me, shows a superficial colonial resemblance to species of *Hyperthaema*, such as *H. sanguineata* (43 c). Body and forewings brick-red, watered by yellow, undulate transverse stripes, with a white spot encircled by black near the base, a similar antemarginal one, and small dark spots in and behind the cell. Hindwings dull whitish.

constellata.

A. constellata Dgn. (53 i). Repeats the colouring being widely distributed in South America of *Tessellata sertata* (42 f), *Ochrodota pronipides* (43 a), different *Carathis* etc. Forewings dark sepia-brown with light yellow patches filled up with brown rings in the basal part and before the apex. Hindwings dark brown, cell and inner-marginal area lighter. Colombia.

A. paranomon Dyar (53 h) discovered by ROBERTO MUELLER near Zacualpan (Mexico), resembles *paranomon*, more certain *Pachydota*, *Mazaeras* etc. Forewings dark brown, with a broad, blackish transverse band before and behind the middle and at the margin, as well as a dark, costal demi-band above the cell-end. The inner-marginal base, hindwing and abdomen pink, hindwing with a dark distal band. Rare.

A. trujillaria Dgn. (53 i) from Peru resembles *Amastus* occurring there. Forewing dirty yellowish-brown, watered dark, and with a brown marginal band proximally undulately bordered. Hindwing lighter, only in the apical part dark. A large species. *trujillaria*.

A. helops. By this name the members of entirely different South American genera are presumably confounded even to this very day. This is easily possible, since on the one hand two forms (those with more unicolorously dark forewings and those with spotted yellow forewings), although they are easily discernible and are taken to be subspecies *), occur beside each other in certain habitats, on the other hand by reason of the entirely deviating larvae yielding the *helops*. Moreover, they are probably confounded with similar *Mazaeras* or *Elysius* (e. g. *cingulata*, 53 h). — **helops** Cr. (= *fervidus* Wkr.) (53 h) has the dark forewings intermixed with honey-coloured spots of an irregular shape, and the orange-yellow abdomen is banded black; its base, as well as the hindwings, tinged pink. Mexico, Central and South America, here particularly in the north and east. — In the south and west, but to the north as far as Costa Rica, we find the form with dark forewings being little or not at all spotted yellow, **megapyrrha** Wkr. (= *chrysogaster* Wkr., *impunctus* Grt.) (53 h). — The larva of the typical *helops*, which is lying before me from Mexico owing to the kindness of Prof. Dr. DRAUDT, is reddish greyish-brown, covered with a dense, short, velvety black, felt-like fur, the head reddish yellowish-brown, lustrous. In contrast with this, it is quite differently figured, greyish-brown, also the head, covered with thin tufts of long white hair; across the dorsum extends a broad white band bordered with dark and longitudinally traversed by three rows of green dots. (This latter larva will presumably much rather yield *Mazaeras conferta*). *helops*. *megapyrrha*.

A. klagesi Roths. (53 i) has unicolorously dark brown wings; the head, thorax, and apex of abdomen are red, the abdomen otherwise above black. According to HAMPSON, it belongs in the genus *Tessellartia*. From Fonte Boa (Amazon). *klagesi*.

66. Gattung: **Mazaeras** Wkr.

Large butterflies with a glaringly coloured body being uncommonly clumsy in the female, with a fully developed proboscis, the fur-like haired palpi being bent up and projecting somewhat, and in both sexes with doubly combed, rather long antennae. On the forewing the 1st and 2nd subcostal veins branch off before the cell-end, the latter anastomoses with the pedicle of the 4th and 5th, forming a long arcola; the discocellulars on both wings rather long, the transverse vein slightly bent in. Only 3 species are known, being rather similar to the palearctic *Arctia* in the structure; but whilst the stout *Arctia*-♀♀, as for instance those of *A. hebe*, are not well adapted for flying and, in depositing the eggs, run mostly only in a whizzing way along on the soil, the ♀♀ of *Mazaeras* easily rise to a considerable height and even fly across broad rivers. Their chief range is in South Brazil, where they come to the lantern rather late in the evening. As to the larva, comp. what has been said in *Ammalo helops*.

M. conferta Wkr. (53 h) is similarly coloured like the very variable *A. helops*, but of a much stouter structure, with shorter and feebler antennae. Hindwings purple, with a more pointed apex. Abdomen more thickly spotted black. ♂ considerably smaller than the ♀♀. Particularly on the eastern coast of South Brazil. *conferta*.

M. melanopyga Wkr. (53 g). Dark wood-coloured, forewing with a light dot at the cell-end, before the marginal area a small, undulate, light band. Hindwing in the proximal part thinly scaled, at the base reddish. Dorsum of abdomen as far as the middle of the abdomen pink, terminal half of abdomen, venter and sides of abdomen black. Eastern coast of Brazil, from Pernambuco to Sa. Catharina; the figured specimen from Santos. *melanopyga*.

M. janeira Schs. (53 i). Smaller, forewings more striated. Hindwings of a lighter greyish-brown, abdomen yolk-coloured, with black dorsal and lateral spots. South Brazil. *janeira*.

67. Genus: **Elysius** Wkr.

This genus, containing many species, forms a great contribution to the neotropical Arctiids. In tropical South America it proceeds relatively far to the south and in Mexico it is represented yet with rather many species, but it does not reach the United States any more. They are of a compact structure, the head is stout, woolly haired, with a strong proboscis; palpi densely haired with a short basal joint, long middle joint and stunted

*) ROTHSCHILD. Novitat. Zoolog. 17. p. 34.

terminal joint. ♂ antennae long and densely doubly combed, shorter than those of *Ammalo*, but longer than those of *Mazaeras*. Body mostly stout, sometimes clumsy, but in the species with large hindwings sometimes also slim. Particularly the slender species, deviating considerably from the type, have very long legs. Across the base of the abdomen a dense hairy fleece is spread. Forewing with a long cell and an inwardly angled transverse vein, without an areola. Hindwing sometimes with a straight border and a longish anal part. The animals keep very much out of the way and are presumably without exception taken at the light.

- ammaloides*. **E. ammaloides** Rothsch. (*ammeloides* in tab.) (53 i) strongly recalls a small *Ammalo helops* by its colouring, and particularly by the contours of the wings (the border of the forewing being somewhat indented) and by the long and strong ♂ antennae, but the forewing without the orange spots being often very numerous in *helops*, the abdomen more red than yellow, particularly the base strongly covered with red hair, the abdomen otherwise feebler and with duller transverse stripes. Amazon and Peru.
- francki*. **E. francki** Schs. (53 h) is similarly coloured, but of a more clumsy structure, the shape of the wings more like that of a *Mazaeras*, for which reason the species was often described as such a one. Forewing dark brown, only at the base of the proximal margin reddish-yellow. Hindwing transparent yellow-reddish, towards the margin darker, thinly scaled, but strongly haired; abdominal dorsum in the basal half red-haired, otherwise yellow-coloured with black transverse spots. South Brazil, Central Brazil and Bolivia. Bolivians have a darker head and already approach the following form.
- soteria*. **E. soteria** Drc. (54 a) is very closely allied to the preceding, of which it is the southern representative, from Argentina; the last 4 joints of the abdomen dark yellowish-brown, the hindwing in the ♂ whiter, only the border narrowly yellowish-pink.
- mediofascia*. **E. mediofascia** Joicey. Only the ♂ is known, somewhat larger than the preceding, the forewings red-brown, with dark brown and orange transverse striae, at the base of the proximal margin red; below the costa near the base an orange spot strewn with red, and one below the middle of the cell, a small one in the cell-end, behind the middle of the wing a macular band, and a broad band at the border. Hindwings orange, at the costal and proximal margin tinted red. Body orange, head and thorax coloured red, abdomen with a red base and black lateral spots. Peru.
- cingulata*. **E. cingulata** Wkr. (54 a) is much larger, the thorax spotted black and the abdomen with sharp black bands. The orange spots in the forewing are more dispersed, the hindwings of a bright flesh-colour. South Brazil (and Jamaica?).
- magnifica*. **E. magnifica** Rothsch. (54 a) is still much larger, instead of the orange-yellow spots of the forewing there are yellowish-brown shades; hindwings purple; abdomen with such broad black bands, that there only remain narrow transverse bands of the ground-colour. Peru.
- proba*. **E. proba** Schs. (54 a). Anterior body and forewings darker, abdomen and hindwings lighter dull yellowish-brown; the forewings feebly chased brown. Mexico, Honduras; the figured ♀ from Misantla.
- pachycera*. **E. pachycera** spec. nov. (54 b) from the Rio Songo in Bolivia is quite unicolorously dark brown, only at the cell-end and at the border of the forewing darker shades, the hindwings less yellow, darker brown.
- aeschista*. **E. aeschista** Dgn. (54 b) is quite similarly coloured as the preceding, but the body much more slender and the antennae much longer, almost to four fifths of the length of the costa, and therefore scarcely congeneric with the preceding. Colombia; like *pachycera* discovered by FASSL.
- hampsoni*. **E. hampsoni** Dgn. (54 e). Forewings of a paler red-brown, with 5 dark transverse bands. Abdomen purple pink, its anal part narrowly banded black. Peru.
- superba*. **E. superba** Drc. (54 b). Of the habitus of an *Amastus*; forewings similar as in *hampsoni*, but at the base a thick, blackish-brown spot, the abdomen more abundantly and more broadly banded black. Mexico and Central America.
- meridionalis*. **E. meridionalis** Rothsch. (54 b) resembles the preceding; bands of forewings likewise as in *superba*, but the colouring ochreous-yellow, instead of the black basal spot some dots and the abdomen yellow instead of pink, the black bands incomplete. São Paulo (Brazil).
- sebrus*. **E. sebrus** Drc. (54 b) is much smaller than the preceding, the forewings more dull orange than ochreous-yellow, the marginal area proximally bordered by an oblique shade proximally defined by black. Beneath the forewings are light yellow-coloured, the marking above only little shining through. South Brazil and Peru.
- hermia*. **E. hermia** Cr. is still smaller (40 mm). Forewings yellow, densely speckled brown; a yellow band marked with red at the base is connected with a yellow antemedian spot at the proximal margin, distally with a crooked brown line; in the cell-end a square spot, a postmedian macular band from the costa to the proximal margin before the anal angle; in the distal area some isolated spots and in the apex 2 coherent spots. Hindwings semi-diaphanous, the proximal area and marginal band rosy-red. Colombia and Surinam to South Brazil.

E. pyrosticta *Hmps.* (= *hermia* *Hmps.* nec *Cr.*) (53 i) resembles both *hermia* and *conspersus*, but it is much smaller, with an orange abdomen banded black, and in the basal part covered with vermilion hairy fleece, thus like *conjuncta*; the forewings, however, are like those of *conspersus* which, however, has a unicolorously golden yellow abdomen without any distinct black bands. The hindwings are again tinted brighter rosy-red, as in *conjuncta*. South Brazil, near Rio, in the Organ Mountains, rather rare. *pyrosticta*.

E. conspersus *Wkr.* (54 c). Forewings yellowish violettish-grey; the whole basal area, a broad median band, a laciniform spot on the costa before the marginal area, and a row of spots through the apical area are *conspersus*.
yolk-coloured, strewn with scarlet. Hindwings whitish, diaphanous; abdomen with some blackish belts, of which those on the rings 1 to 5 are present only on the sides, whilst in the middle of the dorsum they are covered by orange-yellow hair. Panama to Brazil and Bolivia.

E. conjuncta *Rothsch.* (54 c). Larger, similar, but the basal area is here flown together with the discal spot, so that the whole forewing is orange-yellow as far as beyond the middle. Venezuela, South Brazil. *conjuncta*.

E. melanoplaga *Hmps.* (54 c). Size of the preceding; forewing whitish violettish-grey with 5 brown transverse bands bordered with dark, and large brown spots at the base and behind the cell-end; hindwings dirty white with a dark median luna and a greyish-brown distal band close in front of the border. Costa Rica to Ecuador. — Specimens from the Rio Songo deviate from those from the Volcano Irazu and from HAMPSON's figure (Ecuador-specimen) by the dark bands being several times confluent in the distal part of the forewing and by the distal band of the hindwing being broader. This constantly varying form may be denominated: **amarua** *form. nov.* (54 c). Apparently not very rare. The species somewhat resembles *Opharus decrepidoides* (57 c) and its allies. *melanoplaga*.

E. atriceps *Hmps.* (54 c) resembles certain *Halisidota*, such as *andensis*, *argentata* or *caryae* (59 a, b) by the pointed shape of the forewing and the chains of lustrous white oval spots. From Colombia and Peru. *atriceps*.

E. immanis *Edw.* (= *jacca* *Drc.*) (54 d). Size and approximate shape of *atriceps*, but dust-grey, the forewing with nebulous bands dusted dark at the base, before the middle and in the distal third. Hindwing with a whitish basal half; sides and apex of abdomen light yellow. Mexico and Central America, as well as Peru. *immanis*.

E. jonesi *Rothsch.* (54 d). Head, thorax and forewings monotonously dark van Dyke-brown, only at the cell-end a blackish punctiform shade. Hindwing the same, in the middle whitish diaphanous. Abdomen dull yolk-coloured, with dorsal and subdorsal rows of black transverse dots. South Brazil (Santo). *jonesi*.

E. intensa *Rothsch.* (54 d) resembles the following species, but it differs by the absence of a marginal band in the hindwing, which is distally only somewhat darkened, as well as by the abdomen being yellowish-brown with faintly darker segmental indentations and a dull yellow venter, whereas in *dryas* it is above orange-yellow with 2 subdorsal rows of spots, beneath black. Amazon (Fonte Boa). *intensa*.

E. dryas *Cr.* (= *basipennis* *Wkr.*, *fimbria* *Mschlr.*) (54 e). Extremely variable, but the forewing is always dark sooty-brown, finely strewn with whitish, with a light dot on the transverse vein. Round the latter there may be a spot composed of small light scales, or a small twin dot next to it. The hindwing is in the proximal half light diaphanous whitish-yellow, sometimes quite hyaline, sometimes intensely tinted yellow. Abdomen yolk-coloured with a black apex and two rows of subdorsal punctiform spots in the posterior half. — In ab. **erythrinovertex** *Strd.* the abdominal dorsum and the ring round the neck, being otherwise mostly light yellow, are rosy red; this is, however, not a geographical race, but specimens with red bodies occur in some districts beside such with a yellow dorsum, e. g. near Villavicencio in Colombia. Widely distributed and common, from the West Indies and Central America to South Brazil and Bolivia. — **omissus** *Rothsch.* is a large, blackish form, with a broad dark marginal band of the hindwing. The bases of the shoulders, anterior chest and hips are tinted purple, so are the stripes of the forewings beneath. From Oxapampa. — K. JORDAN has examined the male genital organs and ascertained numerous differences among the ♂♂ of *dryas*; it does not seem, however, that they invariably coincide with the variations mentioned above in the exterior of the butterflies. Such forms, separable only anatomically, are: *megalobus*, *tupus*, *hora*, *najas*, *dimidiata*, *coccina*, *erubescens*, all of which were established by K. JORDAN, as well as *subtilis* *Btlr.* — The butterflies come to the lantern only late in the evening, but also the ♀♀. *dryas*. *erythrinovertex*. *omissus*.

E. disciplaga *Wkr.* (= *breviuscula* *Wkr.*, *aperta* *Edw.*) (54 d) greatly resembles the preceding, but the forewings are lighter, more chestnut-brown; hindwings dirty yellowish-white; in the ♂ the brown marginal band extends from the apex little beyond the middle, in the ♀ the hindwings are browner. Abdomen yolk-coloured, the middle part of the dorsum of the abdomen covered with blackish hair, in the terminal part spotted black. México, Central America and Colombia. *disciplaga*.

E. terranea *Rothsch.* is almost the size of the following, head, body and forewings are dark reddish-brown, the latter are densely watered light, with a small whitish dot at the cell-end, like in *dryas* (54 e). The hindwings are yellowish-white, the veins and marginal area tinted red-brown, beneath in the costal area reddish brown. Peru. *terranea*.

- thraikilli*. **E. thraikilli** Schs. (54 d) has the size and shape of a medium-sized *dryas*, but the forewings are more distinctly watered yellowish-brown, and the hindwing is in the distal half tinted rosy-red, without a dark marginal band. The body is of a bright ochreous-yellow, marked blackish-brown, the tegulae showing one thick black dot each, the patagia being quite blackish-brown with an orange-yellow proximal margin. Abdomen banded black. Mexico.
- systron*. **E. systron** Schs. (54 d) from Paraná is smaller and quite dark brown, with a collar finely edged with yellow, the abdomen posteriorly golden yellow, the segments margined dark; on the forewings there are some dispersed light dots; the hindwings are lighter smoky greyish-brown.
- colombiana*. **E. colombiana** Roths. (54 c) has unicolorously light yellowish-red forewings with a yellowish-white costal margin; in the cell and discal fold near the border a dull, dark streak. Hindwings diaphanous white. FASSL discovered it on Mount Tolima in Colombia.
- sarcochroa*. **E. sarcochroa** Dgn. (54 e) is very closely allied to *colombiana*, but the ground-colour of the forewings is more flesh-coloured, from which the name of the insect is derived. Also the hindwings are distally flesh-coloured. Like *colombiana* from Mount Tolima in Colombia.
- ochrota*. **E. ochrota** Hmps. (54 e) is the size of the preceding and has about the same colour of the forewings, but the hindwings are not diaphanous white, but dull greyish, with a rosy distal hue. The abdomen is yolk-coloured, with black bands. Colombia to Bolivia and Peru.
- umber*. **E. umber** Cr. Blackish-brown, hindhead and patagia with yellowish-red-orange spots; abdomen above orange, the margins of the segments and the hair towards the base of the abdomen brown. Hindwings of a rather much lighter brown. 70 (♂) to 86 (♀) mm. Surinam and Panama.
- castanea*. **E. castanea** Roths. (54 e) is much smaller than *umber*, almost quite unicolorously dark brown, but a slightly prominent, darker nebulous stripe defines proximally the marginal area of the forewing, a feeble darkening resting above the cell-end and hindwing as well as abdomen are lighter towards the base. Peru.
- hades*. **E. hades** Drc. (54 e) has the size and approximate shape of the preceding, but it is quite unicolorously deep blackish-brown with an orange-yellow apex of the abdomen. Likewise from Peru.
- atrata*. **E. atrata** Fldr. (54 f). This species initiates a series of almost black butterflies, and it is doubtful whether all that have been described as distinct species should remain or rather be regarded as vicarious forms of few species. In *atrata* the head and collar, the two first abdominal rings and two bands before the black terminal part of the abdomen are of a bright orange-yellow. These two dorsal bands may be so broad that the whole abdomen turns orange except a saddle-spot and the two last segments above. Tegulae and patagia show one thick black dot each; the middle of the hindwing is hyaline, traversed by thick black veins. From Colombia and Ecuador to Peru and Bolivia. The figured specimen from Pozuzo. — **E. felderi** Roths. (54 g), likewise from Peru, shows the orange ring of the base of the abdomen narrower, that before the apex, however, much broader, the hyaline area in the middle of the hindwing reduced.
- subterra*. **E. subterra** Roths. (54 f), likewise from Peru, but from a different district, as the preceding, has the abdomen above quite black except the narrow ring at the base, the sides and apex laterally and beneath; above the apex is also black.
- atrobrunnea*. **E. atrobrunnea** Roths. (54 f). Larger, with broader wings, head and collar orange, as well as the abdomen at the base and on the posterior segmental indentations. Hindwings dark brown, without the hyaline discal area. Venezuela.
- terraoides*. **E. terraoides** Roths. (54 f) from Peru and Bolivia is almost like *atrata*, but the dorsum of the abdomen is not yellow at the base; the hyaline spot in the hindwing only reaches about the middle. Perhaps a form of the following.
- terra*. **E. terra** Drc. (54 f) entirely resembles *terraoides*, but the abdominal dorsum laterally with small yellow dots, the hyaline part of the hindwing extends on the median beyond the middle of the wing. Peru and Bolivia. We figure it from the Rio Songo.
- chimaera*. **E. chimaera** Drc. (54 g) from South Brazil and Paraguay greatly resembles the preceding, but the head and collar are not yellow, but the vertex and patagia only show yellow dots, the abdomen is only laterally spotted yellow, the whole basal half of the hindwing white.
- fuliginosa*. **E. fuliginosa** Roths. (54 g). The whole body and forewings monotonously blackish-brown; the hindwings, however, quite white except the faintly brownish apical part. Peru.
- carbonaria*. **E. carbonaria** Dgn. (54 h). Body and forewings coloured like in *fuliginosa*, but the hindwings of a dirty earth-colour. Bolivia and Peru.

E. pallidicosta Wkr. (54 h). Above quite dark olive-brown, only the costal margin quite narrowly *pallidicosta*. sulphureous. Beneath the hips are yellowish-brown, the abdomen white. The ♂ has a straight border of the hindwing, so that it almost appears triangular. From Colombia (Pacho, Mount Tolima) through Venezuela as far as Bolivia and Peru.

E. flavicosta Drc. (54 g) has entirely the shape of the preceding, but above the head and the anterior edge of the thorax (are yellowish-white, and on the forewing the whole costal area is lighter, as well as the median and a parallel stripe in front of the darkened margin. The venter is likewise white. Reported from Peru, the figured specimens, however, are from Orosi in Costa Rica, from the Volcano Irazu, at an altitude of 1200 m.

E. lavinia Drc. (= *lavinea* Rothsch.) (54 g). Here the body and forewings are also blackish-brown, but the latter have a broad, sulphureous costal stripe and on the transverse vein a fine, yellow V. Hindwings white, with a brownish apical part and border. Peru.

E. bicolor Mssn. (54 f). Body and forewings sooty blackish-brown, the forewing (in the type figured here) with a deep yellowish-brown costal stripe, the hindwings diaphanous whitish. Ecuador, Peru.

E. barnesi Schs. (54 h). Body and wings white, the abdominal dorsum tinged orange-yellow. From Cuba, where the species is apparently rare.

E. insula Dgn. (54 g). Head and thorax sooty yellowish-brown, abdomen brownish-grey, towards the apex tinged dark brown, with a yellow anal tuft. Forewings yellowish-brown with slightly darker veins. Hindwings unicolorously dull dark brown. Loja (Ecuador).

E. tricyphoides Rothsch. (54 h). Smaller, above likewise dull dark brown, but the head above bone-white, abdominal end laterally, the last segment also above yolk-coloured. Forewing with a black dot at the cell-end, and an undulate, W-shaped, dark antemarginal line. Guiana and Amazon.

E. phantasma Schs. (54 h). Smaller and paler, thorax and forewings light earth-grey, with a brownish apical area, hindwing whitish, at the costal margin and apex broadly greyish-brown; inner-marginal area and abdomen honey-coloured. Guiana.

E. deceptura Drc. (54 h). Size of the preceding, the forewings of a purer greyish-brown, and the hindwings all white. Head above yellowish, thorax greyish-brown, abdomen dark brown, at the base whitish and at the end yellow. Peru.

68. Genus: **Pelochyta** Hbn. (*Sontia* Wkr.)

The 16 species united to this group are mostly medium-small, unicolorously brown or yellowish insects without any peculiarities. In their range they agree with the *Elysius*. They also have a strong proboscis, but mostly also large palpi obliquely bent up, with a distinct terminal joint resting on a long and thick middle joint ♂ antennae with strong, in the ♀ with short pinnæ in a double row. Like in *Elysius* the abdominal dorsum is in the basal half densely covered with hair. In the forewing the 2nd subcostal vein rises before the upper cell-angle, the upper median vein before the lower cell-angle. No areola; transverse vein angular. The lower median vein only rises in the middle of the wing from the cell-wall. In the hindwing all the veins are present; they are often rather small. — Of the larva I only know SEPP's figure of *P. arontes* (= neuroptera Sepp). It has unpaired, stunted brushes across the dorsum, on the 3rd and 9th segment long pencils and on the 4th ring a cap-shaped hair-pad. It thus recalls some Syntomid larvae, such as those of *Episcepsis thetis* etc. Type: *P. arontes*.

P. atra Rothsch. (55 a, b). ♂ blackish-brown, frons and tegulae with yellowish-red dots, bases of wings black dots. Abdomen beneath white. ♀ more reddish-brown, frons yellowish; much larger than the ♂. Peru.

P. nigrescens Dgn. (55 a) is quite similar, the ♂ somewhat lighter (the ♀ is not known), upper head, collar, metathorax, and dorsum of abdomen purple except a dark middle stripe. Colombia, Ecuador, Peru and Bolivia.

P. haemapleura Dgn. (55 a) is almost entirely like *nigrescens*, the red of the head and thorax more covered by brown hair, the sides of the abdomen narrower red. It might be a small ♀ of *nigrescens*. Colombia.

P. misera Schs. (55 a). Wings like in *haemapleura*, but the head and collar yellowish-brown, on the vertex and each of the tegulae one black dot each. Apex of abdomen laterally orange. Costa Rica.

P. bicolor Rothsch. (55 a). Wings dark chestnut-brown, like the body, and the head above with purple dots, and the dorsum of the abdomen posteriorly tinted red. Peru.

P. brunnescens Rothsch. (55 a) resembles *bicolor*, but it is larger and of a somewhat lighter brown, the hindwing in the cell somewhat diaphanous, abdomen laterally orange, with black lateral dots. Panama to Peru.

- dorsicincta*. **P. dorsicincta** *Hmps.* (= *colombiana* *Rothsch.*) (55 a). Wings broader, lighter brown, particularly the hindwings. Head and prothorax dotted black, abdomen posteriorly banded yellow; frons and neck sometimes yellowish red. Colombia.
- albipars*. **P. albipars** *Hmps.* (55 b). Almost exactly like the preceding, also the black dots on the forehead and prothorax, hindwing except the apical part lighter, but the abdomen posteriorly without the yellow transverse bands. Peru.
- umbrata*. **P. umbrata** *Hmps.* (55 c). Sooty blackish-brown, in the cell and basal part of the hindwing lighter patches. Head and prothorax, like in the preceding, dotted black, abdomen yellowish-grey with black transverse bands, and the basal part covered with dark hair. Bolivia, discovered by O. GARLEPP.
- suffusa*. **P. suffusa** *Joicey*. As large as *umbrata*, but the forewing red-brown with a grey antemedian shade and an oblique postmedian one, as well as with a narrow antemarginal shade; hindwings pale red-brown with yellow at the proximal margin, and towards the base lighter. Abdomen above orange, posteriorly with blackish macular bands. Peru.
- cervina*. **P. cervina** *Edw.* (55 c). Head and body yolk-coloured, prothorax with fine black dots, abdominal dorsum posteriorly with jet-black, sometimes interrupted transverse bands. In typical ♂♂ the hindwings are orange-yellow. — In ab. **guatemalae** *Strd.* from Guatemala they are brown, with a yellow costal and proximal area. — In ab. **brunnitricha** *Strd.*, lying before us from Orizaba (Mexico), the hindwings are black with a greyish-blue reflection. The ♀ is more ochreous. Mexico and Central America.
- cinerea*. **P. cinerea** *Wkr.* (55 c) resembles the preceding in its size and shape, but the wings are more ashy-grey, and the thoracic dorsum is covered with greyish-brown hair. Prothorax and bases of the wings yellowish with fine black dots; abdomen above with black transverse bands. — ab. **lystra** *Drc.* is less unicolorous, forewings more violettish-brown, hindwing towards the margin more intensely brown; from the Chiriqui. — The species is not rare and extends from Panama to Bolivia and Paraguay.
- pallida*. **P. pallida** *Dgn.* (55 b). Smaller, body and forewings pale brownish ochreous-yellow, with dull dots on the upperhead and prothorax, those at the bases of the wings being absent. Abdomen greyish-brown with black lateral punctiform spots; hindwings diaphanous whitish. Colombia and Peru.
- arontes*. **P. arontes** *Stoll* (= *neuroptera* *Sepp*, *degenera* *Wkr.*) (55 b). Head, prothorax and base of forewing with black dots, abdomen yellowish-brown, at the base covered with dark hair, across the dorsum 2 rows of black dots, which are sometimes confluent on the rings 1 to 4. Forewings almost violettish-brown with blackish veins, hindwings tinted dark brown. — Larva iron-grey with a yellow anterior part and a red-brown dorsal stripe as well as very conspicuous hair. The whole larva is covered with blackish-grey, laterally also whitish hair. Behind the 3rd ring a cap-shaped transverse pad of velvety-black hair; before it two white pencils of more than one centimeter's length, between them 4 ear-shaped hairs. Across the dorsum similar brushes as in the larvae of *Orgyia*; before the anal end again long white pencils with a grey one between them, and oar-shaped hairs on the rings 10 to 12. It lives on *Inga vera*, changes in a grey, oviform web intermixed with hair into a red-brown pupa creeping out after about 12 days. Central America to Bolivia and Paraguay.
- affinis*. **P. affinis** *Rothsch.* (55 d) is smaller than the preceding, body ruddle-red, the black dots on the head, prothorax and base of forewing fine, but distinct. Forewing at the base pale reddish, otherwise dark red-brown with a blackish transverse vein; hindwing in the proximal area lighter. Ecuador.
- albotestaceus*. **P. albotestaceus** *Rothsch.* (55 e). One of the largest and lightest *Pelochyta*. Colouring monotonously dirty whitish-grey. Of the dots there are on the thorax only one on each patagium, and some four or five are scattered in the basal half of the forewing. At the cell-end a brownish C-spot. Hindwing at the apex somewhat brownish. Venezuela.

69. Genus: **Agoraea** *H. Schöff.*

This genus contains about more than a dozen of very small butterflies, which, however, in spite of their shape, show already a resemblance with the *Halisidota* being dealt with later on. Proboscis strong (when extended more than the length of the thorax), palpi rising obliquely, the middle joint sometimes very long, the terminal joint neither stunted. Body sometimes slender, sometimes compact, hairing smoothly appressed; the base of the abdomen is not covered with a fleece of woolly hair, as in the *Pelochyta*. Cell of forewing rather broad, mostly with a distinct proximal vein; no areola. Hindwing with all the veins. The wings are thinly scaled, sometimes hyaline, as in the following genus, without any remarkable marking; the species, however, are easily distinguished by the colouring and marking of the body.

- minuta*. **A. minuta** *Schs.* (55 e). Wings hyaline, head white, thorax dirty yellow, abdomen orange with a dorsal row of black dots. Mexico to South Brazil.

A. ockendeni *Rothsch.* (55 d) from Peru is almost exactly the same, but the abdomen without the *ockendeni* row of black dots.

A. citrinotincta *Rothsch.* (55 e) has somewhat longer and narrower forewings, the veins more distinct, *citrinotincta* head and body monotonously yolk-coloured. Colombia and Venezuela.

A. klagesi *Rothsch.* (55 d) has the veins still more prominent and distinct than *citrinotincta*, but *klagesi* dorsal dots on the abdomen like *minuta*. Amazon (Fonte Boa).

A. longicornis *H.-Schäff.* (= *venosa* *Wkr.*, *emendatus* *Edw.*, *schausi* *Rothsch.*) (55 d). Antennae very *longicornis* long, as long as in *citrinotincta*; wings hyaline, faintly brownish, abdomen orange, in the basal part brown with a dull dorsal stripe, the terminal half with black dorsal dots. Head orange. Hindwings whitish. Mexico to South Brazil, not rare.

A. phaeophlebia *Hmps.* (55 d) from Venezuela, is much larger, with broad, hyaline wings tinted *phaeophlebia* yellowish at the margins; head, thorax and abdomen yolk-coloured, without dorsal dots.

A. atrivena *Dgn.* (55 d) is still larger, all the wings with black veins and internerval streaks. Abdomen *atrivena* orange, basal part blackish. Colombia.

A. inconspicua *Schs.* (55 d) from Costa Rica has a sooty black body and wings, only the upperhead *inconspicua* and the apex of the abdomen are orange-yellow.

A. boettgeri *Rothsch.* is larger than *inconspicua*, wings tinged more brownish, beside the head also the *boettgeri* tegulae and patagia, as well as the last 2 or 3 abdominal rings are orange-yellow. Peru.

A. semivitrea *Rothsch.* (= *pellucida* *Hmps.* n. *Sepp*) (55 e). Forewings more pointed than in the *semivitrea* preceding species; head and thorax creamy-white, tinged with yellow, patagia with a fine black median stripe. Abdomen orange with a series of dorsal dots; in the forewing there is a blackish dot on the transverse vein and a dark comma-shaped spot before the rise of the lower median vein. Panama to Surinam.

A. nigrostriata *Rothsch.* (55 e) is easily recognized by the black lines marking the upper cell-wall and *nigrostriata* still more distinctly the lower one. Thorax yellowish with fine black longitudinal lines, abdomen yolk-coloured. Tucuman in North Argentina.

A. rectilinea *Burm.* (55 d). Somewhat larger, forewings creamy yellow with a thick black line proceeding from the base along the median as far as the middle of the border. On the thorax only one dark middle streak is distinct; abdomen yolk-coloured, at the base whitish. South Brazil.

A. ruficauda *Rothsch.* (55 f) is rather similar to *longicornis*, but the abdomen above purple-red, therefore not to be mistaken for another species. Minas Geraes.

70. Genus : **Bituryx** *Wkr.*

On the whole very much like the preceding genus, chiefly distinguished from the *Agoraea* by the short straightly porrect palpi, as well as by the 2nd subcostal vein not branching off from the upper cell-wall, but only behind the cell-angle. Only few species are known, not differing from the *Agoraea* in their habits.

B. lanceolata *Wkr.* (55 e) is the largest species; head, thorax and forewings milky-white, hindwings *lanceolata* dirty white; abdomen scarlet with black dorsal and lateral dots. From Hayti.

B. diversipes *Wkr.* (= *rhodogaster* *Snell.*). Beside *lanceolata* the only *Bituryx* with a red abdomen, *diversipes* but smaller than *lanceolata*, and the forewings not milky-white, but dull diaphanous whitish with brown veins. Venezuela.

B. venosata *Wkr.* (55 e) is quite similar as *diversipes*, but the abdominal dorsum yolk-coloured, *venosata* with a white terminal joint; in the ♀ the dorsal dots are often absent. Mexico and Central America.

B. grisea *Dgn.* (55 e). Forewing and apex of the hindwing tinged brownish; before the border of *grisea* the forewing a row of black dots; otherwise almost exactly like the preceding. Colombia and Peru.

B. intacta *Wkr.* (55 e). Thorax and wings white, but head, collar and abdomen bright orange-yellow. *intacta* Venezuela and Amazon.

B. pellucida *Sepp.* Quite similar to *intacta*, but much smaller; the thorax between the yellow collar *pellucida* and the orange abdomen not white, but tinged brown, and the forewings light greyish-brown with a violet hue and more distinctly dark veins. Venezuela and Guiana.

71. Genus: **Arctagyrtia** Hmps.

This genus was established in 1901 for one of the smallest species having been before inserted in the Syntomid genus *Agyrtia*. At once recognizable by the reduced subcostal system of the forewing showing only 3 subcostal veins. Proboscis strong, palpi very thin. Wings rounded.

- nana*. **A. nana** Wkr. (44 b). Black, all the wings with a hyaline centre and black margins which are broadest in the apical part. Amazon. The species is apparently not common, but it is also perhaps easily overlooked on account of its small size (expanse scarcely 2 cm) or also for its superficial similarity with numerous Syntomids such as *Euagra cerymica* (23 h), *fenestra* (23 i), *Teucer carmania* (20 a) etc.

72. Genus: **Ischnocampa** Fldr.

The two dozen species belonging hereto mostly approximate the following *Opharus*, only some being considerably different, such as *I. nigrivena*, in which we may presume a mimicry of other genera (*Pachydota striata*, 55 i). Proboscis strong, palpi, however, slender, delicate, with a comparatively long, porrect terminal joint. Antennae doubly combed, in most of the species not so long as in the allied *Opharus*, *Amastus* etc. In the forewing the 1st subcostal vein rises before the cell-end, from the angle itself rises the footstalk of the 2nd to 5th, from the same place with the upper radial. From the lower cell-angle rise the two other radials and the upper median vein likewise from one and the same spot. In the hindwing all the veins are present.

- griseola*. **I. griseola** Rothsch. (55 f), the smallest species, is only the size of an *Agoraea*. Wings brown, densely powdered with an ashy grey, forewings with a black dot in the cell-end and a curved antemarginal transverse stripe sending forth on the submedian an obtuse tooth turned inward. From Jamaica, rare.
- admata*. **I. admata** Rothsch. (= *lithosioides* Rothsch. p. p.) (55 g) is somewhat larger than *griseola*, the antemarginal stripe not curved, but through the middle extends another dark transverse band, and a third, curved one is before the middle. Venezuela.
- lithosioides*. **I. lithosioides** Rothsch. (55 g). Forewings more ochreous, the 3 transverse bands are represented by curved, indistinctly defined nebulous stripes. Abdominal end orange-yellow. From Rio de Janeiro, rare.
- celer*. **I. celer** Schs. (55 f). Forewings more reddish-ochreous; the distal transverse stripe forms a longish W, the middle one being S-shaped, the proximal one interrupted on the submedian fold; hindwings dusted with grey. Likewise from South Brazil (Novo Friburgo).
- sordida*. **I. sordida** Fldr. (55 h). Forewings ochreous, very much strewn with black. Marking very much like that of the preceding; with a black dot in the cell-end, a W-shaped antemarginal stripe and a postmedian transverse shade only distinct at the proximal margin. Size of the preceding. Colombia, Bolivia and Peru.
- sordidior*. **I. sordidior** Rothsch. (55 f). Only the punctiform shade at the cell-end and the nebulous antemarginal stripe are distinct, otherwise the forewing is reddish-ochreous, striated and strewn with black. Hindwing at the border very brownish, otherwise diaphanous white; apex of abdomen orange-yellow. Peru.
- floccosa*. **I. floccosa** Rothsch. (55 g). Like *sordidior*, but the ground-colour of the forewing more greyish-yellow, and most purely and brightly covered with striae at the border, distally to the transverse stripe, proximally to it, however, very much with dark striae. Peru.
- ignava*. **I. ignava** Dgn. (55 f). Wings much longer than in the preceding, body slim. Forewings reddish ochreous; a dark marginal nebulous stripe, an antemarginal one, and a postmedian one being somewhat curved. Colombia.
- perirrorata*. **I. perirrorata** Hmps. (55 f). Forewings ochreous-yellow, densely dusted with blackish-brown, the small scales before the apex at the costa and right through the middle condensed to nebulous bands. Hindwings diaphanous bluish-white, the margins and apical part brownish. Thorax and abdominal end yellow, dorsum of abdomen blackish. Bolivia.
- remissa*. **I. remissa** Dgn. (55 f). Wings white, the margins ochreous-yellow, the veins dark; in the forewing at the cell-end a yellowish-brown demi-band and before the distal margin a transverse row of blackish streak-shaped and cap-shaped spots. Venezuela.
- hemihyala*. **I. hemihyala** Hmps. (= *tolimensis* Rothsch.) (55 g). Body blackish-brown with a yellow apex of the abdomen. Wings hyaline, the margins of the forewings yellowish-brown: in, below and behind the cell dark dots. Colombia to Peru.

I. achrosis Dgn. (55 f). Forewings bone-white, at the margins broadly tinged yellow; also the head *achrosis*. and body pale yellow; above the anal angle of the forewing some small, blackish antemarginal streaks situate in a faint subterminal shade. Loja in Ecuador.

I. obscurata Hmps. (55 g) pale brownish-yellow, forewing dirty ochreous, the marginal part of the *obscurata*. purest tinge. Before the apex at the costa a brown shade; hindwings somewhat diaphanous whitish, at the border dark ochreous. Colombia and Peru.

I. mamona Dgn. (55 h). Yellowish-grey, abdomen darker with a yellow apex. Forewing with a dark *mamona*. dot in the cell and blackish streaks in the spaces between the veins before the margin. Hindwing with a darker marginal shade, being broadest at the apex, but not reaching the anal angle. Loja (Ecuador).

I. nubilosa Dgn. (55 h) is very closely allied to *mamona*, but it has a black dot also in the cell of *nubilosa*. the hindwing. The colour is a more reddish tinge. Likewise from Loja.

I. discopuncta Hmps. (= *tovia* Dgn., *barbata* Drc.) (55 g). Greyish-brown; forewing in the cell *discopuncta*. with lighter stripes, on the median, from the base, a dark, longitudinal, nebulous streak crosses the wing; in the internerval spaces brown dots. Hindwing with a brownish border, particularly in the apical part, otherwise diaphanous whitish. Bolivia and Peru.

I. albiceps Dgn. (55 h). Greyish-brown, the forewing covered with dark sepia-brown small streaks, *albiceps*. the hindwing lighter in the disc. Thereby the colouring of numerous other butterflies, such as *Opharus*, *Elysius*, *Pelochyta* etc. is produced; but the species is at once discernible from all of them by the head being white above and by a white spot on the mesothorax. Colombia, found by FASSL.

I. lugubris Schs. (55 b,k) greatly resembles *albiceps*, but the forewing is suffused with a more leaden- *lugubris*. grey tinge, the head above dark brown, not white, and on the thorax no white spot. South Brazil.

I. tristis Schs. (= *dolens* Drc.) (55 g). Almost exactly like *lugubris*, but the tegulae and patagia *tristis*. whitish, the hindwing in the disc of a clearer, lighter tinge, the abdomen with white sides parted by a dark longitudinal furrow. Mexico, Central America, Venezuela and South Brazil.

I. ferrea Dgn. (55 h). Body slender, antennae very long, almost the same as in *Opharus*. Forewing *ferrea*. light brown, with dark margin and thick, blackish-brown veins; hindwing diaphanous white, at the border darker. Colombia, found by FASSL.

I. mundator Drc. Similarly coloured as *tristis*, but much larger (66 mm). Recognizable besides by the *mundator*. whitish apices of the patagia; also the abdominal sides are spotted whitish. Costa Rica.

I. styx Jones (55 h). Considerably smaller than *mundator*, which it otherwise resembles, but the *styx*. forewing more umbra-brown, the hindwing not diaphanous white in the disc as in *mundator*, but a little lighter than the border. Trinidad and Santos in South Brazil, rare.

I. nigridorsata Schs. (55 e). Body yolk-coloured, thorax marked orange, above the middle of the *nigridorsata*. abdomen a broad, blackish saddle-spot. Wings creamy-white with dark veins, the hindwing tinged brownish. Peru.

I. nigrivena Schs. (55 h). Body golden-yellow, wings dark yellow, the forewing in the costal area *nigrivena*. milky-white; all the veins (except the discocellulars) marked with a thick blackish-brown; also the vein in the cell thickly black. The largest species of the genus; in some districts of Bolivia common.

Note: according to recent investigations by HAMPSON, *Desmotricha uniformis* Hmps. also belongs to this genus (p. 153, t. 23 c), having hitherto been dealt with as a Syntomid.

73. Genus: **Pachydota** Hmps.

About a dozen forms of a robust, in the ♀ clumsy structure, being divided into two groups. The first only contains 2 species and so exactly approximates *Ischnocampa nigrivena* in the colouring, that it is often mistaken or confounded with it in the collections. The second group contains a number of very closely allied species. Formerly still more forms were distinguished, but some have been eliminated as synonyms. The *Pachydota* have a strong proboscis, rather short, steeply rising palpi with a rudimentary terminal joint, a very broad forehead, doubly combed antennae with rather short teeth, a broad thorax; in the forewing the 1st and 2nd subcostal vein have a common footstalk. The two groups differ beside the colouring, above all by the first group having a round apex of the forewing, whilst the ♂♂ of the 2nd group show the distal margin indented

below the apex of the forewing. Although the numerous, very closely allied forms of this group are probably only partly distinct species, they are still enumerated separately here, since they have since been kept separate in the catalogues.

1. Colouring unicolorously yellow.

- striata*. **P. striata** Dgn. (55 i). Of a bright dark yellow, forewing with a white longitudinal stripe above the upper cell-wall and above the base of the proximal margin; veins of the forewing black except the transverse vein, abdominal dorsum with a black saddle-spot. From Colombia to Bolivia, in some places common. Not rare.
- nervosa*. **P. nervosa** Fldr. (55 i) is very much like *striata*, but the veins of the forewing finer black, and on the dorsum of the abdomen no black saddle-spot. Colombia to Bolivia and Peru. Not rare.
2. Forewing violettish-grey with dark bands; head above white.
- affinis*. **P. affinis** Rothsch. (55 i), from Popayan and Merida in Venezuela, has (in the ♀) quite unicolorously dark brown hindwings. Abdomen orange with a dark dorsal spot on the 1st, 2nd and 3rd ring. — **palmeri** Rothsch. is larger and the ♂ has the whole hindwing almost as far as the fringes diaphanous white, much farther than the ♂ of the typical *affinis*. San Antonio in West Colombia.
- drucei*. **P. drucei** Rothsch. (= *josephina* Schs.) (55 i). The dark dorsal spot on the abdomen extends as far as the 5th ring and is continued in minute spots to the end of the abdomen. Mexico, Colombia.
- iodea*. **P. iodea** H.-Schüff. (56 a) is very similar to *drucei*, abdomen above in the ♂ quite black except the margins. Hindwing quite blackish-brown, only the inner-marginal area yellowish. Jamaica, Mexico to Guiana.
- rosenbergi*. **P. rosenbergi** Rothsch. (55 k) is the smallest species; hindwing only at the base white, abdomen with yellow lateral spots, otherwise the abdomen blackish-brown. Ecuador.
- peruviana*. **P. peruviana** Rothsch. (55 k). Abdomen with a black belt (rings 2 and 3) being extended yet on the middle of the dorsum of ring 4, the posterior half of the abdomen again yellow, with narrow dark segmental margins; hindwings (in the ♂) whitish diaphanous, apex and inner-marginal area brown. Border of the forewing straight, not indented. Peru.
- albiceps*. **P. albiceps** Wkr. (= *inermis* Schs.). Forewing less banded than in the species enumerated so far; abdomen as far as ring 3 dark brown, then yellow with a blackish apex, dark segmental margins and a blackish-brown dorsal spot on ring 3. Panama to Brazil. — In *luciana* Strand from Sa. Lucia, the head is above yellow instead of white.
- ducasa*. **P. ducasa** Schs. (= *palmeri* Rothsch. ♂ nec ♀) (55 k) has the abdomen above quite blackish-brown except the broad golden yellow belt at the base and narrow, small, yellow transverse bands at the end of the abdomen. Hindwing entirely whitish hyaline except the brown apical part and dark dusting on the border and inner-marginal area. Venezuela.
- saduca*. **P. saduca** Drc. is almost exactly like *albiceps*, but with a broad orange belt at the base of the abdomen, like *iodea*, but the latter is without the dark wings in the posterior half of the abdomen. Costa Rica to Bolivia.
- punctata*. **P. punctata** Rothsch. (= *albiceps* Hmps. nec Wkr.) (55 k) is one of the smallest forms with very dark, broadly banded forewings, the abdomen orange-yellow as far as the apex, with but narrow black segmental margins. Described from Surinam; the figured specimen, however, from Mexico.

74. Genus: **Xanthophaeina** Hmps.

This genus is based upon the ♂ of a species entirely unknown to me. The type is in the Oxford Museum and another example is in FELDER's collection in the Tring Museum. According to HAMPSON, the species has a strong proboscis, palpi of medium length the terminal joint not stunted, doubly-combed ♂ antennae with the teeth widened at the ends, a broad, densely haired thorax and rather broad, normally shaped wings. The 1st subcostal vein rises shortly before the upper cell-angle, out of which rises the footstalk common to the 2nd to 5th, from the same spot as the upper radial. The two other radials proceed from the lower cell-angle; close before the latter the upper median vein branches off. Hindwing with all the veins, the discocellulars being angled.

- levis*. **X. levis** Drc. 58 mm; head, thorax and the basal part of the abdomen dark brown with a violet reflection. On the hindwing in the discal area a V-shaped spot is placed in such a way that the ends of the sides are situate below the costa at the beginning and end of the discal area, whereas the lower apex of the V is situate above the middle of the proximal margin. The proximal side of the V is much broader, particularly in its lower part, than the distal one. Posterior half of abdomen orange, the 4th segment above black, the others with a black dorsal dot. Beneath the abdomen is black with rows of yellow punctiform spots. Popayan in Colombia; beneath FELDER's specimen it only says: „Brazil“.

75. Genus: **Pitane** Wkr.

The genus already has the entire structure and character of *Calidota* from which it chiefly differs only by the proboscis being strongly haired in its basal part. Like *Calidota* it has on the forewing a very long and narrow accessory cell produced by the 2nd subcostal vein anastomosing with the bifurcation of the 3rd and 4th, the 2nd palpal joint being long, the terminal joint well developed. The only species known is very characteristically coloured.

P. fervens Wkr. (56 a). Forewings violettish-red with 3 large orange spots in the basal, median, and distal areas; hindwing red with a blackish marginal band. Peru and Bolivia; in the specimen before me from the Rio Songo the orange spots are smaller than in the Peruvians. *fervens.*

76. Genus: **Stidzaeras** Hmps.

Distinguished from the preceding genus by the course of the anastomosis extending from the 2nd subcostal vein to the bifurcation of the 4th and 5th veins, in *Pitane* to the 3rd and 4th. One species was described as *Pitane*, the other, typical one has the venation of the ♂ forewing distorted on account of a scent-apparatus.

P. evora Drc. Shape similar to *Pit. fervens*, size just a little smaller; forewing greyish-brown, the marginal area red-brown, hindwing in the proximal half pale yellow, in the distal half dark brown; head and collar as well as the anterior half of the abdomen yellow, thorax and end of abdomen dark brown. Peru (Pozzuzo). *evora.*

P. strigifera Drc. is somewhat larger, the forewings brown with numerous light transverse striae and a hyaline wedge in the cell. Hindwing with a yellow proximal and blackish-brown distal half. Head and collar as well as the abdomen orange, the latter posteriorly with some narrow black transverse bands. Venezuela. — In the form **ockendeni** Rothsch. the striae of the forewing are obsolete, head and collar are red; from Peru. — The species is at once recognizable by a cuneiform scent-pad filling up the whole cell of the forewing beneath and distorting the wing in such a way that the distal margin is shortened like in some *Tineids* and the veins are crooked in the apical part. *strigifera.* *ockendeni.*

77. Genus: **Calidota** Dyar.

3 dozen forms are known, being placed here and partly attaining a rather considerable size. The colouring is preponderantly grey, brown or blackish; antennae partly very long, proboscis strong, palpi obliquely ascending. The long areola was already mentioned in *Pitane*; the cell of the forewing is broad, the transverse vein angled. In contrast with purely neotropical genera having been dealt with so far, this genus reaches with some species the southern part of the United States. — The genus is, moreover, not homogeneous and contains a group of lank, slender species with broad wings and extremely long antennae, and another group of robust, relatively small-winged forms with a very stout thorax. Only of one of the latter species the larva is known, being provided with radiatingly haired tubercles; of the hair those on the anterior and posterior parts are longer, whilst those on the middle segments are shorter.

C. strigosa Wkr. (= *loqueata* Edw., *cubensis* Grt.) (56 a). As large about as an *Acronicta aceris*, thorax and forewings light grey, marked brownish from dark longitudinal streaks above the middle of the proximal margin and in the distal area. Abdomen vermilion, sometimes with some dorsal dots, oftener without them. Texas, Florida, Cuba, Hayti. — **jamaicensis** Strd. is the form from Jamaica with more distinct black markings of the forewing and the abdomen often shaded dark at the base. — Larva in its early stage variegated, with yellow or salmon-coloured patches, in its grown-up state flesh-coloured brown with a dark dorsal stripe and yellowish-brown hair, those on the anterior and posterior parts being longer. It lives on *Guettarda elliptica* and changes in an oviform web intermixed with hair into a mahagoni-coloured pupa. *strigosa.* *jamaicensis.*

C. rema Dgn. (56 a). Yellowish-brown, tegulae with a black dot, dorsum of abdomen blackish. Forewing with 4 black punctiform spots, of which 1 is in the cell, 1 below it and 2 behind it. Hindwing dusted dark brown, towards the base lighter. South Brazil. *rema.*

C. euchaetiformis Edw. (56 a), from Mexico, is similar, but the abdomen golden yellow with black dorsal dots; the black punctiform spots more numerous in the disc of the forewing. *euchaetiformis.*

C. muricolor Dyar (56 d). Wings diaphanous whitish-grey, without markings, thorax brown, head and ring round the neck yellow, abdomen above buff with dark dorsal dots. Arizona. *muricolor.*

C. paulina Jones (56 b). Body stout and clumsy. Head and thorax dark brown, marked orange; abdomen dark brown, beginning from the 3rd ring with large orange lateral spots almost touching each other near *paulina.*

the apex. Forewings dark brown with darker nebulous dots and larger spots in and behind the cell-end; hindwing lighter, a basal spot in and behind the cell white. São Paulo.

- rubrosignata*. **C. rubrosignata** Weym. (56 b). As large as *paulina*, head, thorax and wings black with a bluish reflection, the forewing with a red costal stripe at the base, and again beyond the middle as far as the apex dark red. Dorsum of abdomen purple-red, at the base covered with black hair. Venezuela.
- palmeri*. **C. palmeri** Drc. (56 b). Slender, with broad wings, very long antennae, almost like an *Opharus*. Head orange, thorax and forewing dark brown, hindwing of a lighter brown with a darker apical part, abdomen orange with black transverse bands. Colombia.
- conspicuus*. **C. conspicuus** Drc. (56 b). Much smaller, head, thorax and forewings dark brown, ring round the neck and abdomen orange, hindwing with a white median part in and behind the cell. Peru.
- leucocorypha*. **C. leucocorypha** Dgn. (56 b). Head above white, thorax and forewing dark brown, hindwing only in the costal and marginal areas dark brown, basal half yellowish-white, with a dark brown, posteriorly narrowed dorsal band, and transverse bands on the 2nd and 3rd rings. Peru.
- gigas*. **C. gigas** Dgn. (56 c). Size of the preceding, but the hindwing without the whitish-yellow basal part. Head dark brown with orange dots; abdomen with transverse bands on all rings. Panamá, Ecuador, Peru, occurring yet at great altitudes.
- similis*. **C. similis** Hmps. (56 c). Somewhat smaller and lighter brown, head above whitish-yellow, dorsum of abdomen posteriorly quite golden yellow, anteriorly only on the sides. Peru and Bolivia.
- gemma*. **C. gemma** Schs. (56 c) is much smaller, but similarly coloured; head and thorax yolk-coloured, marked brownish, abdomen yellow with a dark brown dorsal stripe. Forewing with a black dot in the cell, hindwing in the disc and inner-marginal area lighter. Venezuela and South Brazil.
- albiceps*. **C. albiceps** Dgn. (56 c), very similar to *gemma*, but the yellow thorax anteriorly dotted dark, hindwing brownish only at the border, forewing with a darker cell-end, but without a real black dot in the cell. Venezuela.
- rudis*. **C. rudis** Schs. (56 d). Head and body honey-coloured, thorax marked brown; wings dark brown with a blackish cell-end and veins. Hindwings a little lighter than forewings. Costa Rica.
- morosa*. **C. morosa** Schs. (56 c). Head, thorax and forewing pale greyish-brown, the latter with a dark transverse shade in the middle, behind it hyaline parts. Hindwing dull diaphanous whitish, at the border faintly brownish; abdomen whitish-grey. Peru.
- momis*. **C. momis** Dyar (56 d). Head and thorax whitish, marked dark with a dot on the vertex and tegulae. Forewing light brown with 3 dark dots in the cell-end. Hindwing in the proximal part diaphanous whitish, apical half brown. Abdomen ochreous-yellow with dark dorsal dots. Orizaba (Mexico).
- quadripunctata*. **C. quadripunctata** Schs. (56 d). Quite similar to *momis*, but the dorsal dots of the abdomen more intense, the hindwings quite whitish, only the apex brownish. Costa Rica.
- calosoma*. **C. calosoma** Dyar (56 d). Head, thorax and anterior half of abdomen yellow, marked brownish-red; posterior half of abdomen blackish. Wings dirty diaphanous, yellowish-white, at the cell-end a darker crescent. Mexico. Type in the National Museum at Washington.
- angelus*. **C. angelus** Dyar (56 f). Head and thorax creamy white, marked red, abdomen dark red. Forewing drab with a yellow costal-marginal stripe. Hindwing white. Mexico, discovered by ROBERTO MUELLER.
- albaticosta*. **C. albaticosta** Dyar (56 e). Quite similar to *angelus*, different by the dark violettish-grey head, thorax and forewing. Mexico; discovered by ROBERTO MUELLER.
- zella*. **C. zella** Dyar (56 b). Much smaller than the preceding; head, thorax and forewings dark brownish-grey, hindwings diaphanous white, abdomen flesh-coloured, with dark lateral dots. Discovered in the district of the hot springs in Arizona.
- obscurator*. **C. obscurator** Drc. (= *obscurata* Hmps.) (56 d). Middle and posterior legs very long, also the wings very much extended, forewings yellowish-brown, but densely watered with brown atoms and minute dark spots, as if bestrewed with coarse sand or saw-dust. On the median the dark parts are united to a frequently interrupted longitudinal stripe. Hindwing of a more uniform brown, in the disc somewhat diaphanous. Abdomen dull yolk-coloured with small black transverse spots across the dorsum. Mexico and Central America, in some districts common.

C. phryganoides Wkr. (56 e). Smaller, just as coarsely strewn and striated as *obscurator*, but the marking is already arranged to a light, curved antemedian band, a postmedian undulate line, and an obsolete, undulate antimarginal line. Hindwing diaphanous brownish, towards the apex darker. Dorsum of abdomen yellow, spotted black. Mexico. *phryganoides*.

C. divina Schs. (56 e). Size of *obscurator*, more brightly marked, particularly distinct a costal transverse bar in about $\frac{1}{4}$ of the costa, an antemedian costal spot reaching yet the cell, a postmedian undulate stripe dissolving distally, and an antimarginal dentate stripe; recognizable above all by the dark red abdominal dorsum being dotted black. Mexico. *divina*.

C. clarcana Dyar (56 e) is much smaller than *divina*, the forewing similarly marked, but all the markings broadly tinged white, particularly distinct the antemedian transverse bar, the spot at the cell-end, the median oblique stripe towards the middle of the proximal margin and the subterminal dentate stripe. Hindwing greyish-brown with a broad, curved, white median band. Abdominal dorsum red with rows of black dots. Mexico. *clarcana*.

78. Genus: **Opharus** Wkr.

Many of the most conspicuous species of this multiform genus have been published by HERRICH-SCHAEFFER, almost at the same time with (or already before) WALKER's diagnose (1855), as *Phegoptera*, but as no description of the genus was given and the first animal mentioned by this name (*porphyrea*, Außereurop. Schmett. p. 81, fig. 283) is a form of *Halisidota caryae*, the name was entirely cancelled; it might, however, be employed, if that group to which most of H.-SCHAEFFER's *Phegoptera* (*histrionica-piperita* group) belong would be considered as a special genus. But as one genus has already previously also been denominated „*Phaeoptera*“ (the first species enumerated being *Automolis erythronotus*, and the forms preponderantly belonging to *Amastus*), which is certainly due to inaccuracy and must lead to confusions, the name has been cancelled altogether. The genus *Opharus* itself, however, is not distinctly outlined and already according to its founder not uniform. In their exterior some strike us as *Amastus*, others as *Halisidota*, and some almost mimicry-like resemblances exist between *Opharus* and certain *Elysins*. The palpi are long and may be straightly porrect — occasionally even lowered —, but also bent up; the palpal terminal joint being stunted in most of the *Phegopterini*, may be even prolonged (*ruficollis*, *rhodosoma*). Also the antennae may be as long as those of *Amastus* and also be of normal length; they are mostly long, their teeth thickened at the ends. The venation is greatly modified already by the very different shape of the wings (*rhodosoma* very long, *aurogutta* quite short); the 1st subcostal vein in the forewing may branch off already right behind the middle of the upper cell-wall, but it may also accompany it beyond the cell etc. There is no anastomosis; the last bifurcation of the subcostal sometimes only takes place directly before the apical fringes, the upper radial comes from the upper, the two lower ones as well as the upper median from the lower cell-angle. The cell itself is of different length, in long-winged species with a very strong interior vein; the lower median vein leaves the median late. The genus extends from Mexico through the whole of Tropical America, but it reaches the United States only with 1 species extending little beyond the frontier; nothing seems to be known about the larvae.

O. flavicostata Dgn. (56 f), unknown to me, is based upon a ♂ from the Cauca Valley. Body dark brown, forewing lightbrown with a darker nebulous spot at the cell-end, and a sulphureous costal stripe. Hindwing whitish, at the apical marginal part brownish. *flavicostata*.

O. roseistriga Schs. (56 f). Forewings more stretched. Head light yellow, thorax honey-coloured, dorsum of abdomen brown, sides and apex golden yellow. Wings unicolorously dark sooty brown, forewing with a narrow, brownish-yellow costal-marginal stripe. Costa Rica, discovered by W. SCHAUS. *roseistriga*.

O. ferruginea Wkr. (56 e). More robust, thorax stouter, the border of the forewing steeper. Head above yellow, thorax and forewing nut-brown, the latter with a yellowish-brown costal-marginal and inner-marginal stripe as far as behind the middle of the wing. Hindwing diaphanous light brown, dorsum of abdomen orange, posteriorly with black transverse bands. Colombia. *ferruginea*.

O. brunneitincta Roths. (56 f). Unicolorously dark brown, forewing in the disc faintly lighter, hindwing diaphanous whitish except the brown margins and the apex, the veins dark brown. Peru. *brunneitincta*.

O. consimilis Hmps. (= *procroides* Drc. nec Wkr.) (56 e) is quite unicolorously brownish dusty-grey like *brunneitincta*, forewing little lighter, hindwing much lighter in the disc, but the abdomen has intense dark yellow lateral spots almost flowing together to bands towards the apex. Mexico and Central America and Colombia far as Peru. *consimilis*.

O. linus Drc. (56 f). Dirty greyish-brown, wings unmarked. Head above yellow, thorax marked pink with dark patagia, end of abdomen and sides of it yellowish-pink. Mexico. *linus*.

- albijuncta*. **O. albijuncta** Rothsch. (56 f). Dark brown, head and collar golden yellow, on the metathorax a bone-white spot. Captured by A. H. FASSL on Mt. Tolima in Colombia.
- bimaculata*. **O. bimaculata** Dew. (= *albipunctatus* Drc.) (56 g) has the shape of a Syntomid: forewings dark drab, hindwings hyaline except the dark margins. Head and thorax blackish, the patagia conspicuously creamy-white. Abdomen posteriorly sulphur-yellow with dark segmental indentations and a dark median line. Mexico, through Central America as far as South Brazil, local, but in some districts not rare. — Specimens from Venezuela are larger, the forewings of a less brown tinge, the hindwings not white but diaphanous grey, the posterior *major* dorsum of the abdomen more orange; this is the form **major** Rothsch.
- basalis*. **O. basalis** Wkr. (57 a). Greyish-brown, immediately recognizable by the head being yellow above and the yellow thorax, as well as a short, thick, yellowish-white streak at the base of the proximal margin of the forewing. Venezuela to South Brazil and Bolivia, dispersed.
- ruficollis*. **O. ruficollis** Drc. (56 g). Greyish-brown; head above and collar marked rosy-red, abdomen likewise purple-pink, also the inner-marginal area of the hindwing extensively tinged pink. Panama, the figured specimen from Costa Rica.
- draudti*. **O. draudti** sp. nov. (57 a). Size and shape of *laudia*, but wings dark brown head and collar fiery yellowish-red, and abdomen light brownish-yellow. The prothorax has 6 black dots, the abdomen a lateral row of dots, and the hindwing has a light yellow basal part. Forewing with an entirely obsolete, antemarginal transverse shade being defined on the lower radial. Beneath the body is dull orange, abdomen more brownish, wings coloured as above, all with a light yellow-ochreous base. Taken by ROBERTO MUELLER near Zaeualpan in Mexico.
- rhodosoma*. **O. rhodosoma** Btlr. (56 g) is much larger, the forewings finely transversely striated, the hindwings in the inner-marginal areas of a very bright pink tinge and haired. Head above and neck of a bright creamy yellow, abdomen pink, the posterior half with black transverse bands. Colombia and Venezuela to Peru and Brazil, apparently an alpine animal occurring only at great altitudes.
- almopia*. **O. almopia** Drc. (56 g). Wings much shorter and broader with a steeper border. Dark nutbrown, hindwing in the inner-marginal area a little lighter; abdomen posteriorly banded yellow. Colombia and Peru.
- procroides*. **O. procroides** Wkr. (56 g). Unicolorously sooty blackish-brown, hindwings in and below the cell of a whitish reflection and thinly sealed, abdomen posteriorly with large, lateral orange spots, those of the last segments touching each other above. Panama to South Brazil and Bolivia.
- belus*. **O. belus** Drc. (56 f). Head, collar and patagia, as well as the end of the abdomen yolk-coloured, the latter with a row of dorsal dots. Wings greyish-brown, hindwing lighter, forewing with 4 transverse bands bordered with dark, the distal ones being confluent towards the proximal margin. From the Chiriqui in Panama.
- laudia*. **O. laudia** Drc. (57 a). Body dull yolk-coloured, wings diaphanous whitish, tinged ochreous, with brown veins; forewing round the cell-end with a circular brightening encircled by a dark shade. Before me only from Venezuela, but apparently rather common near Merida. Reported also from Trinidad.
- trama*. **O. trama** Dgn. (= *euripides* Drc.) (57 b). Forewing dull yellowish-brown, the margins tinted ochreous-yellow, hindwing dirty yellowish-white diaphanous with a yellow margin. Also the body is yolk-coloured, shaded faintly darker. On the forewing the middle radial after its rise from the upper cell-angle slightly bends upward; here the veins are intensely marked dark. Colombia, Bolivia.
- polystrigata*. **O. polystrigata** Hmps. (57 b). Head and thorax dull honey-coloured, marked blackish; abdomen yellow with black transverse bands. Forewing whitish-grey, thinly sealed, all covered over with light yellow dots and striae, the veins and costal margin darker, border yellow. Hindwing dirty white, diaphanous, towards the margin darkened by grey. Bolivia and Peru.
- astur*. **O. astur** Cr. (= *albescens* Wkr., *maculicollis* Wkr., *pustulata* Pack.) (56 h). A very widely distributed lantern-butterfly mostly very common in dry districts. Head and thorax white, vividly dotted black, abdomen yellow with dorsal and lateral rows of dots. Forewing dull white, with brown, interspersed spots and undulate lines leaving round white spots between them. According to the district and season, the markings may be more intense or more feeble, but the species varies very much individually, mostly, however, only in the distinctness and intensity of the speckling and marking. — **arizonensis** Rothsch. (= *fumata* Barnes) (56 h), described from the Huachuco Mountains in Arizona, is distinguished by the light brownish marking on a uniformly whitish-grey ground-colour. This form seems to me to be one belonging to the very dry climate of the prairies, for it occurs again in Argentina in very hot and dry districts, from where I figure it. — **cubensis** Rothsch., on the contrary, has very dark markings in the ♂ and faded ones in the ♀, the ground-colour being brownish buff; from Cuba. — The species is extremely common in tropical districts and is to be found in almost every country from Arizona to North Argentina, being, however, mostly local.

O. nexa *H.-Schäff.* (= *flavopunctata* *Wkr.* nec *H.-Schäff.*) (56 h) has the size and shape of a strong *nexa*, *astur*, but the spots of the chains on the forewing are much more intensely encircled by black, and the ground-colour between is more intensely marked and shaded dark, the hindwing is grey with a distinct dark cell-end luna and a broad marginal band watered somewhat yellow and light; the dorsum of the abdomen is without the dark dorsal dots, but its proximal half covered with a black fur; from Brazil. — **albimacula** *Jones* (= *albimaculata* *albimacula*, *Rothsch.*) is smaller, the spots on the forewing encircled more with brown than black, the hindwing being light whitish-grey, darkened only at the border, only the 3 last abdominal segments being orange-yellow above. Likewise from Brazil; I do not find any more exact habitats stated.

O. punctularis *H.-Schäff.* stands between *flavopunctata* *H.-Schäff.* and *astur* which it resembles so *punctularis*, much that it was taken to be the ♀ of it. By the white colour being increased and very light it resembles a specimen of *flavopunctata* with a very light ground-colour. Brazil.

O. flavopunctata *H.-Schäff.* (56 h). Like *punctularis*, but the abdomen is more extensively marked *flavopunctata*, black, and the ground-colour of the forewing is a delicate, light violettish-grey. Brazil.

O. depicta *H.-Schäff.* (56 h). Larger, similarly marked to the preceding, but the spots of the forewing *depicta*, being encircled by black almost recall an *Ecpantheria*; thorax above marked in a bright purple and the abdominal dorsum is likewise purple-red except a blackish-brown shabrack. South Brazil.

O. hampsoni *Rothsch.* (= *decrepida* *Hmps.* nec *H.-Schäff.*) (57 a). Much smaller than *depicta*, *hampsoni*, thorax and forewing light chestnut-brown, with very few, thin, white catenary markings bordered with dark and not reaching the proximal margin. Abdomen all over haired blackish-brown, only the last third is orange with black dorsal and lateral dots, the apex being again black. From Venezuela and Ecuador to Bolivia and Peru. — **discisema** *Hmps.* (= *irregularis* *Rothsch.*) (57 a) scarcely differs from light specimens of *hampsoni*, *discisema*, as they are before me from the Rio Songo (beside darker ones), except the white markings being somewhat broader and thereby more coherent. Colombia, the type from Mt. Tolima. According to HAMPSON a distinct species.

O. granifera *Schs.* (56 h). Not much larger, but with much broader wings than the preceding; between *granifera*, the white macular markings the yellow ring-chains extend, like in *depicta* and its allies. Hindwing grey, towards the margin darker. Thorax with bright white and yellow markings; abdomen posteriorly orange. South Brazil.

O. schäfferi *Schs.* (= *nexoides* *Schs.*) (57 b). Larger than the two preceding; on the forewing the *schäfferi*, yellow catenary markings are reduced, the white markings, however, increased. Base of forewing dark brown with 2 thick orange dots. South Brazil, Venezuela.

O. histrionica *H.-Schäff.* (57 b). Still larger, the white markings of the forewing increased to a net *histrionica*, with wide meshes of white bands, the pupils of the macular chains, as well as the terminal third of the abdomen of a deep orange-red. Hindwings spotted whitish-grey, without any real hyaline patches. South Brazil, from the more distant surroundings of Rio, and in São Paulo.

O. chorima *Schs.* (57 b). Size and habitus of *histrionica*, but the white markings on the forewing *chorima*, of the latter are in *chorima* brownish-yellow, the ring-spots, particularly those in the distal third larger, the hindwings more uniformly dark grey. In the Brazilian state Paraná, discovered by W. SCHAUS near Castro.

O. superba *Dre.* (57 c). A very beautiful and large species. Head and thorax marked fiery reddish- *superba*, yellow, the forewing grey with reddish-yellow, black-encircled ring-spots and bands, the antemedian one bent round on the median, the postmedian one interrupted several times, the subterminal one broken up into isolated rings, the terminal one formed of cucullate spots; hindwing reddish-yellow with a blackish median luna and marginal band, abdomen fiery reddish-yellow, the middle of the dorsum dark with red hair. Santos in South Brazil, rare.

O. sestia *Dre.* (57 c) is much smaller, the ground of the forewing dark brown, intermixed with *sestia*, chains of guttiform spots; behind the base, from the apex and proximal angle large, bone-yellow demi-bands. Hindwing with a whitish proximal and greyish-brown marginal half, at the cell-end a greyish-brown nebulous spot. Head and thorax brown, marked whitish and orange, abdomen orange, banded dark. Peru.

O. picturata *Burm.* from Uruguay is known to me from BURMEISTER's description. Somewhat larger *picturata*, than the preceding, head and body orange, head and thorax marked black, abdomen orange, the 2nd ring almost quite black, in the terminal part black dorsal spots. Forewing with 6 black oblique bands, on which there are rows of dull spots, the 6th band narrow. Hindwing with traces of 3 dark bands, that at the margin being the most distinct. Conchas.

O. decrepidoides *Rothsch.* (57 c) is somewhat allied to *O. hampsoni*, but the light markings are not *decrepidoides*, white, but brownish bone-coloured, between the median and distal costal macular bands an intensely dark brown cloud. Hindwing faintly diaphanous greyish-yellow, with a dark cell-end spot and distal band leaving

free, however, the margin in the apical area. It somewhat resembles in the habitus *Elysius melanoplaga* (54c) occurring also at the same place. Colombia to Peru.

decrepida. **O. decrepida** H.-Schäff. (57 c) also exhibits a resemblance to *hampsoni*, but the transverse bands which are there only indicated by dispersed, whitish, small crescents and spots, are here passing through from the costa to the median, those in the basal and terminal thirds reaching even the proximal margin; they are of a dark yellow tinge, bordered with blackish. Hindwing similar as in *decrepidoides*, but without the distinct median luna, and the apex itself is still darker than the marginal band, not lighter. Guiana, Venezuela and Peru.

flavostrigata. **O. flavostrigata** H.-Schäff. (57 c). Wings coloured not dissimilarly to *nexa* (56 h), but the forewing above without the purely white embeddings, only with a light violettish-grey subterminal band being continued also on the hindwing. Easily recognizable by the black, somewhat lustrous bluish-grey abdominal dorsum, the sides of which there are rows of deep orange-red spots. „Brazil“, the exact habitat not being mentioned.

flavimaculata. **O. flavimaculata** Hmps. (57 d). Dark greyish-brown, with bone-white spots on the tegulae, a broad macular band behind the base of the forewing, an oval spot before the upper cell-angle and 3 spots at the costa before the marginal fourth; some more minute, yellowish-white spots are dispersed across the forewing with 2 small purple spots in the cell-angles. Hindwing with 3 spots in the cell being above tinged pink, beneath yellow. The subbasal spots of the forewing, however, are on the contrary yellow above and beneath partly pink. Abdomen banded purple. South Brazil and Peru, figured according to a Bolivian specimen from the Rio Songo.

piperita. **O. piperita** H.-Schäff. (= *aureopuna* Rothsch.) (57 d). In this species there are only yet small bone-white spots scattered over the forewing and thorax, being in the ♂ only of the size of a pin's head, in the ♀ of a millet-grain. But sometimes the ground of the wing is densely covered with small light dots. Hindwing light yellowish-grey, faintly diaphanous, with a large costal-marginal spot at the cell-end and a broad marginal band. Abdomen posteriorly banded purple. From Trinidad and Costa Rica to Brazil, Peru and Bolivia; the figured ♀ from the Rio Songo.

ovuliger. **O. ovuliger** sp. nov. (57 d) differs from the preceding genus by the more abundant and more dense bestrewing with lemon-coloured, small oval spots. They are united to thronged rows and appear more distinctly also on the thorax, and the ♂♂ are besides much larger than in *piperita*, even in the ♀. Found by A. H. FASSL near Pacho in Colombia. Type in the Coll. FASSL.

intermedia. **O. intermedia** Rothsch. (57 d). One specimen (♀) in the Tring Museum, the habitat being unknown, in contrast with *ovuliger*, shows the yellow above compared to *piperita* reduced to single spots, of which there are only a few larger ones at the costa. The hindwing is quite dark brown except some discal spots. We have copied HAMPSON's figure of the species in his „Catalogue“.

aurogutta. **O. aurogutta** Schs. (57 d). Spots of the forewing very numerous, more circular than oval. Hindwing dirty yellowish-white, in the ♀ shaded with grey. Bogotá (Colombia).

fasciatus. **O. fasciatus** Rothsch. (57 e). Habitus of a *Calidota*, also the head and prothorax dotted black like in them, too. Forewing light brown, with transverse rows of white oval spots. hindwing dirty white, at the border brownish. Venezuela.

ochracea. **O. ochracea** Joicey (57 e) is somewhat smaller and distinguished from *fasciatus* only by the white spots in the proximal part of the forewing being extended into short bands which are much smaller in the distal part. Peru.

elota. **O. elota** Mschlr. (57 e). Unicolorously ochreous-yellow, wings lighter in the disc, body shaded darker. Jamaica; described as *Halisidota*.

thalassina. **O. thalassina** H.-Schäff. (57 e). One of the largest species; body yolk-coloured, marked whitish. Wings diaphanous Nile-green with dark veins, the marginal parts tinged yellowish. From Central America through Colombia, Venezuela and Brazil as far as Rio de Janeiro; in many places rare, in some, however, (e. g. Merida in Venezuela) common on lanterns. Its exterior already reminds us of the *Amastus*.

albescens. **O. albescens** Rothsch. (57 e) which we append here, according to HAMPSON belongs to the genus *Ochrodota* and would, therefore, have to be inserted on p. 334. It is quite pale ochreous-yellow, the forewing covered with small dark dots and small brown spots in such a way that the animal looks like a *Halisidota* and might be compared to *H. cirphis* (57 k) or *jonesi* (58 e); from Venezuela and Guiana.

79. Genus: **Graphelysia** Hmps.

A very peculiarly marked butterfly, described as *Elysius*, but probably not even distantly related to this genus, was discovered in a male specimen in Peru (la Union) and figured by LORD ROTHCHILD. It is

perhaps the most closely allied to the *Euchaetias*-group and the larva may prove it to be alien to the *Phegopterini*. Characteristic marks are: a pointed frontal cone, a very feeble proboscis, and short, projecting palpi. In the forewing the 1st subcostal vein rises shortly before the upper cell-angle, the 4 others have a long, common footstalk. The upper discocellular is of medium length, the middle one bent in angularly, the lower one short. All the veins are present in the hindwing.

G. strigillata *Rothsch.* (49 h). Blackish-brown, collar and metathorax, as well as chest orange, forewing *strigillata*. with numerous, silvery white transverse striae. Carabaya (Peru).

80. Genus: **Hyalarectia** *Hmps.*

This genus contains 2 pale yellow butterflies of an *Halisidota*-like habitus. On both wings the upper median vein branches off far before the lower cell-angle, the two lower radials come from the lower cell-angle itself, the upper one with the subcostal resp. with the pedicle of its 3 last branches from the upper cell-angle. On the forewing the two first subcostal veins rise from the upper cell-wall.

H. tepica *Dyar* (48 g) is before me only from Mexico. Wings quite unicolorously pale yellow, head *tepica*. orange, body tinted orange. Rare.

H. sericea *Schs.* is somewhat more robust, but of the same expanse of wings, likewise quite pale *sericea*. yellow, diaphanous, somewhat silky lustrous, with darker veins; at the base of the forewing a small orange spot; the dark dots on the patagia a little more distinct. Castro, in the Brazilian State Paraná.

81. Genus: **Pseudopharus** *Hmps.*

Almost exactly like the preceding genus, on the forewing the 2nd subcostal vein also rises from the upper cell-wall, and all the discocellulars are strongly angled like in *Hyalarectia*, but on the hindwing vein 5 is absent and the upper median vein rises with the lower radial from the lower cell-angle. 4 species are known.

Ps. domingona *Drc.* (48 g). By the white spots on the patagia it somewhat recalls *Opharus bimaculata domingona*. (56 g), of which it has also the sooty blackish-brown forewings, diaphanous white hindwings, and posteriorly orange abdomen; but the abdominal bands are not separated into lateral spots by a dorsal line, and beside the two white patagial spots there is a third on the metathorax. Peru.

Ps. hades *Dgn.* Size and colouring similar to the preceding, but the whole marginal half of the hindwing *hades*. sooty dark. Abdomen with only very narrow orange bands, otherwise blackish-brown. From Mt. Tolima in Colombia.

Ps. cornelia *Drc.* (48 g). Likewise greatly approximating the preceding, hindwing only in and round *cornelia*. the cell diaphanous whitish, abdomen with orange-yellow dorsal bands and lateral spots. Peru.

Ps. amata *Drc.* Somewhat larger than the preceding (50 mm), head and thorax sooty black, and *amata*. the abdomen above with orange transverse bands. Forewing deep olive-brown, suffused with a dark brown, particularly towards the margin. Hindwing black, in and round the cell somewhat more diaphanous, but not white as in the preceding. Venezuela.

82. Genus: **Metacrisia** *Hmps.*

This genus in its habitus already approaches the *Halisidota*, but the whole body, particularly tibiae and femora of all the legs, are very strongly haired. Proboscis strong, palpi projecting directly forward, the terminal joint not stunted. Head and thorax densely and long haired. The two first subcostal veins rise separately before the upper cell-angle; out of the latter rise, from the same place, the footstalk of the 3rd to 5th subcostal veins and the uppermost radial; the upper median branches off somewhat before the lower cell-angle; the same is the case on the hindwing, where all the veins are present. They are alpine animals, adapted to a more rough climate, nothing is known about the larvae.

M. schausi *Dgn.* (57 f). Head and thorax chestnut-brown, abdomen dark, yolk-coloured. Forewing *schausi*. in the median area chestnut-brown with yellow spots in and below the cell, marginal and basal areas pale yellow with royal yellow embedments, the border between the basal and median areas is formed by a distally convex bow. Hindwings of a paler yellow. Quindiu Pass (Colombia).

M. courregesi *Dgn.*, known only from Loja in Ecuador, is similar but more unicolorous, the median *courregesi*. area of the forewing not so prominently dark; the border between the light basal area and the median area forms an acute angle with a distally directed vertex, situate in the middle of the cell.

pua. **M. pua** Dyar (57 e) is quite unicolorously pale ochreous-yellow, the forewing traversed by lighter veins. Larger than the preceding. From Mexico (Guerrero).

83. Genus: **Hypidota** Schs.

Distinguished from all its allies by the stunted proboscis, owing to which also the palpi are much shorter; the middle joint scarcely longer than the short basal joint, the terminal joint rudimentary. In the forewing the 1st subcostal vein comes about from the middle of the upper cell-wall, the 2nd branches off rather far before its end, 3 to 5 have a long footstalk. Transverse vein very slightly curved in. Only 1 unicolorously yellowish species is known, from the northern part of South Brazil, and of this only the ♂.

neurias. **H. neurias** Schs. (57 f). Unicolorously whitish ochreous-yellow, with reddish-yellow antennae, orange-yellow abdomen, and brownish veins on the wings. Castro (Paraná).

80. Genus: **Microdota** Dgn.

Proboscis feeble, but still present. Palpi long, projecting, particularly the middle joint well developed, twice as long as in the preceding genus. Cell very broad and long, the 1st subcostal vein branching off behind the middle of the upper cell-wall, the 2nd rising directly before the upper cell-angle. Only one very small species (expanse: 20 mm).

lenistriata. **M. lenistriata** Dgn. (= *pellucida* Rothsch.) (57 f). Wings almost quite hyaline, forewing at the border, and hindwings quite faintly tinged yellowish. The transverse vein of the forewing and the posterior part of the lower cell-wall more distinctly marked. Venezuela, Paraguay.

85. Genus: **Nannodota** Hmps.

Scarcely larger than the preceding genus, but the proboscis fully developed. Different besides from *Hypidota* by the palpi not being shortened, but in contrast with *Microdota*, they are not straightly porrect, but bent up before the face. The anterior legs show long hair-brushes on the inside of the tibiae and femora. On the forewing the 2nd subcostal vein rises but slightly before the upper cell-angle, this being a mark of distinction from *Halisidota* which genus the *Nannodota* already approximate very much.

minuta. **N. minuta** Rothsch. (57 f). Like a very small *Halisidota*, as which it was also described. Body and forewings of a very bright yellow, the latter bestrewed with numerous, small, brown dots and hooks, a somewhat distinct, small, dark spot above the anal angle. Hindwings pale yellow. Peru; apparently not common.

86. Genus: **Thalesa** Schs.

Almost entirely like *Halisidota*, approaching some of them (for instance *annulosa*, *catenulata* a. o.) so very much that the distinction is only possible by means of a magnifying glass, the difference consisting in the absence of vein 5 on the hindwing, whereas in *Halisidota* all the veins are present. The larva exhibiting also the white, long, thin pencils on the anterior and posterior parts has besides paired, above smoothly elipped brushes on the 3rd to 10th segments. All the forms are very closely allied to each other.

citrina. **Th. citrina** Sepp (57 f). Forewing bright yellow with numerous, finely marked annular rows running parallel to the border. Behind the middle, likewise parallel to the border, a brown nebulous line. The apical part of the costa and the whole proximal margin, except the base of it, are brown. Mexico to the Amazon. —

seruba. **seruba** H.-Schäff. (= *albipuncta* Rothsch.) is a larger form from Ecuador and Peru with a very strong median oblique stripe and thick inner-marginal stripe. — **parva** Rothsch. (57 f), from East Colombia to Guiana and the Amazon, is a small form of pale markings, which I figure from Villavicencio. — Larva of a delicate rosy-red with a similar head with white markings, and yellow lateral markings tinted in a flesh-colour. Across the dorsum and on both sides longitudinal rows of brownish brushes with reddish-white crowns, and on the anterior and posterior parts there are long, white hair-pencils projecting beyond the larva. It lives on *Inga vera* and changes into a mahagoni-brown pupa in an oviform web intermixed with hair, yielding the imago after about 11 days.

amaxiaeformis. **Th. amaxiaeformis** Rothsch. (57 f) entirely resembles a *citrina* in its shape and size, but the forewing is of a paler yellow, the median stripe is absent and the dark annular rows are more scanty, in some places scarcely indicated. Ecuador.

Th. debilis Schs., from Mexico and Central America, is unknown to me. Expanse of wings: 31 mm. *debilis*. Body and forewings light brownish-yellow, the hindwings with numerous, undulate transverse lines, an antemedian line is bordered by greyish shades, and a similar one extends from the subcostal through the middle to the proximal margin. On the tegulae and the transverse vein 1 black dot each; hindwings yellowish-white.

87. Genus: **Halisidota** Hbn.

A collective genus of very numerous, often rather similar and transitory species, which has several times been divided into subordinate groups (*Euhalisidota*, *Schausia*, *Euschausia* etc.). The prevailing colour is a straw-colour, the chief marking consisting of annular rows parallel to the border, mostly only noughts or ovals of the ground-colour, sometimes, however, also filled with white. Some species exhibit also cell-end shades in the forewing, and the ♂♂ of certain species have scent-pads in various places of the wing. Proboscis always strong, palpi bent up and of medium length, with long middle and stunted terminal joints, body of the ♂ pointed, of the ♀ cylindrical, but not essentially swollen. The venation is not quite homogeneous in the genus. The 2nd subcostal vein of the forewing may branch off before and behind the cell-end. Also the antennae may have long or also short teeth in the ♂. More typical is the larva, i. e. as far as its early stages are known hitherto. In its anterior part there are some thin long hair-pencils mostly pointing forward, whilst in the posterior part there are 2 to 4 of them pointing backward, the dorsum itself being rather uniformly haired. Pupa mostly in a thin, but very equally worked cocoon.

More than 250 names have been given to the species of the genus, but the delimitation of the species from each other and the homogeneousness of the forms is still very imperfectly known. Many species are extraordinarily wide-spread and are found without any conspicuous deviations from South Canada to Buenos Ayres, and there is hardly any place in Tropical America where there is not at least one *Halisidota*-species to be found. Some species are, moreover, very common, particularly on the light. All seek their food, have an active proboscis and seem to visit the saps of fruit as well as blossoms. In day-time they are not very much inclined to fly, but by means of their agile legs they are able to move quickly, in spite of the structure of the ♀♀ being sometimes clumsy. The butterflies, whilst creeping around with their long legs, their shuffling bodies, their long, groping antennae and the long wings shoved together posteriorly, entirely resemble the *Rhodogastria* of the east.

When grasping the animal, and particularly when pressing the thorax with one's fingers, the body proves to be very elastic and succulent. The sap exuding from the glands at the neck in the shape of drops, has an oily smell and consistency. The *Halisidota* are very tenacious of life.

H. catenulata Hbn. (57 g). The smallest species of the genus, rather similar to the species of the *catenulata*. preceding genus (*Thalesa*); forewing yellow with a dark proximal margin, transverse rows of brownish rings and brown transverse bands, of which in typical specimens mostly an antemedian and a postmedian stripe are distinct. — In the form *sesia* Sepp there is in addition yet a proximal (basal), a median and a shortened *sesia*. subapical, dark brown stripe, whereas contrarily to *walkeri* Rothsch. only the postmedian stripe is distinctly *walkeri*. prominent. — Larva white and white-haired with a yellowish-brown head, green anterior end, and black dorsal spot on the 2nd segment. Across the dorsum runs a dark longitudinal stripe. The pencils at the anterior end are pointing obliquely forward, those at the posterior end backward. It lives on *Inga vera*, and in a white web similar to a bird's egg it changes into a green pupa yielding the imago after a fortnight. From Mexico to Argentina and Bolivia, also in Cuba, nearly everywhere common.

H. polyodonta Hmps. (57 g). Slightly larger, likewise yellow, but somewhat darker, the forewing *polyodonta*. without the dark transverse stripes of the preceding species, with rows of small dark dots; below the cell-end a nebulous spot. From Trinidad through Venezuela, the Amazon District and Colombia as far as Ecuador and Peru.

H. subannula Hmps. (57 g). Somewhat larger than the preceding, pale yellow, the forewings with *subannula*. faint traces of the undulate lines, or rows of small dots, but with distinct dark transverse lines, 3 of which are in the basal third, behind the middle, and one in the marginal third. At the end of the cell on the forewing above a dark dot, and below the middle of the costa on the hindwing beneath a brown ring. Costa Rica, Peru.

H. annulosa Wkr. (= *nimbifacta* Dyar) (57 g). Like the preceding rather small, pale yellow, the *annulosa*. brownish undulate lines complete, but rather indistinct; distinct only a somewhat curved, oblique transverse streak through the middle of the forewing. No dark marginal dots; the brownish inner-marginal streak of the forewing quite faint. — In the form *niveigutta* Wkr. there is behind the lower cell-angle of the forewing a small, *niveigutta*. silvery white guttiform spot. Mexico.

H. texta H.-Schüff. (= *thyophora* Schs.) (57 g) is similar, larger; instead of one median there are *texta*. here 2 brown transverse stripes in the forewing, an antemedian and a postmedian one. Both come from brown, triangular, small costal spots. The inner-marginal stripe is distinct and of a deep brown in Mexican speci-

mens. — In specimens which I took at Montevideo, corresponding to such described by ROTHSCILD from Peru, the inner-marginal stripe is absent, the forewings and above all the abdominal dorsum are quite pale yellow; this is *pallida* Roths. — In *tucumana* Roths. from North West Argentina, on the reverse, the brown inner-marginal streak is short, but strong and dark, and the distal oblique streak in the forewing is broad. Brazil, Argentina, Uruguay, and Peru.

distincta. **H. distincta** Roths. (57 g). Considerably larger, the undulate transverse lines of the forewings numerous and mostly distinct, a median and mostly also a subbasal, nebulous transverse stripe of the forewing distinct, into the middle of the thick, deep brown inner-marginal stripe a small, bone-coloured longitudinal spot is embedded. From the preceding it differs by deep-brown marginal dots of the forewing. From Venezuela and Colombia, particularly common on Mount Tolima. — *brunnes-cens*. **H. brunnes-cens** Roths. from Peru differs by a more reddish tinge and more expanded brown markings.

major. **H. major** Roths. (57 h). Considerably smaller than the preceding, owes its name only to the resemblance to *walkeri* to which it was at first added as a larger form of it. Like in *walkeri*, there is here no distinct inner-marginal streak of the forewing; the red-brown undulate lines are distinct and very uniform, and of the transverse shades mostly only that directly behind the middle is distinct. Widely distributed, from Costa Rica through Colombia, Venezuela to Brazil and Peru.

alsus. **H. alsus** Cr. (= *pectina* Schaus) (57 h) is immediately recognizable by the very long-pinnated antennae, otherwise in the marking very much like the preceding, but the transverse shades in the forewing are broader, the proximal one being angled on the median, touching at the proximal margin a dentate line which is not angled on the median. The distal transverse shade brown, on both margins worn out, intermixed with small yellow spots and a small, white vitreous spot at the lower cell-angle. Hindwings quite pale yellowish-white. Mexico and Central America through Colombia and Venezuela to Ecuador and Peru.

sobrina. **H. sobrina** Mschr. (= *modesta* Ky., *laropia* Dre., *laripa* Dgn.) (57 h). Very much like the preceding, but the ♂ with narrower wings, the forewings without any real transverse bands, only before the middle of the cell there is a large, brown costal spot, and another interrupted or sand-glass shaped spot at the cell-end. The species is recognizable by a longish, reddish-yellow scent-pad on the forewing beneath covering the whole cell as far as the lower cell-angle. From Costa Rica through the northern parts of South America as far as Bolivia and Peru.

eudolobota. **H. eudolobota** Hmps. Above quite similar to the preceding species, in its size and yellow colouring like *sobrina*, but the dark spots at the costa and cell-end less prominent and the single waves of the undulate lines not so coherent. Immediately recognizable by 2 hairlocks at the sides of the abdominal base in the ♂, as well as by a dense scent-fur occupying the whole submedian space of the hindwing beneath. From the Upper Amazon.

atrimaculata. **H. atrimaculata** Hmps. (57 i). Similar to the preceding, but along the costa and proximal margin of the pale yellow forewing there are single, scattered, thick, blackish-brown spots, like in the cell, and at the margin there are thick marginal dots. From Venezuela to South Brazil and Peru.

dognini. **H. dognini** Roths. (57 k) is unicolorously yellow, the hindwings lighter, forewings and patagia with small black dots. Besides there is in the cell of the forewing an angular, at the cell-end an interrupted spot and from the latter to the proximal margin behind the middle a row of dark striae. Peru.

endrolepia. **H. endrolepia** Dgn. (= *androlepia* Hmps., *sobrinoides* Roths.) (57 h) approximates *atrimaculata*, but the ♂ is without the thick dark spots, pale yellow and very finely marked; forewings of the ♀ coarsely strewn dark. From Guiana, Trinidad, and Venezuela to Bolivia and Peru.

maroniensis. **H. maroniensis** Schs. (= *buchwaldi* Roths.) (57 h). Smaller than *endrolepia*, the forewings without the coarse dark strewing of the ♀ of *endrolepia*, the transverse lines, however, particularly in the median area, are distinct and coherent; at the margin faint marginal dots. Guiana and Amazon.

cyclozonata. **H. cyclozonata** Hmps. (57 i) differs from the preceding by the antemedian dark band running thick and twice interrupted through the forewing, and by the distal part of the forewing showing a violetish-grey, cloudy darkening, in which the yellow ground-colour is only yet left in single yellow, partly red-pupilled, small guttiform spots. Guiana through the Amazon District to Ecuador and Peru.

grandis. **H. grandis** Roths. (57 i) differs from *cyclozonata* chiefly only by the small red-pupilled spots in the distal part of the forewing being arranged to transverse rows. Costa Rica to Peru. — This form, according to HAMPSON, might be an aberrative form of the preceding, like *sammionis* (57 h) which was described as *Baritius* and, therefore, also dealt with at large by us on p. 332.

lactogrisea. **H. lactogrisea** Roths. (57 i). Considerably larger than the preceding, the forewing light yellow, strewn with golden yellow, the small golden yellow spots with dark borders and arranged to an antemedian band as well as a submarginal row of spots. In the disc 2 dark cloudy spots, at the cell-end and in the submedian space. Venezuela.

H. stipulatoides *Rothsch.* (57 i). Forewing pale yellow, in the proximal part, particularly at the costal and proximal margins, of a bright golden yellow tinge. The small dark spots are small and faded in the basal and median areas, larger antemarginal nebulous spots are at the costa, behind the lower cell-angle and above the proximal margin; right through the marginal area extends a curved row of proximally pointed sagittiform spots. From Guiana through Venezuela and the Amazon District to Peru. *stipulatoides.*

H. malodonta *Dyar* (57 i). Size and shape of *lactogrisea*, but the dark markings of the forewing are quite scanty and faded except an antemarginal row of brown ellipses. Body and principal veins of the forewings of an orange-red tinge. From Huadquina in Peru. *malodonta.*

H. nebulosa *Rothsch.* (57 i). Smaller, of a paler yellow, the dark undulate lines in the forewing entangled, on the median a brown streak, continued to the apex; an antemarginal row of small dark rings. Amazon, Ecuador and Peru. *nebulosa.*

H. longipennis *Dgn.* (57 i). The dark markings on the pale yellow forewing are arranged in longitudinal rows extending through the cell and along the submedian. An antemarginal, interrupted chain of faded rings, at the border a row of dots. From Yungas de la Paz in Bolivia. *longipennis.*

H. pulverea *Schs.* (57 k). This apparently rare species approximates *stipulatoides* (57 i), of which it has the orange body, costal margin and border of the forewing; the latter otherwise exhibits only dull grey punctiform spots divided in irregular groups. South Brazil (Rio, Castro). *pulverea.*

H. perdita *Schs.* is allied to *pulverea* (57 k). Collar and thorax ochreous-brown, abdominal dorsum dull brown. Forewings dull yellowish, darkly strewn, indistinct lines; a line from the costa near the base, below the cell well bent out and rounded off; a less distinct line as far as vein 2 and connected with the first above the submedian by a denser strewing. A double, dentate postmedian chain of small crescents; an antemarginal, deeply angled line; the angle marked at the proximal side by black dots; black marginal vein-dots; a thick black dot at the cell-end, from which a faint dark line extends to the apex. On the hindwing the space below the cell and from vein 2 to the proximal margin smoky-grey. 42 mm. Guatemala (Cayuga). *perdita.*

H. liparoides *Rothsch.* (57 k). Forewing similar as in the preceding except in the median area some larger, narrowing dark spots, but easily recognizable by a chain of 4 large brown spots before the anal part of the border of the hindwing. Also the abdominal end shows black dorsal dots on an orange ground. Guiana, Amazon, Peru. *liparoides.*

H. contempta *Rothsch.* (57 k). In this small, pale yellow species with a slim body the only markings consist of some small, obsolete dark dots before the border of the forewing and in the disc, and a nebulous, diffuse spot on the submedian. From Fonte Boa (Amazon). *contempta.*

H. nimbiscripta *Dyar* (= *pseudofalacra* *Rothsch.*) (57 k). Unicolorously pale bone-coloured, the forewings intermixed only with single, small black scales grouped to a pale basal ray on the median. some few ellipses in the cell and a black middle dot at the lower cell-angle. Mexico and Nicaragua. *nimbiscripta.*

H. cirphis *Schs.* (57 k) approaches the preceding, but beside the basal ray and cell-end dot the forewings are also strewn with other dark brown dots; besides the abdominal dorsum is blackish-brown, except the yellow end. Costa Rica. *cirphis.*

H. democrata *Schs.* ♀. Body pale ochreous, the patagia anteriorly with a black dot. Forewings whitish-yellow, a slightly darker strewing forms rather indistinct markings; an antemedian undulate line in the cell bent out about in the middle of it, then bent into the submedian; above and below the cell-end some shading; at the cell-end a small dark spot; a postmedian interrupted line and a marginal undulate line. Guatemala (Cayuga). 40 mm. — The description neither mentions, where the species is to be inserted, nor does it compare it with a well-known species. *democrata.*

H. leucanina *Fldr.* (= *infucata* *Berg*, *phellia* *Drc.*) (57 k). Forewings dull ochreous-yellow, sometimes tinted grey or brownish, little marked, intermixed with single, small blackish scales, only one intense, sometimes light-centred dot at the lower cell-angle being blackish-brown. At the border a series of very fine ellipses, the proximal part of which is filled up by a brown dot. Abdominal dorsum blackish-brown, the apex pale yellow. Colombia through Brazil to Ecuador and Argentina. *leucanina.*

H. bactris *Sepp* (= *luideoides* *Rothsch.*). This rather widely distributed species resembles a large *bactris*. *Leucania* in the shape of the forewings by the curved border and the somewhat projecting apex. It is easily recognizable by the long antennae provided with very long teeth, the dark grey abdominal dorsum and the hindwing being sometimes quite blackish-grey in the anal half. The marking of the wings is very inconstant.

- jalacra*. In typical *bactris* the forewings are by far more traversed by transverse nebulous stripes than in the form *falacra* Dgn. (57 k) figured by us, where they are almost unicolorously yellowish-brown, finely dusted with blackish. Whilst *bactris* is described from *Surinam*, *jalacra* originates from Colombia and is distributed as far as Bolivia and Peru. — ***apicepunctata* Schs.** (58 a) looks very differently, but it still seems to me to belong to this species. Here the forewing has, beside the dot at the lower cell-angle, another one in and before the apex, and the hindwing an antemarginal band of greyish-brown nebulous spots, tapering off from the anal angle towards the apex and withdrawing from the border, not reaching, however, the apex. — The larva of *bactris* is black and black-haired, with yellowish-red feet, the pencil at the anterior and posterior ends golden yellow directed in front resp. behind, as in most of the *Halisidota*. It lives on *Bactris acanthocarpus* and changes from a grey cocoon into a brown pupa *).
- coniota*. ***H. coniota* Hmps.** (58 a) is a large species with an entirely grey body tinged orange only at the head and prothorax. Forewing dull bone-yellow irrorated with fine brown atoms and small dark punctiform spots along the costal margin and border, as well as at the lower cell-angle. Hindwings grey, in some parts tinted yellowish-red. Guiana to South Brazil, Bolivia and Ecuador.
- longa*. ***H. longa* Grt.** (58 a) replaces *coniota* in the north and seems mostly or exclusively to come from Florida (Jacksonville, February; Enterprise). Here the marking is very dull, more distinct are only a streak through the small dark spot at the lower cell-angle and some small preapical spots. Hindwings diaphanous yellowish-white.
- cuneipuncta*. ***H. cuneipuncta* Rothsch.** (58 a). Body and wings unicolorously pale ochreous-yellow, the forewing with quite faintly darker markings consisting of a feeble shade at the forkings of the median, some striae at the costa, small antemarginal sagittiform spots and small marginal rings. Mexico.
- angulata*. ***H. angulata* Rothsch.** (58 a). Whilst the ♀ greatly resembles *cuneipuncta*, the ♂ shows bright colours, particularly a red tinge at the thorax and a blackish-brown tinge at the end of the abdomen. Forewing with a dark brown costal stripe, a brown longitudinal ray in the submedian space, a blackish bow behind the cell-end and a curved brown antemarginal line. Peru.
- epinephete*. ***H. epinephete* Hmps.** (= *nebulosa* Rothsch.) (58 a) is dull ochreous-yellow, the forewing with very numerous rows of yellowish-red rings and undulate lines. A small, postmedian, somewhat curved, little prominent nebulous band. Hindwings diaphanous bone-coloured. Rio, through the Amazon District as far as Ecuador and Peru.
- pseudomanda*. ***H. pseudomanda* Rothsch.** (58 b) is similar, but the forewing scarcely shows traces of the dark transverse band, but a brighter brown costal margin and more densely arranged undulate lines. Guiana, Peru.
- dallipa*. ***H. dallipa* Jones** (58 b). Almost quite unicolorously bone-white, only the prothorax and neck finely tinged purple. Forewing strewn with scanty, small, black scales; an antemarginal row of extremely delicate, tiny dots. From the Brazilian state of Paraná.
- flavorufa*. ***H. flavorufa* Rothsch.** (58 b). Body yellow, brightly tinged pink. Hindwings pale yellow, irrorated with many red-brown atoms, which are concentrated behind the lower cell-angle round a white guttiform spot and form likewise behind the cell a brown, white-pupilled diffuse spot and a similar one above the proximal margin. Guiana and Ecuador.
- perdentata*. ***H. perdentata* Schs.** (58 b). Greyish ochreous-yellow, the forewing in its apical part very much darkened its marking consists of two rows of brown hook-shaped spots and of an antemarginal row of small dark rings. Mexico; the species is apparently rare or of a small range.
- albipennis*. ***H. albipennis* Hmps.** (58 b). This conspicuous species is easily discernible by the bone-white wings and the orange abdominal dorsum. Forewing with very delicate, small dots being more distinct only at the costal margin, and with parts of a postmedian undulate line. Bahama Islands.
- terranea*. ***H. terranea* Rothsch.** (58 b) cannot be confounded with any other species. Beside the brown marking of the forewing, the large spot in the cell, the smaller one at the cell-end, and the hook-shaped spot in the submedian space, the species is characterized by the hindwings being broadly margined with brown and by the abdomen being dark brown above. Thorax marked brown. Amazon.
- stipulata*. ***H. stipulata* Rothsch.** (58 b). In this larger species the abdomen is black only in its basal half, the posterior half and the thorax being yellow. Forewing yellow intermixed with white cuneiform spots and hooks, the most conspicuous one of which is situate behind the cell in a violettish-brown cloud. Hindwing with a grey inner-marginal area and small dark cuneiform spots at the apex. Guiana, Peru and Bolivia.

*) A remarkable fact is that the description of the larva almost exactly resembles the figure of the larva of *Automolis rutilus*, so that a mistake — probably of the larva of *A. rutilus*. — is not out of the question; the latter is figured on a twig of *Psidium*.

H. grotei Schs. (58 c). This peculiar insular form is unmistakable. Through the remarkably broad, *grotei*, pale bone-coloured forewing runs an indistinctly defined, somewhat fuzzy postmedian band, and 2 similar demi-bands extend from the costa, where they bifurcate, to the lower cell-wall. Hindwings with small, dark, ante-marginal diffuse spots. Cuba.

H. subterranea Rothsch. (58 c) is allied to *bactris*, and like *leucanina* (57 k) being allied to *bactris*, *subterranea*, it has an antemarginal row of small ellipses. The median area is brightly shaded with brown and intermixed with numerous small, whitish and dark brown spots; the whole hindwing, except the cell and the part behind it, is brown like the dorsum of the abdomen. Peru.

H. notodontina Rothsch. (58 d) is larger, the forewing more intensely shaded with brown, particularly *notodontina*, the whole costal-marginal area dull greyish-brown; the hindwing is in the costal-marginal area white, the proximal half yellow, the marginal part brown, enclosing some yellow marginal spots. Peru.

H. racema Schs. (58 c). Yellow, forehead and mesothorax brown. Forewing bright yellow with a *racema*, brown longitudinal stripe and many small striae at the costal margin, another brown longitudinal stripe extends from the cell-end towards the apex as a continuation of the median, another longitudinal diffuse spot in the submedian space. In the marginal third many brown, hook-shaped spots forming 3 transverse rows. Guiana.

H. subfasciata Rothsch. (58 d). Forewings quite pale yellow, traversed by 5 irregular, yellowish-grey *subfasciata*, transverse bands which are more distinct and broader in the costal part, but narrower and duller in the proximal part; their course is rather irregular. Hindwings white. Paraguay.

H. huaco Schs. (58 c). Body and wings dull greyish-brown, forewing with a broad, curved postmedian *huaco*, nebulous stripe and dark subterminal dots, hindwing with a lighter costal part and white antemarginal bosses. South Brazil (Rio, Castro).

H. moeschleri Rothsch. (58 c). Forewing traversed by irregular, dentate dark transverse bands, *moeschleri*, between which there are undulate or dentate lines, similar as in *subfasciata*, but the ground-colour is a bright red-brown. Jamaica.

H. squalida H.-Schöff. (58 c). Also here the yellowish red-brown forewing is crossed by transverse *squalida*, catenary stripes of crescents bordered dark: near the base, in and behind the middle as well as before the margin. South Brazil and Bolivia.

H. lua Dyar (58 c). Size and shape similar to the preceding, but only the postmedian and antemarginal *lua*, catenary stripes are complete; the one in the middle is only indicated by some rings. Hindwing with a dark discal luna and a subterminal dark distal band. Beneath all the wings show a light ring-spot in the cell-end, and the light yellowish-grey macular chains beautifully contrast with the dark ground-colour. Femora and tibiae are covered with dense and long hair. Discovered by ROBERTO MUELLER in Zacualpan.

H. fuscosa Jones (58 d). A small species recognizable by the variegated thorax, the brown forewing *fuscosa*, mixed with red, and the black hindwing which is narrowly yellow only at the costal margin. Head orange, collar yellow, patagia with a black shoulder-dot, forewing with red spots on the blackish-brown ground, along the costal margin, proximal margin, and border. South Brazil.

H. sthenia Hmps. (58 d). Dark yellowish-brown, forewing with light spots bordered dark, along *sthenia*, the costal margin and before the border, and 2 larger ones in the middle and at the end of the cell of the forewing; at the proximal margin small dark spots. Hindwing diaphanous light grey, towards the apex brownish. Rio Songo.

H. umbrosa Hmps. (58 d). Larger, dark nut-brown, forewing only with few punctiform spots round *umbrosa*, the cell-end and before the border, of which only the apical ones are distinct and dark. Hindwing towards the margin still darker brown with a blackish discal spot. South Brazil.

H. interstriata Hmps. (58 d). Small, body dark brown, forehead yellowish-white. Forewing light *interstriata*, greyish-brown, the margins suffused with yellow. In the middle of the cell, in the cell-end and below the cell whitish diffuse spots. Hindwings dull diaphanous white. South Brazil.

H. acuta Hmps. (58 d) is much larger than the preceding, forewings greyish brown, the margins *acuta*, intensely yellow; unmarked except an antemarginal, rather irregular row of dots. Hindwings similar, greyer, the subterminal dots somewhat larger, forming a large hook at the end of the submedian fold. South Brazil.

H. setosa Rothsch. (58 e). One of the smallest species of the genus, quite bone-white with cloudy *setosa*, brown darkening along the costa, in the median area and at the border of the forewings, and a black dot encircled light at the cell-end. In the hindwing the apex, a small antemarginal spot and the inner-marginal area are brownish. Abdominal dorsum yolk-coloured except the whitish apex. Peru.

- ochracea*. **H. ochracea** *Mschlr.* (58 e). Only one ♀ is known from Surinam. Head and thorax orange, abdomen paler. Forewing orange, median area with 4 finely undulated lines; 3 thin postmedian lines are in the costal part of the wing distally curved, then proximally; at the border traces of a series of small tooth-like spots; hindwings pale yellow. Expanse: 40 mm.
- striata*. **H. striata** *Jones* (58 e) is considerably larger than *ochracea*, head and thorax pale yellow, only the abdomen orange with rows of punctiform spots above and laterally. Wings pale bone-white, the forewing at the costa and base tinged sulphureous, in the median area numerous, mostly double transverse lines which, however, are interrupted at the median. In the apex light small spots surrounded by dark, before the middle of the border dark dots, and in the anal angle a dark ring. Hindwings diaphanous dull whitish. Castro (Paraná) in Brazil.
- bipartita*. **H. bipartita** *Dgn.* (58 e) has still broader wings than *striata*, an ochreous-yellow body and pale bone-coloured wings. Forewing scantily strewn with small brown spots, the costal and proximal margins as well as a ray proceeding from behind the base to the apex, where it is broken up into spots, wood-coloured. Hindwing with a brown apical margin and some spots before the distal margin. Brought by A. H. FASSL from Mt. Tolima in Colombia.
- falacroides*. **H. falacroides** *Rothsch.* (58 f) somewhat resembles *bactris falacra* in its shape. Colouring quite greyish-brown, forewing with a dark cell-end dot and large, pointed sagittiform or hook-shaped spots pointing towards the base. Hindwing towards the costa lighter. Peru and Ecuador. — **affinis** *Rothsch.* (58 f) is perhaps only a form of the preceding, in which the arrow-head-like spots are partly shortened, though increased, in addition to them white longitudinal spots in the cell and above the proximal margin. Peru.
- aurantiaca*. **H. aurantiaca** *Rothsch.* (58 e). Dirty ochreous-yellow, forewing tinged reddish with numerous, bone-coloured cuneiform spots, arranged in oblique rows, in the distal part of which there is mostly a dark dot; behind the lower cell-angle a darker streak. The markings are extinct, dull and not easy to recognize. Abdominal dorsum black, in the posterior part yolk-coloured. The hindwing in specimens from Colombia and Venezuela is blackish, in the costal area light ochreous-yellow, whereas a ♂ which is said to originate from Espiritu Santo has quite black hindwings.
- cedon*. **H. cedon** *Drc.* (= *venezuelensis Rothsch.*) (58 f) entirely resembles *aurantiaca*, but instead of the light cuneiform spots there are blackish dots scattered across the forewing. Panama, Venezuela, South Brazil and Peru.
- vangetta*. **H. vangetta** *Dyar* (58 f). This species peculiarly resembles in its exterior the Noctuid *Leucania unipuncta* flying in the same district, not only by the shape and colouring, but also by the oblique streak from the apex of the forewing, the cell-end mark of all the wings and the dark macular band before the border of the hindwing. The under surface is quite unicolorously yellowish dusty grey, only the median dots and oblique streaks from the apex of the forewing are indicated by some small dark scales. Hitherto only discovered near Misantla in Mexico by ROBERTO MUELLER, from where we figure it.
- hadenoides*. **H. hadenoides** *Rothsch.* (58 e) also derives its denomination from an exterior resemblance to a Noctuid. Quite unicolorously dark brown, the forewing with a blackish dot at the lower cell-angle and dispersed hook- and ring-shaped spots. Larger than the preceding. Amazon.
- mancina*. **H. mancina** *Schs.* is allied to *hadenoides* (58 e); body greyish-brown, abdominal dorsum brownish-grey. Forewing loam-brown, with some dark brown strewing and lighter shading, forming an irregular antemedian band bent outward. Behind the middle a macular row likewise bent outward below the cell, and before the border internerval diffuse spots bordered with black. At the cell-end a small yellow spot encircled by black; hindwings dark brown with a broad whitish-yellow costal margin. 39 mm. Guatemala (Cayuga).
- jonesi*. **H. jonesi** *Rothsch.* (58 e). Size between that of the two preceding, colouring pale ochreous-yellow strewn darker, in the cell a dull darker encircled cordiform spot, at the distal cell-angle a spot, in the marginal third a subterminal row of ellipses being shaded at the poles. Castro (Paraná) in Brazil, discovered by D. JONES.
- lurida*. **H. lurida** *Edw.* (= *otho Brn. & Mc. D.*) (58 f, g). Immediately recognizable by the long-extended forewings being particularly pointed in the ♂. Thinly scaled, yellowish dusty grey, ♂ almost unmarked except a fine cell-end dot and a nebulous stripe from the base to the apex, ♀ with numerous pale ochreous ellipses and hooks. Abdomen in the ♂ above blackish. Mexico and Colombia. In its exterior the butterfly somewhat resembles certain reed-butterflies; the larva, in any case, lives on reed-like Monocotyledons.
- nonagrioides*. **H. nonagrioides** *Rothsch.* (58 h). The butterfly derives its name from the same resemblance as the preceding species. The markings have vanished except quite faint traces consisting of scattered, very indistinct cuneiform and oviform spots and fine dark lines on the 3 main veins and the median veins. Hindwings diaphanous bone-coloured. Venezuela, South Brazil, and Peru.
- sablona*. **H. sablona** *Schs.* (58 g) has rather the same shape as *lurida*, but the border of the forewing is somewhat straighter, the forewings themselves not quite so pointed. The ochreous brownish-grey forewings are so densely strewn with blackish atoms, that only where they are absent, the lighter ground-colour appears in the shape

of light spots arranged to bands. Hindwing diaphanous grey with dark antemarginal bossy spots. In the ♂ the strewing of the forewing is less, and the proximal part of the hindwing is suffused with dark. From Castro in South Brazil (Paraná).

H. rhomboidea *Sepp* (= *strigulosa* *Wkr.*) Likewise of an owl-like habitus, pale yellow, the forewings *rhomboidea*, finely strewn with numerous transverse striae, with a distinct cell-end mark and a characteristic, somewhat downward convex longitudinal streak from the base to the apex. The butterfly is rather variable. In *citrina* *citrina*. *Wkr.* the colour is very bright light yellow and the transverse striae are often indistinct. — **mandus** *H.-Schäff.* *mandus*. (58 g), perhaps only a form of *rhomboidea*, but recently again considered as a distinct species, has the longitudinal stripe widened to a broad band slit up at the margins. — Larva dark iron-grey, with light lateral spots, beginning from the 6th ring the dorsum is flesh-coloured, like the bogus feet and their followers. The *Halisidota*-pencils are, particularly at the anterior end, very long though thin; it lives on *Paspalum indicum*, presumably also on other Gramineae, spinning a cocoon intermixed with its blackish hair and turns into a blackish-brown pupa. From Mexico to Peru, Bolivia and South Brazil, in most of the districts not common.

H. dinellii *Rothsch.* (58 g) is allied to *rhomboidea*, but it has broader wings, always more lemon- *dinellii*. coloured than brown, the cell-end spot not very prominent, the longitudinal ray of the forewing finer, straighter. Described from Tucuman in Argentina, but before me also from the adjoining Bolivia.

H. pseudoconiata *Rothsch.* (58 h). Of a brighter and lighter yellow, somewhat allied to the form *pseudoco-* *citrina* of *rhomboidea*. With broad wings like *dinellii*, but the colouring is a purer and brighter yellow, the marking *niata*. more scanty, in the costal half of the forewing quite vanished. The spot at the lower cell-angle more distinct, but the longitudinal ray only in the apical part well preserved; above the proximal margin brownish shades. In the ♀ the marking is a little more distinct, and the hindwings exhibit small, dark marginal rings. Peru.

H. similis *Rothsch.* (58 g). Similar to *pseudoconiata*, but the longitudinal ray in the very pale bone- *similis*. coloured forewing is to be noticed also in the proximal half of the wing (on the median), and the branches of the median are brown, too, and there are brown transverse striae at the costal and proximal margins. Amazon and Peru.

H. oruboides *Rothsch.* (= *pterostomoides* *Rothsch.*) (58 g) is quite similar to *similis*, but larger, with *oruboides*. broader wings, the longitudinal ray of the forewing more equalized and besides there are so many ochreous yellow and brown hooks, spots and rings, that the bone-yellow ground colour remains only yet in the basal and marginal part and numberless cuneiform and oviform spots scattered across the disc. Peru.

H. hoffmannsi *Rothsch.* (58 k). Forewing light bone-coloured, but the costal margin and border *hoffmannsi*. brownish, and an oblique longitudinal stripe from the apex over the cell-end expands continually as far as the submedian (vein 1), enclosing in its centre small bone-white crescents. Besides small dark spots at the costal margin and border. Hindwing brownish-grey, the costal area except the costa itself and some small marginal spots bone-coloured. Peru. Described according to 1 ♂ from Pozuzo.

H. oruba *Schs.* (58 h). Forewing bone-coloured, but with very bright and irregular brown markings; *oruba*. the longitudinal ray through the whole wing, the cell-end mark sometimes distinct, sometimes absent, before the margin light, distally brown cuneiform spots. The ♀ is much less marked, beside the longitudinal ray it has mostly only dispersed small brown dots; the hindwings, showing in the ♂ mostly brown spotting before the apex and the middle of the border, are in the ♀ sometimes quite unicolorously bone-white. Colombia, South Brazil and Bolivia.

H. oblonga *Rothsch.* (58 i) is so closely allied to *oruba* that it might be a form of it, distinguished *oblonga*. by the light and dark spots on the forewings and prothorax being increased and by the longitudinal stripe through the forewing being thickened to a broad shade in the middle. Peru.

H. quadrata *Rothsch.* (58 k). Colouring and marking almost entirely as in *oruba*, but the forewing *quadrata*. much larger and obtuser. Peru.

H. quanta *Schs.* (58 i). Smaller than the preceding. Forewing in the ♂ red, in the ♀ pale yellow, *quanta*. with a brown (in the ♀ tinged yellowish-red) longitudinal stripe from the base as far as below the apex and a very slightly marked cell-end mark. Bolivia and South Brazil (Castro).

H. aurata *Jones* (58 k) likewise from South Brazil (Castro) has a darker longitudinal stripe not quite *aurata*. reaching the border. Perhaps only an aberration of *quanta*-♀.

H. lineata *Schs.* (58 i), likewise from Castro Paraná, has red-brown forewings of the tinge of *quanta*-♂, *lineata*. but the median stripe broader and bifurcating behind the cell-end, and before the border there is a row of subterminal dots; abdominal dorsum greyish-yellow. — **rosetta** *Schs.* (58 h), from South Brazil, before me, *rosetta*.

however, also from the Rio Songo (Bolivia), only differs by the dark red dorsum of the abdomen.

tanamo. **H. tanamo** Schs. (58 i). One of the few species of this genus with a red abdominal dorsum. Through the broad forewing extends a median transverse row of 4 or 5 large rings; behind it an oblique nebulous stripe and in the distal area fragments of faded ring-markings. Hindwings dirty white with yellow margins. Cuba.

batesi. **H. batesi** Roths. (58 i), unknown to me, is very variegated, body and forewings orange-yellow, thoracic dorsum dotted black and marked dark red, forewing finely striated dark and with numerous brown, somewhat irregular spots, which are concentrated behind the cell-end and in the marginal third to larger brown spots enclosing again a submarginal row of white cuneiform spots. Hindwing rosy-red with a broad yellow border and a bone-white proximal part. From Teffé (Ega) on the Amazon.

obvia. **H. obvia** Dgn. (58 i), from Guiana, is similar, but less variegated, with a dark violettish-brown abdomen, and the hindwings overshadowed with blackish. Forewing golden yellow, strewn with brown atoms which are concentrated to a postmedian band, a series of submarginal spots, a cell-end spot and a longitudinal streak from the costa behind the base as far as beyond the anal angle. Guiana.

turrialba. **H. turrialba** Schs. (58 k). Larger, otherwise like *obvia*, the abdomen above dark brown and the hindwing brown, only in the cell and behind it yellow. Forewing golden yellow with orange-red spots at the costal and proximal margins and chains of brown crescents. From the apex to the proximal margin near the base a thick, dark brown, partly expanded dentate line through the wing, almost parallel to the costal margin. Described according to a ♂ in the National Museum at Washington, from Costa Rica.

nubilosus. **H. nubilosus** Roths. (58 k). Scheme of markings rather similar as in *turrialba*, but the ground-colour is a dull white, the hindwings bone-coloured, the abdomen yolk-coloured; the undulate lines in the forewing enclose manifold white cuneiform spots. Peru.

brunnei-tincta. **H. brunneitincta** Hmps. (59 a). Forewings dull whitish, shaded with grey, brown and yellowish, with whitish, somewhat irregular embedments: recognizable by the thoracic markings, the red abdomen spotted black, and the middle of the hindwing being traversed by a band of large white spots; also below the costal margin and before the border the hindwing shows white spots. From Rio de Janeiro; certainly rare in the immediate surroundings of the town.

rusca. **H. rusca** Schs. (58 k). Likewise from South Brazil, with brick-red thoracic dorsum and forewings on which numerous, scattered, dark brown atoms, leaving some places free, form then lighter red spots, as they do in the submedian space, in the posterior part of the cell, in the distal third and at the border and proximal margin. Hindwing at the margins likewise brick-red, the interior of the wing dull diaphanous whitish. Abdomen dark greyish-brown, on the dorsum black transverse spots.

pseudomaculata. **H. pseudomaculata** Roths. (58 k). Like the preceding from South Brazil, the forewings whitish-grey, along the costal and distal margins as well as right through the disc before and behind the middle extend sulphureous macular rows, at the costal margin separated by brown costal spots; brown transverse bands near the base and before the middle. Head and thorax orange, abdomen lighter yellow than the hindwings.

ronda. **H. ronda** Jones (59 a). This species also originates from South Brazil (Castro); forewings yellowish-grey, finely strewn dark, with 6 or 7 transverse chains of rather equally large, white, ellipsoidal spots beginning at the costal margin with a large rhombic spot. Hindwings dull white, abdomen orange.

maculata. **H. maculata** Harr. (59 a). This butterfly, variable both as larva and imago, inhabits the United States of North America. The typical form is almost unicolorously golden yellow, with orange ring-chains across the forewings and pale-yellow hindwings. In the apical costal area of the forewing some small spots are encircled with brown instead of dark yellow. — *agassizii* Pack. (= *californica* Wkr., *salicis* Bsd.) (59 a) differs entirely by the spaces between the macular chains being filled up with red-brown in the whole costal- and proximal-marginal areas; from the Western States. — *guttifera* H.-Schäff. (= *fulvoflava* Wkr.) (59 a) shows the whole ground of the forewing brown and the yellow macular chains in the disc interrupted in such a way that the light yellow spots are complete only at the costal and proximal margins. Nova Scotia. — In *angulifera* Wkr. (= *alni* Edw.) from the North West States the imago being more intensely dusted with brown deviates less than the larva which shows black instead of white pencils at the anterior and posterior parts. — *eureka* Dyar from California is entirely dusted with brown, so that the marking becomes quite indistinct again, particularly the forewings are brown at the costal and proximal margins, between more yellowish-brown. *texana*. — **H. texana** Roths. from Texas is similar, but smaller and paler, the markings of the forewings still duller. — Larva black, densely covered with lemon-coloured hair which are longer at the sides. On the dorsum of the 5th to 12th rings there are 8 paired tufts of black hair, on the 4th to 10th rings there are also lateral black hair. In typical larvae the 6 *Halisidota*-pencils at the anterior end of the larva are purely white, like the long pencils

at the posterior end, too. On poplars, willows, alders and other deciduous trees. Cocoon thin, velvety, with intermixed hairs. — The butterflies are not rare in many districts.

H. caryae Harr. (= *annulifascia* Wkr., *caryae* Rothsch.) (59 a). A rather imposing, brightly coloured *caryae*. species. Forewing pale yellow, with numerous red-brown streaks which set off the veins and cross the cell. Parallel to the border there run 5 or 6 bands of diaphanous, white lustrous spots; thorax marked brown. Canada and the United States. — **porphyria** H.-Schüff., likewise from the United States, has the hyaline spots smaller, *porphyria*. very numerous and distinctly surrounded by dark. — **propinqua** Edw. (59 a) is the large and beautifully *propinqua*. marked southern form representing the species in Mexico and Central America; here the veins are very beautifully marked red, the reflecting spots are large and touch each other in the single chains. — **mixta** Neum. (= *pseudo-mixta*. *caryae* Rothsch.) is the form from Arizona; the yellow ground-colour is thickly covered with brown, and the reflecting spots are likewise yellow, so that they do not contrast so much. — **bicolor** Wkr. (= *pura* Neum.) (59 b) *bicolor*. looks quite different from all the other *caryae*-forms, but it is reported to have been bred from *caryae*-larvae. Here the hyaline spots are not surrounded by dark, but they only rest, as unsealed patches in the uniformly light yolk-coloured ground-colour, so that only at a certain exposure to light or on the darkened background they are prominent as undusted interspaces or lustrous, small reflectors. This form occurs in Arizona and Mexico, we figure it from the latter country. — Larva with a black head, venter and feet above greenish white, speckled black, on the 4th to 10th rings with tufts of long black hair, standing together above the dorsum. Rings 4 to 10 with long lateral hair-pencils; some long hairs are above the head, and at the sides there are white hair. It lives on the hickory-nut (*Carya alba*) and nut-tree (*Juglans*) and pupates in a cocoon intermixed with hair. In many places common.

H. ingens Edw. (= *scapularis* Stretch) (59 b). Thorax dark yellowish-brown, vertex, tegulae, patagia *ingens*. and a median stripe on the thoracic dorsum white, abdomen yolk-coloured, forewing olive-brown with silvery white, small reflecting spots arranged in rows, similar as in *argentata* (59 b), but the spots at the costal margin much larger, like those in the submedian space. Hitherto found only in the Rocky Mountains, in Colorado and New Mexico.

H. alternata Grt. (= *albiguttata* Bsd.) is quite similar to *ingens*, but the thorax is uniformly mixed *alternata*. with black and white, the ground-colour of the forewing is black, intermixed with small white scales, base and inner-marginal area are mostly more spotted. Mexico, Cuba.

H. argentata Pack. (59 b). Head above yellow, body yellowish white, otherwise very much like the *argentata*. preceding. Ground-colour of forewings a beautiful yellowish brown, intermixed with small white scales, the reflecting spots being arranged in straight rows are of a bright silvery white, the hindwing mostly in the disc and before the apex spotted brown. — In **subalpina** French from the Rocky Mountains the thorax is of a brighter *subalpina*. red-brown and the forewing at the costa and proximal margin so profusely covered with ochreous-whitish, that the wings are of a pale colour here. — On the contrary, **sobrina** Stretch is a more monotonous form from the Cali- *sobrina*. fornia coast, the forewings showing a uniformly deep brown ground-colour and the silvery spots being smaller. From British Columbia through the Pacific States as far as Colorado, New Mexico and Arizona.

H. andensis Schs. (59 b). As large as the preceding and also very much like it, but the spots of a *andensis*. fainter silvery gloss and somewhat diaphanous, though not hyaline. The ground-colour is profusely strewn with yellow and white atoms; hindwings hyaline, in the apical part spotted brown. Abdominal dorsum brownish. Colombia; the figured specimen from the Quindiu-Pass (Central Cordilleras).

H. affinis Rothsch. (59 b). Thorax darker olive brown, vertex, collar and patagia white, the latter *affinis*. with a thick black shoulder-dot. Abdomen yellowish-brown, with blackish hair on it. Ground-colour of the forewings uniformly dark olive-brown, the numerous silvery white macular rows somewhat irregular; a marginal row of white spots. Vera Cruz and Peru.

H. hyalinipunctata Rothsch. (59 b). The ground-colour of the forewing more sepia-brown, watered *hyalinipunctata*. with white, the spots very large, purely hyaline, so that fine writing may be legible through the wing; the macular rows straighter, more regular than in *affinis*, at the border only small fine white marginal dots. Peru, the figured specimen from Cillutimarca in Bolivia.

H. tessellaris Abb. & Sm. (= *antiphola* Walch.) (59 c). Pale ochreous-yellow, wings thinly scaled, *tessellaris*. traversed by yellowish hyaline bands, the antemedian one being broad, the postmedian one bifurcated towards the costa, the subterminal one irregularly composed of squares. Abdomen yolk-coloured. Canada and Atlantic States. — The bands may, in aberrations, vary in the shape: in ab. **antipholella** Strd. (= ab. 1 *Hmps.*) the two *antipholella*. median hyaline bands are partly or entirely confluent. — In ab. **tessellaroides** Strd. (= ab. 2 *Hmps.*) the spaces *tessellaroides*. between are of a darker tinge, and the two distal hyaline bands are connected with each other by a bridge. — **meridionalis** Rothsch. (59 e) is a large form from Mexico, which we figure from Mexican City; here the hyaline *meridionalis*.
lis.

- bands are so much expanded that there remain only very narrow spaces between, which are besides of a brownish colour in the costal area and bordered there with a much thicker black colour than in the *tessellaris* of the United States. This form is described according to specimens from Orizaba, in which the space between the median bands is narrowed to a dot at the proximal margin, the thorax exhibiting no green colour, which is not the case in specimens from the neighbourhood of the city of Mexico, but which seems to us not to be sufficient to establish a new name, particularly since the width of the bands of the forewings varies very much individually, and may even differ on the two surfaces of one specimen. — The name for the form ***harrisii* Pack.** is, as HOLLAND already states, neither sufficiently founded, since it only refers to a variation of the larva (the anterior pencil being white instead of black). — Larva ochreous with yolk-coloured dense tufts on the sides and above, which are quill-like closed up on the dorsum. On the 3rd ring there are 4 long pencils pointing forward, on the 12th ring two pointing backward, partly accompanied by long yellow bristles; in the larval aberration of *harrisii* the pencils are, as mentioned above, white instead of black. It lives on different foliage-trees, especially on acorns, beeches etc., and turns in a web mixed with larval hair into a sepia-brown pupa yielding the imago after 3 or 4 weeks. The butterflies are mostly not rare and like to come to the lantern.
- cinctipes.* **H. cinctipes** Grt. (59 c). This species constantly differs from *tessellaris* only by the nomenclaturally used black rings on the tibial ends and foot-joints exhibited in the type, and perhaps the generally more brownish colouring, as well as the deep orange often warming into reddish of the abdominal dorsum. In various aberrations the species is distributed from Mexico to the south as far as South Argentina and is even to the south of Buenos Ayres not rare. — To the north it extends as far as Arizona, from where the ab. ***davisii* Edw.** (59 c) originates, distinguished by nearly all the dark bands being extinct, except the basal and cell-end-band of the forewing, and which may be a distinct species, occurring, however, also in other districts. — Another form is ***insularis* Rothsch.** (59 c) from Santa Lucia where, on the contrary, the transverse bands of the forewings are particularly dark and prominent, like the costal margin and proximal margin. — In ab. ***lucia* Strd.** (= ab. 3 *Hmps.*) from the same place the dark median band is connected yet with the forked band by a dark spot. — In ab. ***fumosa* Schs.** which may sometimes occur among typical specimens, the colouring is darker, particularly the hindwings are tinted brownish. — In ab. ***ata* Strd.** (ab. 1 *Hmps.*) the subterminal band is complete and sometimes connected with the marginal band. — ab. ***meta* Strd.** (= ab. 2 *Hmps.*) shows the subterminal band twice interrupted. These aberrations are neither bound to a certain locality. — The name ***meridensis* Rothsch.** (59 c), however, refers to a larger form with dark, complete and distinct bands, originating from Merida in Venezuela, from where, however, also normal though somewhat large *cinctipes* are before me. — ***tucumana* Rothsch.** (59 d) is quite a similar, likewise dark-banded, though somewhat smaller form from Tucuman in North West Argentina. *caripator* Dyar is presumably only an individual aberration from Mexico. — Larva sometimes lighter sometimes darker yellowish-brown, the tufty dorsal hair combed up to a dorsal quill, sometimes lighter yellowish-brown, sometimes chocolate-coloured; the pencils at the anterior and posterior ends long, whitish, head red-brown; it lives on Hibiscus, Coccoloba floridana, unifera, and other plants and changes into an oviform, solid cocoon. The butterfly is common in many districts, especially in the south.
- oslari.* **H. oslari** Rothsch. (59 d) is allied to *tessellaris*, but still paler, and in the distal part of the wing all the band-markings are blurred. Colorado.
- schausi.* **H. schausi** Rothsch. (59 d) greatly resembles *cinctipes*, but it is easily recognizable by the uninterrupted submarginal band, the paler total colouring, particularly also on the body; the hindwings are diaphanous whitish, with a yellow tinge at the proximal margin and border. From Mexico through Central America to Colombia. — ***pallida* Rothsch.** (59 d) shows a clear unmarked area from the subbasal region almost to the middle of the wing, and the band through the middle of the wing is uncoloured except a small ochreous-yellow costal spot. From Mexico to Callão in Peru. — ***braziliensis* Rothsch.** (= *ruscheweyhi* Dyar) shows, like *oslari* (59 d), in the distal part of the forewing the borders of the transverse bands quite blurred, but the costal and proximal margins are of a bright ochreous-yellow colour; South Brazil and Argentina.
- steinbachi.* **H. steinbachi** Rothsch. (59 d) is easily distinguished from the preceding by the much darker brown tinge of the forewings, particularly the transverse bands and the basal part being dark brown. Collected by GIACOMELLI in La Rioja in North West Argentina.
- interlineata.* **H. interlineata** Wkr. (= *jucunda* H.-Schäff.) (59 c) has the bases of the wings and the spot around and above the cell-end conspicuously dark brown, the subterminal transverse band often being entirely absent; Mexico, Central America and Peru. — In ***intensa* Rothsch.** (59 c), a much larger form from Costa Rica and Venezuela, which we figure from the Volcano Irazu, but which is before us also from Bolivia, this subterminal intermediate band is still present, but sometimes extremely thin.
- underwoodi.* **H. underwoodi** Rothsch. (59 c), in contrast with *interlineata*, has a distinct, dark submarginal band; the costal spots are yellowish-red narrowly bordered with black, and the median band is so broad that it almost or actually touches the cell-end spot below the costa; besides the abdomen beneath is spotted black. Mexico,

Costa Rica, Peru. — *instabilis* Dyar from Cuernavaca in Mexico shows the subterminal band between the lower radial veins and at the proximal margin reduced to a dot at the vein. — *orientalis* Rothsch. from Trinidad, Guiana and Brazil is smaller and paler, particularly the median band in the ♂ is scarcely coloured. — *modalis* Dyar is a form from Venezuela, in which the wings are yellowish, the bands of the forewings ochreous-brown.

H. fuliginosa Rothsch. (59 e) is at once recognizable by the dull brown colouring of the wings and the abdominal dorsum being black in the ♂, very dark yellowish-brown in the ♀. Beneath the body is orange, particularly the thorax. Mexico; the figure according to a specimen from Orizaba.

H. atra Drc. (59 e). ♂ deep sooty brown, ♀ somewhat lighter; from *fuliginosa* it differs by the absence of the terminal band of the forewing, where also the subterminal band is reduced to spots at the costa, proximal margin and between the radial veins. The hindwings of the ♂ bear a silky reflection in the sunshine. Abdomen blackish-brown, in the ♀ posteriorly yolk-coloured. Mexico and Guatemala, the figured specimens from Misantla.

H. bricenoi Rothsch. (59 f). Larger than *atra*, easily recognizable by the bands in the apical third of the forewing in both sexes being completely reproduced by the marking of their borders, though not by the colorial difference. Known only from Merida in Venezuela, from where also the figured specimen originates.

H. masoni Schs. (59 g). A very fine species. The bright orange-red forewing shows a straight, greyish-yellow median band traversed by the thick black veins, a similar demi-band at the cell-end and the same colours in the basal and marginal areas; thorax fiery light red. Beneath the median band, cell-end spot and base of the forewing are marked black, the wings otherwise golden yellow. Known only from Mexico. — The most peculiar distribution of the colours somewhat reminds us of *Anaxita decorata* occurring in the same district.

H. nero Weym. (59 f) and the following species deviate very much from the genus by their colouring, and *nero* was also described as *Amastus* and only placed to *Halisidota* by HAMPSON. Black, abdomen bright red, its base above black. From Joinville in Brazil.

H. dukinfieldia Schs. (59 f) is like *nero*, but the abdomen black, only the base and anal part red, the head and collar being red, too. South Brazil (São Paulo, Castro).

H. notata Schs. (59 f). Blackish-brown, head and thorax with pale yellow and purple red markings; abdomen posteriorly banded red, laterally spotted yellow. Forewing with pale yellow spots at the costal margin before, in and behind the middle, at the base of the proximal margin a faint stripe and a dot behind the middle. Hindwings whitish, margins and veins brownish, the brown at the border proximally irregularly defined; a triangular dark median spot. Size of the preceding. From Petropolis in the Organ Mountains, apparently an alpine insect and very rare.

H. triphylia Drc. (59 f) and the following species neither look like a *Halisidota*. Their ♂♂ are unknown. *triphylia* has unicolorously dark brown wings with black veins. Head, thorax, and the posterior third of the abdomen are yolk-coloured. From the Chiriqui in Panama.

H. humosa Dgn. (59 g) is slightly smaller than *triphylia*, the body quite similar in the colouring and structure, but the ground-colour of the unicolorous wings is more honey-yellow, for which reason the black veins are more prominent. The colouring and habitus somewhat recall *Pachydota striata* (55 i), *Ischnocampa nigrivena* (55 h) etc., but the ground-colour is greyer. Described from Loja, Ecuador; the figured specimen originates from the Upper Rio Negro (Colombia).

H. melaleuca Fldr. (59 g). White, neck and abdominal dorsum haired blackish-brown, forewings with pale ochreous-yellow embeddings, at the costal margin and border brown spots marked black, of which a large one is distally blackish-brown, proximally yellowish, and encloses the white cell-end spot. Hindwing in the ♀ with a dark marginal band. Beneath similar as above. From the Quindiu Pass in the Central Cordilleras of Colombia.

H. roseifasciata Drc. (59 g) and the following species also deviate considerably from the habitus of the other *Halisidota*, and both were also described as *Automolis*, though they would best form a special genus. Forewings honey-coloured with a brownish border and a yellowish-pink layer on the margins and above the middle of the wing, which however, varies greatly in the different specimens. Still more characteristic than the wings is the body: anterior part of the head, collar and abdomen orange, thorax light honey-coloured, before the abdominal end 3 narrow black transverse bands. Peru and Bolivia.

H. semibrunnea Drc. (59 g). All the wings blackish-brown at the margins, towards the base turning at first red-brown, then honey-coloured. Head, collar and base of abdomen yellowish-red, thorax light yellow, abdomen otherwise blackish-brown. Beneath the blackish-brown forewings are yellow towards the base, the apex being fiery red. Peru and Bolivia.

- rhoda*. **H. rhoda** *Hmps.* (59 g) and the following species already approach the next genera into which the genus *Halisidota* passes over without a distinct delimitation. *rhoda* is quite purple brown, the forewings with a dark cover and veins, the abdomen yellowish-red with dorsal black transverse veins. Bolivia.
- arenacea*. **H. arenacea** *Schs.* (59 h). Body yolk-coloured, forehead and metathorax light yellow, patagia with a black shoulder-dot. Wings somewhat diaphanous whitish-grey. Forewings with broad orange-yellow margins. Ecuador.
- semivitre*. **H. semivitre** *Dgn.* (59 i) resembles *arenacea*, but the wings are yellowish, almost hyaline, only the costal and proximal margins faintly honey-coloured; the shoulder-dots on the patagia are absent. Peru.
- agramma*. **H. agramma** *Dgn.* (59 i). Thorax and forewings yellowish dusty-grey strewn with small black scales. Head, costal and proximal margins honey-coloured; abdomen and hindwings dull white, the costal margin of the hindwing beneath tinged reddish-brown. Colombia and Peru.
- montana*. **H. montana** *Schs.* (59 i). Body and wings pale honey-coloured, thorax and abdomen above marked ochreous; forewing with a small dark spot at the cell-end, the costal and proximal margins tinted ochreous. Costa Rica.
- labaca*. **H. labaca** *Drc.* (59 h). Body and wings pale honey-coloured, at the costal margin, at the apical part of the border, and at the proximal margin brown spots which are much larger in the ♀ and sometimes form bands parallel to the border, sometimes also a dot at the cell-end. Mexico.
- flavescens*. **H. flavescens** *Rothsch.* (nec *Wkr.*) (59 i). Pale honey-coloured, body and forewings densely covered with a fiery reddish yellow, like the pale yellowish-pink hindwings without any real marking, only the veins somewhat more prominent. In the southern parts of New Mexico; apparently only 1 specimen known, which is in the Tring Museum. Presumably very closely allied to the following.
- margona*. **H. margona** *Schs.* (59 i). This species connects the *labaca*-group with the *Halisidota* from the group of *sobrina-distincta* etc. Body and wings of a bright yellow, head, thorax and forewings marked red with rings, chains and undulations on the forewings; in the ♂ the marking is often so fine that it cannot be well reproduced in the figure; distinct are only a dark dot at the cell-end and an inner-marginal stripe. Hindwings lighter and faintly diaphanous. Mexico, in some places not rare.
- anapheoides*. **H. anapheoides** *Rothsch.* (59 h) is denominated owing to its superficial resemblance to African *Anaphe*. Pale honey-coloured, body and margins of forewings reddish-yellow, like the veins on the forewing, and very faint traces of a submarginal stripe. From the Chiriqui in Panama.
- rufocinnamomea*. **H. rufocinnamomea** *Rothsch.* (59 h) is like the preceding species, but the forewing somewhat duller and more diaphanous and without the red-yellow veins. Peru.
- iridescens*. **H. iridescens** *Schs.* (59 h). Quite pale yellow, the wings diaphanous, with a black dot behind the cell of the forewing and one before the middle of the border on the hindwing. Thorax tinged yolk-coloured. The wings exhibit a greasy silky lustre. Venezuela, Peru.
- pallida*. **H. pallida** *Schs.* (59 i). Here the wings are also diaphanous, quite thinly scaled, but dull yellowish-grey. Body brown, tinged yellowish; on the patagia 2 shoulder-dots, on the abdomen black lateral dots. Ecuador, Peru and Bolivia.
- ordinaria*. **H. ordinaria** *Schs.* (59 h). Much more densely scaled than the preceding, forewings dark red-brown, like the thorax, hindwings diaphanous whitish-yellow, abdomen posteriorly yolk-coloured, beside the lateral dots also transverse spots on the dorsum of the abdomen. From Petropolis in the Organ Mountains.
- melanoproctis*. **H. melanoproctis** *Hmps.* (49 a). Body dark brown, head and prothorax reddish-yellow, forehead white; abdomen posteriorly white-haired. Wings hyaline, only the marginal area of the forewing dark brown with a subterminal chain of orange-red crescents. Costal and proximal margins of all the wings tinged yellowish-red. From Peru.
- picata*. **H. picata** *Rothsch.* (49 a). Size and shape of the preceding, but the body quite whitish, on the patagia and abdominal end marked dark. Forewing diaphanous whitish, only beyond the middle, the apical half and the proximal margin broadly suffused with brown; a white, antemarginal undulate line; the border behind it broadly rusty-red. Peru.
- ockendeni*. **H. ockendeni** *Rothsch.* (49 a). Size and shape of the preceding, but the hyaline forewing in the distal half speckled blackish-brown, border tinged yellow. Abdomen yolk-coloured. Peru.
- leria*. **H. leria** *Drc.* (49 a). Thorax brown, abdomen blackish. Forewings thinly scaled, grey, at the base and margins suffused with a brownish yellow, all over strewn with black atoms. An antemarginal chain of light crescents, the border behind it yolk-coloured. Hindwings dirty diaphanous white. Ecuador.
- semifulva*. **H. semifulva** *Drc.* (49 a). Body whitish, forewings hyaline dull white, distal half suffused with grey, a broad, light yellow marginal band is proximally defined in small arches against the dark colour of the wing; at the border dark vein-dots. Peru.

H. maasseni *Rothsch.* (49 a) greatly resembles the preceding, with narrower wings, of a duller tinge, *maasseni*. the thorax and abdomen ochreous. Forewing with a nebulous undulate stripe before the lighter border, which exhibits a dull brownish not light yellow layer, and with a dark cell-end. Peru.

H. tolimensis *Rothsch.* (49 b) already looks entirely like a *Hemihyalea*. It has diaphanous forewings *tolimensis*. very scantily scaled brown, the only marking on them consisting of a hyaline white, scarcely prominent, sub-marginal undulate line and of a feebly dark cell-end mark. The species is easily recognizable by the entirely white head contrasting brightly with the brown thoracic dorsum. Abdomen again covered with lighter hair. Colombia; the figured specimen taken by A. H. FASSL on Mt. Tolima at an altitude of 3200 m.

H. conspicua *Maass.* (47 f). Body dirty brown, wings dull hyaline, in the disc diaphanous, the margins *conspicua*. smoky dark and ochreous. Entirely like a *Hemihyalea*. Peru.

H. vitreata *Hmps.* (49 b). Body dark brown, shoulders marked black, abdominal dorsum tinged *vitreata*. yellowish-red except the black apex. ♂ wings quite hyaline, only the costal margin of the forewing faintly yellowish. The ♀ has the margins of the forewing tinged yellowish-red, the distal part being faintly strewn dark, the hindwings pale reddish ochreous. Peru.

H. leda *Drc.* (49 b). One of the largest species. Body and wings brownish ochreous, in the disc the *leda*. wings are diaphanous. Through the distal part of the forewing extend 2 transverse rows of small, indistinct, dark dots. Blackish dots are also on the patagia, one at the shoulder, one at the apex. From Dominica.

88. Genus: **Psychopasma** *Btlr.*

One medium-sized species with hyaline wings, described as *Halisidota*, was placed into this genus and is at once discernible by the different contours of the apical part of the forewing, where the border is gnawed out below the apex, which process is repeated, though in a less degree, above the middle of the border. This is the case in both sexes and is accompanied by a somewhat deviating course of the subcostal veins. The species is widely distributed and nearly everywhere common.

Ps. erosa *H.-Schäff.* (= *albidator* *Wkr.*, *vitripennis* *Wkr.*) (49 b). Wings hyaline, only the margins *erosa*. and veins in the forewing ochreous-yellow, marked blackish-brown; particularly conspicuous is a blackish-brown costal spot above the middle of the cell. Numerous small dots between it and the base of the wing, 2 black parallel streaks above the distal half of the proximal margin and brown bordering of the distal-marginal part below the apex, particularly at the excised place. From Mexico through Central America and Brazil to Peru, nearly everywhere common.

89. Genus: **Exemasia** *Dyar.*

This genus was established for one quite unicolorously pale yellow butterfly from Mexico, exhibiting the size and habitus of a *Halisidota*, but with very densely and long-pinnated antennae reminding us of an *Antarctia* or *Palustra*. It seems to be allied to those (resp. the *Euchaetias*) and *Apantes* by the tufted head and the fleece-like hairing of the thorax.

E. ochropasa *Dyar* (48 c). Quite pale yellowish-white. Body, wings, antennae and legs quite uni- *ochropasa*. colorous. Recognizable by very long hairy fringes on the femora and tibiae of the ♂. I do not know the ♀; the figured specimen from Mexico.

90. Genus: **Hemihyalea** *Hmps.*

This genus contains 36 forms and is allied both to the *Halisidota* and the *Amastus*. The wings show throughout a very scanty scaling, sometimes even none whatever, and the species are therefore very difficult to discern; nothing is known of their habits; nearly all the specimens known are presumably taken at the lantern to which the insects come flying rather clumsily and on which they run about awkwardly with their long legs and heavy posterior body. Proboscis strong, palpi below haired like a brush, the third joint not stunted. Antennae long like those of nearly all the *Phegopterini*, in the ♂ also with rather long double pinnae. Abdominal dorsum almost invariably glaring red or orange, in the ♂ often with distinctly projecting clenched appendages. In the forewing the two first subcostal veins rise before the cell-end, the footstalk of the 3rd to 5th is long; the two lower radials come from one dot of the lower cell-angle; in the hindwing they have a short footstalk. Only 3 species reach the southern part of the United States, the others inhabit Tropical America to the south of Mexico.

- subtenuimargo.* **H. subtenuimargo** *Rothsch.* (49 c). Wings hyaline, except the margins, the apex very brownish. Costal and proximal margins with a yellowish-brown stripe, the border with a proximally indistinct, narrow, dark brown marginal band. The border of the hindwing narrow yellow; head and thorax dark brown, forehead whitish, abdomen vermilion. Taken by FASSL on Mt. Tolima in Colombia.
- brunnescens.* **H. brunnescens** *Rothsch.* (49 d) is quite similar, but the brown distal margin of the forewing is broader, the costal stripe very narrow, the hindwing in the proximal half rosy. Colombia and Peru.
- fusca.* **H. fusca** *Rothsch.* (49 c) likewise entirely resembles *subtenuimargo*, but the brown border of the forewing is narrow, towards the hyaline ground of the wing more distinctly defined, and besides the base of the forewing is broadly brown. In typical specimens the head and thorax is of a very deep dark brown; — in the form **peruviana** *Rothsch.* from Carabaya in Peru the head and thorax are of a lighter brown. — **colombiana** *Rothsch.* from Bogotá in Colombia has the margins of the wings paler, too, besides the head and thorax.
- ergana.* **H. ergana** *Dgn.* (49 c). In this somewhat smaller form the whole wings are tinged yellowish, head, prothorax and patagia are ochreous yellow, mesothorax and the whole abdomen rosy-red. From Colombia and Venezuela to Peru and Bolivia.
- debilis.* **H. debilis** *Rothsch.* (49 c). Also here the wings are quite yellowish, at least the veins yellow also in the hyaline ground of the wings, but the apical part of the forewing is darkened and the abdomen, which is of a bright red nearly in all the other *Hemihyalea*, is here yolk-coloured, above often yet covered with grey hair. Before me only from Merida (Venezuela).
- tenuimargo.* **H. tenuimargo** *Dgn.* (49 c). Entirely like *subtenuimargo*, but smaller, the wings clearer, without the dark border, the terminal third of the abdomen, however, dark brown. Colombia.
- parergana.* **H. parergana** *Dgn.* (49 d). In this species the forewings are on the whole not so hyaline as in the preceding, but slightly darkened by red-brown, particularly at the margins, round the cell-end of the forewing, at the proximal margin and base of the forewing; on the forewing a whitish, antemarginal, undulate line. From Colombia; Tolima, Quindiu Pass.
- erganoides.* **H. erganoides** *Dgn.* (♀ = *orientalis Rothsch.*) (49 d). Head and thorax of a bright red-brown, abdomen vermilion, the wings quite hyaline, but with yellowish-pink margins. Venezuela.
- argillacea.* **H. argillacea** *Rothsch.* (49 d). Entirely like *erganoides*, but the head and thorax of a bright yolk-colour. Found in the Gold Mountains in Oregon, reported also from Guatemala.
- vitreata.* **H. vitreata** *Rothsch.* (49 c). Almost exactly like *debilis*, also with a dull yellow abdomen, but the wings of a purer hyaline, only the proximal half of the hindwing more intensely yellow; discernible by the bright white upper head and collar. Mt. Tolima in Colombia.
- hyalina.* **H. hyalina** *Dgn.* (47 g). Described from Loja in Ecuador, but our figure according to a specimen determined as „*hyaline Dgn.*“ by DOGNIN himself, but having been captured by FASSL on Mt. Tolima at an altitude of 3200 m. Wings quite purely hyaline, the margins and body light yellow, marked whitish.
- vitripennis.* **H. vitripennis** *Hmps.* (= *hyalina Drc. nec Dgn.*) is quite similar, though smaller, the hairing of the abdominal dorsum more ochreous yellow, the margins of the wings fine whitish. Mexico (Guerrero).
- alba.* **H. alba** *Drc.* (49 d) is quite similar, but the body and the margins of the wings white, prothorax and abdominal end very little marked greyish-brown. Size of *hyalina Dgn.* Mexico and Central America.
- cornea.* **H. cornea** *H.-Schöff.* (49 c). The ♀ entirely like *alba*, but very much smaller; the ♂ has a somewhat more yellowish border of the forewing with traces of a whitish, undulate subterminal line, and the dorsum of the abdomen tinted red. Colombia and Venezuela.
- daraba.* **H. daraba** *Drc.* from Mexico was reckoned to *cornea*, but it has well developed brown costal spots at the costal margin of the forewing. Mexico (Jalapa).
- rhoda.* **H. rhoda** *Drc.* (= *fuscescens Rothsch.*) (49 c) is like *daraba*, but the forewings are uniformly tinged reddish-brown, and the abdomen is above red-haired. Mexico and Central America. — ab. **hidalgonis** *Dyar* are specimens with very dull traces of light transverse bands on the forewings.
- testacea.* **H. testacea** *Rothsch.* (49 c). The ♂ differs from *cornea*-♂ by the absence of the whitish subterminal macular chain of the forewing; the ♀ shows the forewings thinly, though uniformly covered with red-brown. Mexico and Central America.
- annaria.* **H. annaria** *Dyar* differs from *testacea* only on the forewing by an antemarginal row of quite obsolete, sometimes scarcely distinguishable, small dark rings with light pupils. Costa Rica.

H. ochracea *Rothsch.* (49 e) has likewise as *testacea* a dark ochreous tinge on the forewing exhibiting *ochracea*, dull light spots at the costal margin and in the disc. Mexico, Panama.

H. mansueta *Edw. nec Drc.* (49 g) has on the forewing distinct transverse bands formed of chains *mansueta*, of spots. Hindwing at the apex brown, a part of the proximal margin is tinted pink. Mexico and Costa Rica; the figured specimen is from the Volcano of Irazu. — *ab. niger ab. nov.* (49 f) is an entirely black form occurring *niger*, on the Volcano of Irazu beside genuine *labecula* and somewhat recalling *melas*, from which, however, it differs by the forewing being black in the ♂ and by the veins.

H. battyi *Rothsch.* (49 g) is much larger than the preceding, the wings being but very slightly *battyi*, transparent. Forewing red-brown with transverse chains of yellow spots and a broad ochreous-yellow antemedian band. From Colombia. — In the form *oligocycla form. nov.* (49 g) from the Irazu in Costa Rica the antemedian *oligocycla*, band is absent, and the small spots of the other transverse bands of the forewing are so much reduced that they are no more contiguous.

H. edwardsi *Pack.* (= *translucida Wkr.*, *quercus Bsd.*) (49 f) is the largest species. The wings are *edwardsi*, rather hyaline in the disc, but at the costal and proximal margins of the forewing we notice distinct spots of a yellowish-pink tint representing the beginnings and ends of transverse bands more or less distinctly running through the forewing. California and Oregon.

H. labecula *Grt.* (49 f) is very similar to *edwardsi*, just a wee bit smaller, but the spots at the costal *labecula*, and proximal margins of the forewing are less distinct, the whole insect greyer, also the hindwing not of such a bright pink tinge as in *edwardsi*. Colorado and New Mexico. — The form *mansueta Drc. nec Edw.* (49 f) is much *mansueta*, larger, as large as *edwardsi*, but almost without any trace of a pink tinge on the wings which are light whitish-yellow, intermixed with a greyish brown, with distinct dark spots at the costa and proximal margin. This form is known from Mexico.

H. splendens *Hmps.* (49 g) was formerly regarded as a form of *labecula* which it resembles extra- *splendens*, ordinarily, in fact, except the thorax being more distinctly marked dark and the abdomen being posteriorly decorated with dark transverse bands. The spots on the forewing are also more distinct than in *labecula*, though not so distinct and dark as in *mansueta Drc.* — The 3 latter forms are probably not in all cases distinctly separable, particularly not in the much flown specimens, just like *rhoda*, *daraba*, *testacea*, and *annaria* which are merging one into another.

H. euornithia *Dyar* (49 h) from Guerrero in Mexico is much smaller, the forewing is dark brown, *euornithia*, intermixed with white bands and spots.

H. nimbipecta *Dyar* (49 g), from the same district, has a much darker forewing through which but *nimbipecta*, slightly lighter, not white transverse bands extend, with a faintly lighter basal part. The hindwing, however, is more intensely tinted pink, and the imago is larger, almost like *splendens*.

H. xanthosticta *Hmps.* (49 h) is dark brown, thinly scaled though without any really hyaline places. *xanthosticta*, Forewing with 2 transverse (antemedian and postmedian) chains of yellow spots, and a subterminal undulate shade; abdomen orange. Much smaller than *nimbipecta*. Ecuador and South Brazil.

H. diminuta *Wkr.* (49 h) is quite similar, though of a lighter colour, the hindwing more diaphanous, *diminuta*, and the two chains of yellow spots on the forewing are more faded. South Brazil.

H. utica *Drc.* (49 h) from Mexico, like the two preceding species, differs rather much from the total *utica*, character of the *Hemihyalea*, it is of a more slender structure, with narrower wings and an almost straight margin of the hindwing. Forewing densely striated and dotted black, traversed by dingy white, densely strewn bands, an angular one of which is situate near the base, a shortened one at the cell-end, and another one before the marginal third.

H. melas *Dgn.* (49 h). Head, body, and forewing uni-coloured dark brown. Hindwing diaphanous, *melas*, in the ♂ white, in the ♀ brown. Colombia and Peru. — This species presumably hardly belongs to this genus, since it differs by its very clumsy structure and relatively shorter wings and antennae, as well as by the absence of a lower discocellular, provided the figure in HAMPSON's Catalogue, which we copied, be correct. The species is not before me; the ♀ which DOGNIN described as *Opharus melas*, is in his collection, whilst the type of the ♂ is in the National Museum at Washington.

91. Genus: **Amastus** *Wkr.*

This genus, exhibiting mostly large imagines of a clumsy body and with thinly scaled wings, numbers to-day about 70 forms all of which are confined to Tropical America, not a single-form reaching anymore to the United States. It approximates the *Hemihyalea* to such an extent that some species fluctuate between the two genera, and their difference of the upper median branch of the forewing rising in *Amastus* nearer at the lower cell-angle, in *Hemihyalea* more remote from it cannot be relied upon, since this distance varies a great deal in the single species of a genus and even in some species (*ochraceator*, *aconia*) individually. Like the

Hemihyalea, also the *Amastus* are rather uniformly built imagines with mostly very plain colouring and marking and are for this reason also very difficult to ascertain. Although great numbers of specimens from this genus were brought to Europe by BRICENO from Venezuela, by GARLEPP from Peru, and by FASSL from Colombia, yet this material only refers to but few species, and about many others there still prevails a certain haziness. — As the essential mark of distinction of the genus we may mention the mostly very large male genitals by which they approximate the *Hemihyalea*, and the frequently extraordinarily long antennae resembling those of the *Opharus*. The abdomen almost invariably shows a distinct premonitory colour being orange-red or crimson and is often laterally decorated with rows of variegated rings, frequently also the clasping-organ projects distinctly at the end of the abdomen and is separated from the coloured part of the abdomen by scaleless chitinous plates. As to the habits and early stages nothing has become known to me except that the imagines come to the lantern in the evening, sometimes on certain swarming evenings in great numbers and often rather late.

- albipuncta*. **A. albipuncta** Hmps. (47 a) is one of the most beautiful species with dark brown, blackish-banded forewings recognizable by the red-marked head and collar, and snow-white dots on the frons, dorsum, thoracal and abdominal sides; abdomen purple orange. From Venezuela to Peru and Bolivia. The figured specimen from the Rio Songo.
- suffusa*. **A. suffusa** H.-Schäff. is quite similarly coloured as *albipuncta*, but instead of the dark bands of the forewing there are whitish, often double chains of crescents, and the mesothorax is vermilion. In typical *suffusa*, as HERRICH-SCHAEFFER figures it from Venezuela, the head and thorax are in front dark brown; — in the *orosiana* form **orosiana** form. nov. (47 e) of which numbers are before me from the Volcano of Irazu in Costa Rica, the head and prothorax are yellowish-grey, with an orange, black-edged collar-marking on the tegulae and patagia; the subterminal chain of small crescents on the forewing is somewhat more irregular, since the small luna between the upper radial branches projects farther towards the base. — In a third, very similar form, **hampsoni** Rothsch., from Paramba in Ecuador, the subterminal chain of small lunae is as in *orosiana*, but the wings exhibit brighter colours and markings, the thorax has a dark brown ground-colour, and the abdominal dorsum is of a deep hemochrome. — Apparently not rare.
- affinis*. **A. affinis** Rothsch. (48 a) from Ecuador and Peru is quite similar to *suffusa*, chiefly different by the subterminal line not being deeply dentate, but only slightly undulate and separating a bright red-brown marginal band from the grey, brown-banded ground of the wing.
- formosana*. **A. formosana** Schs. from El Saltadilla in Argentina has the size of *suffusa orosiana* (47 e), in the forewing the dark transverse bands are so broad that they are confluent at the costa and proximal margin and leave only two bands of the ground-colour between them, the proximal one of which is band-shaped before the middle, the distal one Y-shaped behind the middle; the latter is confluent with the subterminal chain of small lunae behind the cell-end. The type is in the National Museum at Washington; I know the species only from HAMPSON's figure which was made according to a somewhat rough draft.
- ambrosia*. **A. ambrosia** Drc. (47 a) is dull earth-coloured brown with almost yellow hindwings and a crimson abdomen. The forewing is not banded, but coarsely striated, only before the distal margin there is a dentate transverse stripe separating the lighter reddish marginal part from the darker disc. Colombia to Ecuador.
- thermidora*. **A. thermidora** Dgn. is one of the largest species with very broad, dark red-brown forewings crossed by 3 narrow transverse bands: a subbasal arcuate one, a median dentate band across the cell-end, and a sharply dentate antemarginal band; the dark hindwing exhibits light antemarginal crescents. From Loja in Ecuador. — A similarly marked form, though with narrower wings and a light striated ground-colour was captured by A. H. FASSL on Mt. Tolima in Colombia, at an altitude of 3200 m; I denominate it **peralta** form. nov. (47 a).
- volcancita*. **A. volcancita** Dgn. (48 a), founded upon a ♀ from the Quindiu Pass, which was likewise captured by A. H. FASSL, is very closely allied to the preceding, particularly to the form *peralta*; but the forewing is so much intermixed with light striae that the transverse bands disappear, except faint traces, and only round the cell-end there is a broad light spot.
- mesorhoda*. **A. mesorhoda** Wkr. (47 b) is like the preceding similar to *ambrosia* Drc., but the shoulder-covers are proximally edged with white, the abdomen is blackish-brown beginning from the 4th ring. The forewing is more equably blackish-brown with a red-brown marginal part being defined by a regular arcuate line; hindwing darkened, margined with yellowish. Colombia.
- phaeosoma*. **A. phaeosoma** Hmps. (47 b) is very similar to *mesorhoda*, but the forewing is more intensely striated light, the marginal area is not so light red-brown, and the abdomen is uniformly greyish-brown, only very feebly tinted red-brown.
- erebella*. **A. erebella** Mssn. (47 a) is smaller than the preceding; forewing sepia-brown, in the disc somewhat diaphanous, feebly intermixed with yellowish-brown striae. Abdomen and thorax dark red-brown, towards

the base above haired pinkish-red. Hindwing ochreous, in the disc diaphanous, at the margin brownish. Recognizable by the antemarginal band being more flatly undulate. Colombia to Ecuador.

A. umber *Rothsch.* (47 b). Head, thorax and forewing chestnut-brown, the latter with very feebly *umber*. lighter bands. Hindwing diaphanous chestnut-brown with darker margins; abdomen above miniate, the apical part warming into a golden yellow. From Merida in Venezuela.

A. paramensis *Dgn.* (48 b) is much larger than *subterminata* (p. 421), very similarly coloured, but the *paramensis*. forewing is more brightly striated light, and the subterminal band is just a bit lighter than the ground-colour. It is twice undulated, but at the anal angle about just as broad as at the costa, whilst in the preceding it is here not half as broad as at the costal margin. Colombia.

A. tolimensis *Rothsch.* (48 b) is quite greyish-brown, tinted yellowish-brown, the forewing almost *tolimensis*. unmarked, only with a yellowish brown, not undulate, but a slightly curved subterminal band. Hindwing in the centre lighter whitish. Captured by FASSL on Mt. Tolima in Colombia.

A. rufator *Wkr.* (47 b). Thorax and forewing monotonously deep red-brown, the subterminal line is *rufator*. light, undulate, proximally shaded with dark. Colombia.

A. rufescens *Rothsch.* (48 a) is quite similar to *rufator*, the forewing is almost exactly alike, darker, *rufescens*. but the hindwing is not tinged yellowish as in *rufator*, but pink, and the abdomen is here hemochrome. Peru. — ab. **rothschildiana** *Strd.* is a specimen from Peru in the Tring Museum, in which the subterminal band of *rothschildiana*. the forewing is extinct and the dark shade at the cell-end replaced by 2 dark dots.

A. coprophora *H.-Schüff.* (48 b) has the forewing uni-coloured brownish-violet with a light, feebly *coprophora*. undulate subterminal band, the body is orange, the thorax marked violettish-grey. Colombia and Venezuela.

A. medica *Dgn.*, hitherto only known from Loja in Ecuador, is somewhat larger than *rufator* (47 b). *medica*. Thorax and abdomen above purple pink, shoulders and collar olive-yellow, forewing dark red-brown with a dark spot at the cell-end, and a postmedian light transverse band expanding into a spot at the costa and proximal margin.

A. ochraceator *Wkr.* (47 e). Body yolk-coloured, head and thorax marked greenish, forewing *ochraceator*. diaphanous tan-coloured, with a light, undulate subterminal band and a Y-shaped, broad median band. From Mexico to Bolivia, mostly common.

A. aconia *H.-Schüff.* (47 d) is very similar to *ochraceator*, but the head is all white, only before the *aconia*. eyes very finely margined with orange. Thorax white, with orange marking. Abdomen yolk-coloured. Wings quite diaphanous light tan-coloured with dark veins and dull nebulous bands. Costa Rica and Colombia to Venezuela. One of the largest species; common on the lantern.

A. persimilis *Hmps.* (47 e) is almost exactly like *ochraceator*, but the head and thorax above are marked *persimilis*. white. In the ♀ the hindwing is grey. Ecuador, Peru and Bolivia.

A. rumina *Dre.* (= *aconia Dre.* nee *H.-Schüff.*) (48 a) so much resembles the preceding that both *rumina*. the species are often found intermingled in the collections. *rumina* has still more hyaline wings than *aconia*, though they are more intensely tinged tan-coloured, the head is all white and the thorax preponderately so, the orange colour only being left on a narrow stripe on the patagia, the posterior edge of the tegulae, and a stripe on the sides of the mesothorax. Apex of ♂ abdomen black. Costa Rica.

A. genoveva *Dgn.* (47 f). Forewing almost exactly coloured and marked as in *aconia*, but at the *genoveva*. costal margin with a yellow, at the proximal margin with a brown longitudinal stripe. Easily recognized by the mesothorax and abdomen not being yolk-coloured as in *aconia*, but hemochrome. Head, prothorax and patagia white with a honey-coloured tinge; of the same colour are the sides of the abdomen. Merida in Venezuela.

A. coccinator *Schs.* (47 e). Body quite purple pink, head and thorax marked white. Forewing *coccinator*. diaphanous red-brown, the darker marginal third traversed by a submarginal band. Hindwing quite hyaline. From Colombia and Venezuela to Peru and Bolivia, apparently not rare.

A. episcotosia *Dgn.* (47 e). At once recognizable by its gigantic size as well as by the thickly dark- *episcotosia*. sealed forewing and the dark brown colouring, and by the white bands on the thorax and abdominal end. Described from Panama; the figured specimen from Orosi, the volcano of Irazu in Costa Rica.

A. elongata *Fldr.* (47 f) is very much smaller than *episcotosia*, the forewing not so dark brown, with *elongata*. a light costal-marginal stripe and light, incomplete transverse bands. Abdomen red with a yellow apex, hindwing yellowish-brown, towards the margin darker. Recognizable by the remarkably long and narrow, almost Sphingid-like forewings. Guiana and South Brazil.

- alsa.* **A. alsa** Drc. (47 d) is smaller, but with broader wings than the preceding, the forewing diaphanous chestnut-brown, with a broad, light submarginal band. The whole body is also uniformly dark red-brown, and the hyaline hindwing is tinted so. Dominica (Peru).
- pseudocollaris.* **A. pseudocollaris** Rothsch. (48 b). Forewing diaphanous brown with a blackish transverse anteromarginal stripe and dark shades in the costal area. Head and thorax marked white and orange, abdomen deep orange-red. From the Volcano of Chiriqui in Panama.
- collaris.* **A. collaris** H.-Schäff. (48 c). Forewing violettish-brown, very diaphanous with a yellowish-brown marginal area before which there is a triple arcuate light brown transverse band. Hindwing whitish hyaline. Head and thorax orange, marked white; dorsum of abdomen orange, apex of it black, laterally and behind spotted white. Venezuela, Colombia, and Ecuador to Peru.
- flavidus.* **A. flavidus** Dgn. (47 d). Forewing crossed by black transverse stripes, and with a dentate subterminal line. The subbasal transverse stripe is curved, the two median ones in the disc extinct, the postmedian stripe broad and straight. Abdomen yolk-coloured. Colombia; the figured specimen from Pacho, Eastern Cordilleras.
- maculicincta.* **A. maculicincta** Hmps. (47 d) from Bolivia exhibits on the forewing beside the dark transverse bands, before the marginal third, a curved chain of black, yellow-pupilled rings. Abdominal dorsum hemochrome, behind black and white.
- flavicauda.* **A. flavicauda** Rothsch. (48 c) is larger, lighter, instead of the curved chain of rings before the marginal third of the forewing of *maculicincta* there is a faded chain of spots, in the marginal area itself a row of small subterminal crescents. Dorsum of abdomen hemochrome, behind hemochrome. Costa Rica and Panama.
- rosenbergi.* **A. rosenbergi** Rothsch. (48 c) is similarly marked to the preceding, darker, the transverse bands of the forewing distinct and complete, the antemedian and median transverse bands are broad, in and before the marginal third one chain each of dark brown ring-spots parallel to the margin. Abdomen hemochrome. Colombia.
- antonio.* **A. antonio** Dgn. (48 c) is one of the southernmost species, from Tucuman, and already rather small. Forewing lead-coloured grey, with dark veins, a dark shade at the cell-end, and a whitish submarginal undulate line. Hindwing hyaline white, abdomen hemochrome.
- rhodator.* **A. rhodator** Hmps. (47 e), from the Bolivian district neighbouring to Tucuman, is very much like *antonio*, somewhat larger, the cell-end spot of the forewing is not so much shaded, the submarginal, small white lunae are more pointed.
- cymothoë.* **A. cymothoë** Drc. (48 a). Wings hyaline, the forewing at the costa and proximal margin whitish speckled with dark brown, the head red and white, thorax brown and white, the abdomen above hemochrome with a black centre. Colombia and Bolivia.
- fulvizonata.* **A. fulvizonata** Hmps. (48 d) is on the wings almost exactly like *cymothoë*, but the thorax is almost entirely white, in front marked red and brown, and the dorsum of the abdomen is quite vermilion without a black centre. Colombia to Peru.
- minerva.* **A. minerva** Dgn. (47 f) has the body exactly like in *cymothoë*, i. e. the abdomen is red with a black dorsal centre, but on the forewing the costal and proximal-marginal spots represent the beginnings and ends of brown bands traversing the whole forewing. Colombia to Bolivia.
- watkinsi.* **A. watkinsi** Rothsch. (48 e) is somewhat larger than *minerva* and *cymothoë*, the forewing traversed by dark bands, with a white basal area and a broad white median band. Abdomen yolk-coloured, laterally spotted black. Peru.
- steinbachi.* **A. steinbachi** Rothsch. (48 e) is the most beautiful and variegated species; forewing crossed by brown and white transverse lines and bands, as well as by chains of yellow spots and crescents. Thorax white, finely marked purple brown, abdominal dorsum haired hemochrome. From Tucuman (Argentina).
- polystrigata.* **A. polystrigata** Dgn. (47 e) has quite the shape of the wings of *Hemihyalea* to which it is probably more closely allied than to most of the *Amastus*. Forewing bone-coloured, recognizable by the numerous white and dark brown transverse striae. Abdomen yolk-coloured. Guiana, Venezuela and Peru; the figured specimen from the Upper Rio Negro.
- aurantiacus.* **A. aurantiacus** Rothsch. (48 d). Like the preceding with numerous bone-coloured and dark brown transverse striae on the forewing, but the ground-colour of the body and wings is a fiery purple pink, in some places tinted yellow. Tegulae and patagia with black dots. From the Chanchamayo in Peru. It was described as *Opharus*; nor is it probably a genuine *Amastus*.
- drucei.* **A. drucei** Rothsch. (48 e) resembles *rufescens* (48 a), but the submarginal line is more finely undulate, and the ♂ hindwing only at the margin tinged red, otherwise hyaline. Abdomen scarlet. Peru.

A. dognini Rothsch. (48 e) is almost exactly like the preceding, the subterminal line is somewhat *dognini*. more irregularly undulate, and there are traces of a light median band; hindwing almost to the margin hyaline. Like the preceding from San Domingo in Peru.

A. cinnamomea Rothsch. (48 e). This species also originates from Peru and chiefly only differs from *cinnamomea*. *drucei* by the bright cinnamon-red colouring of the forewing and the brown, not hemochrome abdominal dorsum. The subterminal line of the forewing is proximally shaded with dark.

A. nigrescens Rothsch. (47 f as *subterminalis*). Body and forewing deep dark brown, so that the darker *nigrescens*. cell-end spot is hardly prominent; an antemarginal row of small light crescents. Hindwing diaphanous red-brown. Peru.

A. pseuderebella Rothsch. Forewing diaphanous blackish-brown, hindwing hyaline, body blackish- *pseuderebella*. brown, only round the base of the abdomen some reddish hair, which may, however, vary in the different specimens. Colombia. — DOGNIN described an insect as **subterminata** which we figure (47 g), and which is *subterminata*. labelled by DOGNIN's own hand as „subterminata“; it differs from *pseuderebella* Rothsch. (= *erebella* Hmps. p. p.) so little that it is hardly noticeable in the figure. But on holding it towards the light, we notice traces of an undulate subterminal line, which disappear in bright light, and the reddish hairing at the base of the abdomen is so well hidden beneath the dark hair that it is only well noticeable on being looked at laterally. By reason of this specimen (in the collection of A. H. FASSL) being labelled „Mt. Tolima, 3200 m“, *subterminata* is hardly more than a race allied to the type.

A. deinella Hmps. (48 d) is quite similarly coloured to the preceding and of the same size, but the *deinella*. head and metathoracal border are orange, and the hindwing is more densely scaled and tinted reddish. Peru.

A. tristis Rothsch. (48 f) is very similar to *deinella*, but much smaller, the forewing towards the margin *tristis*. more intensely darkened, the abdomen at the base yellowish-red, behind yolk-coloured. Colombia, Peru.

A. palmeri Rothsch. (48 f). Wings like in *tristis*, but the whole abdomen from the base to the apex *palmeri*. of a bright orange colour. West Colombia.

A. ferreobrunnea Rothsch. (48 f). Forewing hyaline, only the margins and apical part are dark brown, *ferreobrunnea*. the hindwing hyaline, tinged with yellow. Body yellowish-brown with a white apex of the abdomen. Larger than the two preceding. From Mt. Tolima in Colombia.

A. scriblita Dgn. (47 g). Wings and body bright reddish yellowish-brown, the forewing less diaphanous *scriblita*. than the hindwing. Forewing with a more intensely and darker scaled stripe of the proximal margin. Body densely haired reddish yellowish-brown, in the posterior third the segments are slightly bordered with dark. The ♀ is somewhat paler coloured than the ♂. From the Quindiu Pass, Colombia.

A. tumbilla Dgn. (47 f), being unknown to me in nature, is a small species with a very thick, squat *tumbilla*. body and antennae which, according to the figure, are almost as long as the costa of the forewing. Colour yellowish-brown, without the reddish tinge of the preceding species, the forewing proximally, the hindwing as far as the margin hyaline. From Loja in Ecuador.

A. rubridorsata Dgn. (48 g) strikingly recalls some *Hemihyalea*; the wings are throughout hyaline, only *rubridorsata*. the costa and proximal margin of the forewing and the apical part of the margin of the hindwing are feebly tinted ochreous-white. Head, prothorax, and patagia creamy-white, tinted ochreous; collar, sides of the thorax, centre of the thoracal dorsum, metathorax and dorsum of abdomen except the creamy white apex purple red. Antennae long, yellowish-red. Colombia and Peru.

A. diaphenes Dyar. The type of this Colombian species, being unknown to me, is in the National *diaphenes*. Museum in Washington. According to the figure, it only differs from the preceding by the veins being somewhat marked red-brown, and the abdominal dorsum being red warming into yellow, as well as by the dark orange thorax.

A. childi Rothsch. (♀ = *lehmanni* Rothsch. *) (48 f). Body yellowish-grey, the prothorax and apex *childi*. of abdomen tinted ochreous. Forewing diaphanous red-brown, with a light antemarginal stripe; hindwing yellowish hyaline, the costal margin tinted red-brown. Colombia.

A. rothschildi Dgn. (48 f) is quite similar to *childi*, larger, different by the likewise red-brown body *rothschildi*. with a white face and a lighter abdominal apex, and by the hindwing being brightly tinged red-brown. Colombia.

A. erebelloides Rothsch. (48 d). Thorax and forewing darker, chestnut-brown, otherwise similar to *erebelloides*. the preceding, though larger, except the head also the collar is yellow, the basal half of the abdomen is above purple red, the posterior half blackish. Peru.

*) *Amastus childi* = *Hemihyalea lehmanni* Rothsch. Nov. Zool. 23, p. 269 nec *Elysia lehmanni* Rothsch. Nov. Zool. 17, p. 46.

- muscosa*. **A. muscosa** Rothsch. (48 g). Dark brown, also sepia-coloured, the forewing finely watered with a darker colour, before the marginal area darker than in the marginal area and basal half. Hindwing hyaline, faintly tinged yellowish. Body uni-coloured dark brown. Peru.
- edaphus*. **A. edaphus** Dyar resembles *muscosa*, but it is larger (80 mm). Head, thorax above and the forewing sepia-brown, but the marginal area darker. Abdomen and hindwing yellow, the latter with a sepia-brown costal and apical part. Mexico, discovered by ROBERTO MÜLLER in Tehuacan.
- postflavida*. **A. postflavida** Rothsch. Wings almost entirely coloured as in the two preceding, but the abdominal dorsum behind sulphur-coloured, the 4 last rings edged with black and partly with a blackish partition-line in the centre, like in certain *Opharus*. From Mt. Tolima, discovered by FASSL. Colombia.
- lehmanni*. **A. lehmanni** Rothsch. (48 g). Head and body blackish-brown, forewing dark chestnut-brown, towards the margin darker. Hindwing whitish. Colombia.
- baucis*. **A. baucis** Dalm. (= *bombycina* Perty) is slightly larger than the following species; head and thorax purple red; antennae and spots on the tegulae black, patagia black with a white, anteriorly angular stripe. Abdomen black with some purple at the base and a purple anal part and an anteriorly white sublateral stripe. Forewing blackish-brown with a white subcostal stripe extending to the centre, where it is narrowed, whilst on the under surface of the wing this stripe is set off by purple. Fringes with white tips. Hindwing uni-coloured blackish-brown. Cuba, Para and Bolivia.
- adela*. **A. adela** Schs. (47 g). Head above orange, body black, thorax marked orange and purple, abdomen with a hemochrome, black-marked end. Before the distal margin of both wings a band extends, composed of oval, bone-white spots; by similar spots also the proximal part of the forewing is intermixed, but the forewing is partly yellow. From Castro in the Brazilian State of Paraná.

92. Genus: **Anaxita** Wkr.

With this genus we conclude the very polytypical group of the *Phegopterinae* although it was hitherto reckoned among the „Hypsids“ to which, in fact, it forms a transition. It not only approximates the following group of the *Pericopinae* (the *Hypsinae* of America), by the course of the veins on the hindwing, but there are such remarkable parallels to the South Asiatic *Hypsinae*, that we cannot think of mere convergencies. In the distal halves of the wings, particularly of the forewings, there occurs such a strange form of radiary rays as we find it almost nowhere in the whole lepidopteral range offering such an enormous variety of markings. This is exhibited in *Anax. decorata*, *constricta*, *drucei*, whilst nearly all the other *Anaxita* show at least traces of it. The only corresponding character we find far off in South Asia, in the genera closely allied to the genus *Hypsa*: *Anagnia*, *Aganopsis*, *Euplocia* (Vol. X, t. 27), particularly in the ♀ of *Aganopsis orbicularis* Wkr. (Vol. X, t. 27 a), less distinctly also in several of its allies. And here we must consider that the forms of the two groups have about the same biological position in their different faunae. In both groups we notice, moreover, a certain uniformity of the structure of the body. The peculiarly cylindrical, long ♀ abdomen being stout as far as the end, and exhibiting in the frequently glaring ground-colour a rather genuine Arctoid dorsal marking in the shape of small black spots or stripes, is likewise common to both, as well as the exterior shape of the palpi projecting beyond the head in front like two parallel, long awls.

Of these *Anaxita* about a dozen of forms are known to-day, nearly all of which seem to inhabit the alpine districts and are distributed from Mexico to the south as far as Peru and Bolivia. They presumably only fly in day-time on being chased up, though Mr. GEORG BRUECKNER from Guatemala reports them to be distinctly inclined to forming colonies*). The larvae of the Guatemala-form were found by BRUECKNER in a very bare and rocky Alpine region, at an altitude of 10 600 ft., on a mountain-herb with small leaves, called „Motoze“. The larvae look very much like our *Arctia*-species, but the hairing is not so long as for instance in the larvae of *A. caja*. BRUECKNER found these larvae in a very rugged district, the soil being frozen and covered with ice. He states the colour of these larvae to be olive-brownish, a mixture of yellow and dark hair. The adult larva is 5 cm long, with a bright red ventrum and silvery white stigmata; the ventral feet have outside a black, lustrous spot. On being disturbed, they do not roll themselves up as most of the larvae of the *Arctiinae* do; they therefore behave like the larvae of the hitherto known *Hypsinae* (such as *Aganopsis orbicularis*, *Asota*) and *Pericopinae* (*Pericopis sacrificia*, *Dysschema tiresias*) which neither roll themselves up. Many larvae often proved to have been tampered with. The pupa rests in a very careless web; it is black, 18 mm long, looks as if polished, and, after 40 days, it yielded the imago which is very rarely met with in the open air (BRUECKNER).

*) A strange coincidence is that the palearctic Arctiid *Axiopoena maura* (Vol. II, t. 17 g), which has a remarkable resemblance to some *Anaxita* (*suprema*) in the shape and colouring, exhibits the same peculiar gregarious instinct about which we have referred in Vol. II, p. 97.

A. sophia Dgn. (60 b). This species, according to its author, rather closely approximates the similarly *sophia*. coloured *Phegopterinae* (*Halisidota dukinfieldia* and *nero*, t. 59 f), and like them it forms a transition to the genus *Calidota* in which there are quite similar imagines (such as *Cal. rubrosignata*, t. 56 b), so that these lepidoptera may be better placed hereto. *A. sophia* is jet-black with a hemochrome abdomen and red costal-marginal markings on the forewing.

A. suprema Wkr. (60 a) is likewise black, in this specimen not the abdomen, but the hindwing is red. *suprema*. In the forewing there are fine crimson longitudinal rays of a length up to 1 cm. From the Colombian Andes, at a great altitude, reported from Bogotá; rare.

A. lysandra Drc. which is not lying before me seems to be very similar to **vetusta** Strd. (60 a) which *lysandra*. *vetusta*. may be a form of it, from which the typical *lysandra*, according to the description, chiefly differs by the abdomen being black above. — **martha** Dogn., being likewise unknown to me and perhaps a distinct species, has the *martha*. ground-colour of the hindwing above black, finely strewn with yellow, but in the scheme of markings it seems to agree with *lysandra* and occurs in Peru (Huancabamba) like *lysandra* and *vetusta*.

A. constricta Strd. (60 a). The yellow spots on the forewing mentioned in the preceding species are *constricta*. very much enlarged and increased, and the large yellow thoracal spots surrounded with jet-black and pupilled dark red. The transverse bands of the forewing are connected like an H by an intermediary line, and are much more distinctly prominent than in *vetusta*. Bolivia.

A. drucei (60 b) is a species occurring from Mexico to Guatemala (there in a slightly different form). *drucei*. Here the yellow has entirely disappeared from the forewing, but the grey colour is increased; the hindwing is quite black, the median transverse band is pierced in the submedian area. — In the Guatemala-form, which I denominate **brueckneri** *form. nov.* in honour of its discoverer, the median transverse band is not pierced in *brueckneri*. the submedian area, but it extends uninterruptedly from the costal margin to the proximal margin, and besides it coheres yet on the median branch with the antemedian transverse band. — As to the larva we refer to the characterization of the genus. The imago is rare.

A. sannionis Btlr. (60 b) forms about the intermediary between *constricta* and *drucei*. The transverse *sannionis*. bands are complete and broadly coherent on the median; the distal longitudinal rays are greyish-blue, traversed by red; the hindwing is black. This species is described from Peru.

A. decorata Wkr. (60 a). Forewing of a bright yellow and red colour, the transverse bands complete, *decorata*. but not coherent. Hindwing yellow, in the proximal part and on the abdomen tinged with red; in the marginal part there are often black longitudinal rays which, however, may differ in the single specimens. Mexico, mostly rare.

A. tricoloriceps Strd. is allied to *decorata*, but the longitudinal rays in the forewing are broader, the *tricolori-* *iceps*. hindwing is uni-coloured blackish-brown and thereby easily discernible from the preceding. Likewise from Mexico.

VII. Pericopinae.

We have already mentioned on p. 231 the relation of the *Pericopinae* to the *Arctiidae* and the reasons why we ranged them among the great family of the *Arctiidae*, as has been done in KIRBY's Catalogue. The genus *Anaxita*, which was formerly placed to the *Pericopinae* and now to the *Phegopterinae*, may be regarded as a connecting line between both. According to the characterization of the *Pericopinae* (vid. p. 425), they are composed of somewhat more than 300 well-known lepidopteral forms which on the whole are rather of a homogeneous structure. The few more distinctly varying species (such as *Cyanohypsa stefanelli* Giac., 61 a) are still too little examined and are also very doubtfully placed.

Their range is rather confined, as is mentioned in the description of the groups (p. 425), but they are rather equably distributed in the hot neotropical region. In the lowlands we may reckon at most of the places to meet with about 1 to 1½ dozen species. They generally prefer the wooded districts, but in the real density of the primeval forests almost only smaller species are found; the *Pericopis*, *Eucyane*, *Daritis*, *Phaloë*, and *Calodesma*, being the more beautiful and stronger species are chiefly met with in open spaces, on broad roads, the skirts and clearings of the forests; some species (e. g. *Peric. sacrificia*) even inhabit the waste land, or the slopes that are covered with low bushes. At the greatest altitudes of several thousands of metres the *Anaxita* occur, which were considered as the alpine representatives of the group, before they were taken out from it.

On the whole, the *Pericopinae* are mostly variegated insects of a considerable size. Some ♀♀ have an expanse of more than 10 cm, the average expanse being about 5 to 6 cm. On the wings which are always entirely margined, broad and rather hard, without appendages, tails, indentations, and in the genuine *Pericopinae*

also invariably without any hair-pencils, scent-organs or vesicular swellings, we mostly notice intense colours in plain markings of bands or spots. They are without any protective colours adapting them to the background, but they frequently exhibit large transparent or also quite hyaline areas. Their motley appearance, which is mostly not confined to the wings, but also comprises the abdomen which is often vermilion or orange, with light spots or white bands, is another proof of their belonging to the Arctiids, in as much as it can mostly only be regarded as a premonitory shield, not as a mimetic or other secondary mark.

The marking is mostly also like in the Arctiids. Forewing of a dark ground-colour, with spots or bands of glaring colours, hindwing red or yellow with a dark marginal band. In the marking there are most peculiar parallels, particularly the remarkable consistency of large and small forms that are little allied to each other. Thus, for instance, *Ephestria melaxantha* (61 b) which is common near Rio de Janeiro looks exactly like the gigantic image of *Cyllopoda dichroa* being very common at the same place; *Eucyane bicolora* (61 c) which, near Santos in South Brazil, sometimes flies in day-time round the ramified branches of the trees at the skirts of the forests, is the entire image of an enlarged *Phaloësia syma* (65 e); *Eucyane celadon* (61 d) seems to be a very large *Phal. rica* (65 f); in *Euc. aletta* (61 e) the colouring of the smaller *Calodesmia melanchroia* (61 a) is repeated, and so on.

The marking of the individual species is generally not very constant in the *Pericopinae*. In dealing with the badly or little flying butterflies of the neotropical region (*Erycinidae*, *Ithomiinae*) we pointed out (Vol. V, p. 116 and 619) that the specimens of a certain geographical point are mostly consistent even in the minutest details of the colouring and marking, but that already an adjoining habitat, being often but few days' marches distant, shows small, though just as constant variations of its inhabitants, so that we might speak of subordinate races. This is not the case with the *Pericopinae* which, being very migratory, are never isolated in such colonies. Their occurrence in their patriae is by no means so local, the distribution of their species neither so dependent upon special larval food nor upon the landscapes, as we have noticed with the *Erycinidae* where sometimes a habitat of but few hundreds of square metres is inhabited by numerous specimens of a species which is nowhere to be met with for many miles round. Thus the individual variability of the *Pericopinae* is very much greater; specimens, having been captured at the same hour and on the same lantern, may differ considerably in the width of the bands and the distinctness of the spots, and they may, on the other hand, agree with such from remote districts. This seems to have become known to most of the describers of forms of *Pericopinae*, for the synonymy does by far not exhibit the abundancy of dispensable names as for instance in the *Erycinidae* where some species have a dozen or more denominations.

In the genuine Arctiids we have not been able to discover a distinct mimicry in their exterior, whilst in the *Pericopinae* it is met with in several cases. The colouring of most of the species in spite of its striking character is entirely singular. We do not know any imago repeating, not even in the rough, the colouring of an *Ambryllis boisduvalii* (60 b), a *Daritis thetis* (60 c), *Pericopis sacrificia* (64 c). But in quite a number of species mimicry is unquestionably present; we have therefore often added to the descriptive text the statement of the presumptive model.

Nevertheless most of the *Pericopinae* exhibit an internal protection. On taking a *Dyschema tiresias* by the thorax or wings, it at first keeps quiet, folding its wings backwards together and its legs as if it were dead. Then, however, with a peculiar, bubbling or groaning noise, it intermittently discharges a yellow fluid which covers the head and anterior body of the insect with a dense spume, entirely like the so-called cuckoo-spit of the European frog-hopper (*Ptyela spumaria*). When the danger is over, the spume melts and its remainders are often yet noticeable as reflecting, gelatine-like spots on the wings of the collected specimens. Quite similar observations have been stated by DYAR in *Composia fidelissima*.

On the whole, however, we must just in the *Pericopinae* be on our guard of seeing an effect of mimicry in every resemblance. We have already mentioned above the frequently very exact consistency of the colouring in differently sized *Pericopinae* or with members of other groups (*Cyllopodidae*). But also a striking repetition of the colouring in lepidoptera, living distantly separated is not at all uncommon; so for instance there exists a remarkable consistency between the Brazilian *Pericopis transversa* (63 f) and the western neotropical Agaristid *Parothria ecuadorina* (Vol. VII, t. 1 e) and the Central American *Seirocastnia panamensis* (Vol. VII, t. 1 d); even in palearctic lepidoptera we often meet with a consistency which is of course accidental, as for instance of *Calodesma melanchroia* (61 a) with the South Asiatic *Chalcosia panthona* (Vol. X, t. 3 e) or the Indian *Euproctis leucospila* (Vol. X, t. 44 a). Such accidental phases are, in contradistinction to the biologically established ones, called „Collective mimicry“.

The mostly rather large species of the *Pericopinae* are flying with an accelerated speed, but still somewhat unwieldily. The cylindrical abdomen which is tightly filled with a great number of very small eggs and which

in the ♀♀ of some species may attain an enormous stoutness (e. g. in *Daritis trapeziata*, *Composia credula*, *Eucyane pylotis*, *Dysschema heliconides* and many other species), makes the flight sluggish, rectilinear, and causes it to rest frequently, so that it is not difficult to capture the scared up insect, unless it follows its habit of flying up to the crowns of the trees.

On being scared up all *Pericopinae*, it appears, fly in daytime, but the swarming time of many species is at night. Prof. CARLOS HOFFMANN, in Mexico, whom we herewith heartily thank for the kindness of communicating his numerous biological observations, distinguishes the mimetic species as day-fliers from the non-mimetic species as night-fliers. The latter often come to the lantern, but generally not so often as might be expected from the frequent occurrence in daytime and the commonness of the larvae.

The larvae have two different types: forms densely clothed with bristly hairs not quite dissimilar to the larvae of the Arctiid genus *Ecpantheria*, and such resembling the type of our *Callimorpha*-larvae. For the first form the larva of *Dysschema tiresias* may serve as example, for the latter that of *Pericopis sacrificia*.

The pupae of the Pericopids, as far as my experience goes, are badly preserved. Those of *Dyssch. tiresias* are freely suspended between the leaves of the ends of the bushes in a web made of few, long silk-threads, so that they are sometimes to be noticed already from a great distance as a dark centre in a web, suspended like a spider. This remarkably resembles the habit of Indian Hypsids (such as *Hypsa alciphron*), which lepidopteral group we have denoted to be the Indian representatives of the American *Pericopinae*. In a similar way as there, the pupa of the *Pericopinae* is also quite normally shaped, recalling that of our *Callimorpha*, and like the pupae of many other Arctiids (such as *Oeonistis quadra*) very glossy, as if it were polished.

The pupal stage seems to be rather short (sometimes about a fortnight) in tropical species. The imagines are so very tenacious of life that it is quite impossible to squeeze them to death with one's fingers; they also offer great resistance to the killing-bottle.

Pericopinae.

The members of this subfamily are generally denoted as the American *Hypsiidae*; HAMPSON ranged them with *Callimorpha* among the *Callimorphidae*, which combination we cannot follow here, since *Callimorpha* is better placed to the genuine *Arctiinae* by reason of the neurulation as well as of the larva. The *Pericopinae* differ from all the other Arctiids by the peculiar course of vein 8 in the hindwing. The latter is at the extreme base entirely fused with the anterior edge of the cell in the Arctiids (i. e. its base is situate above the anterior edge of the cell, which looked at from above is no more visible at this place); in the *Pericopinae*, however, the extreme base of vein 8 is separate, the anterior edge of the cell rises behind it. The larva of the *Pericopinae*, on the 2nd and 3rd thoracal segment, has but 1 tubercle above the row of stigmatal tubercles; it thereby differs from the larvae of all the other Arctiids which have at least 2 tubercles there. In primitive *Pericopinae* (*Composia*) there are besides two subdorsal tubercles which, however, are already slightly fused. *Callimorpha* has more than 1 tubercle, whereby it also proves its distant relationship to the *Pericopinae*. The latter invariably show a well developed proboscis whereby they differ from all the similar Lymantriids; the hind tibiae exhibit 2 pairs of spurs in the older genera, in the others 1 pair. The tympanal organ is thoracal, and in its structure resembles that of the *Arctiidae* and *Syntomidae*, thus testifying its close relationship of these three groups. Vein 5 in the forewing rises nearer at 4 than at 6, distinguishing it from the similar Geometrids and Dioptriids. There are here accessory eyes, which are wanting in the *Lithosiinae*. In contrast with similar *Syntomidae*, vein 8 in the forewing is well developed. The subfamily comprises about 310 forms chiefly distributed in Tropical America; few go as far as the northern and southern temperate zones. The veins were denominated in accordance with the system of COMSTOCK-NEEDHAM; thus the subcosta denotes vein 12 in the forewing, 8 in the hindwing; the radial branches 1 to 5 denote the veins 11 to 7 in the forewing, the radial ramus 7 in the hindwing. The median branches 1 to 3 are the veins 6 to 4 in the forewing and hindwing, the cubitus 1 and 2 are the veins 3 and 2, the analis is the fold-vein 1 c, and the axillaris means 1 a and 1 b. Some genera are enumerated by way of appendix, although they are no genuine *Pericopinae*, vein 8 in the hindwing is not separate at its base. But as they are mostly sought for among the *Pericopinae*, they have here been dealt with for the reason of practical purposes. In some genera with a distinct sexual dimorphism (*Pericopis*), future investigations will necessitate yet several species to be combined.

Review of the genera of the *Pericopinae*.

1. In the hindwing the subcosta is separate at the base, after that for some distance fused with the anterior edge of the cell (genuine *Pericopinae*).

A. Hind tibiae with 2 pairs of spurs.

- I. 2nd radial branch in the forewing separate or only partly anastomosing with the 3rd to 5th.

1. In the forewing all the veins are present.
 - a. In the hindwing the 3rd median branch and 1st cubitus are not forked.
 - α. In the hindwing the posterior angle of the cell is hardly produced.
 - *. Margin of the hindwing before the anal angle with a concave indentation. *Ambryllis.*
 - **. Margin of the hindwing everywhere convex. *Daritis.*
 - β. Posterior angle of the cell of the hindwing laciniformly produced.
 - *. 3rd joint of the palpus at least one third as long as the second.
 - o. 1st cubitus in the hindwing in the centre between the 2nd cubitus and 3rd median branch, posterior angle of the cell of the forewing very much produced. *Xenosoma.*
 - oo. 1st cubitus in the hindwing nearer at the 3rd median branch, posterior angle of the cell of the forewing less produced. *Thyrgis.*
 - **. 3rd joint of the palpus one fourth the length of the second at most. *Composia.*
 - b. In the hindwing the 3rd median branch is forked with the 1st cubitus.
 - α. In the forewing the 2nd cubitus is nearing the first, the distance between both being one half at most of the length of the posterior edge of the cell from the base to the 2nd cubitus. *Gnophaela.*
 - β. 2nd cubitus farther towards the base, its distance from the 1st cubitus more than $\frac{1}{2}$ of the basal portion of the posterior edge of the cell. *Pseudophaloë.*
 2. In the forewing one vein (the 3rd radial) is absent. *Josiomorpha.*
- II. In the forewing the 2nd to 5th radials are forked.
1. 5th radial rising before the 2nd.
 - a. In the hindwing the 2nd median branch is about in the centre between the 1st and 3rd median branches. *Cyanohypsa.*
 - b. 2nd median branch nearing the 3rd.
 - α. 1st radial in the forewing before the middle of the distance of the 1st and 2nd cubitus.
 - *. 1st and 2nd cubitus in the forewing converging towards the margin. *Ephestris.*
 - **. 1st and 2nd cubitus diverging at their rise. *Isostola.*
 - β. 1st radial in or behind the middle of the distance of the 1st and 2nd cubitus *Calodesma.*
 2. 2nd radial rising before the 5th.
 - a. The 3rd joint of the palpus far less than a half of the second. *Eucyane.*
 - b. The third joint of the palpus at least a third of the second.
 - α. Third palpal joint little shorter than the second. *Josiomorphoides.*
 - β. Third palpal joint a half of the second at most. *Sagaropsis.*
- B. Hind tibiae with 1 pair of spurs.
- I. In the forewing the 2nd radial is separate, or only anastomosing with the 3rd to 5th radials.
 1. In the forewing the 5th radial branch rises before the 3rd.
 - a. In the hindwing the 3rd median branch is not forked with the 1st cubitus.
 - α. Pinnae of the ♀ antennae shorter than the diameter of the shaft (the 2nd radial often anastomosing with the 3rd to 5th. *Pericopis.*
 - β. Pinnae of the ♀ antennae at least as long as the diameter of the shaft.
 - *. 3rd palpal joint very much shorter than the second. *Dysschema.*
 - **. 3rd palpal joint about half the length of the second.
 - o. Distance of the 1st radial from the 2nd in the forewing twice as long as that from the 2nd to 5th radials. *Are.*
 - oo. Distance of the 1st radial from the 2nd about the same as that from the 2nd to 5th radials, or shorter. *Phaloë.*
 - b. In the hindwing the 3rd median branch is forked with the 1st cubitus. *Ctenuchidia.*
 2. In the forewing the 3rd radial branch rises before the 5th. *Phaloësia.*
 - II. In the forewing the 2nd to 5th radials are forked.
 1. In the hindwing the 3rd median branch is not forked with the 1st cubitus.
 - a. In the forewing the 2nd to 5th radials before the cell-angle, separated from the 1st median branch, in the hindwing the distance from the 3rd median branch to the 1st cubitus is less than twice as long as the distance from the 2nd median branch to the 3rd. *Hyalurga.*

- b. In the forewing the fork of the radials 2 to 5 from the cell-angle, with the 1st median branch from the same place or forked; in the hindwing the distance of the 3rd median branch to the 1st cubitus is at least twice the distance from the 2nd median branch to the 3rd.
- α. Posterior angle of the cell in the forewing projecting. *Scearcia*.
- β. Posterior angle scarcely projecting. *Stenognatha*.
2. In the hindwing the 3rd median branch and the 1st cubitus are forked. *Graphelysia*.
2. In the hindwing the subcostal is also at the extreme base fused with the anterior edge of the cell (not genuine *Pericopinae*).
- A. Accessory eyes wanting, 1st radial in the forewing anastomosing with the subcosta (*Lithosiina*). *Gardinia*.
- B. Accessory eyes present, 1st radial always quite separate (*Micrarctiinae*).
- I. In the forewing the 2nd and 5th radials rise almost from the same place. *Episcea*.
- II. The 5th radial rises considerably before the 2nd. *Crocomela*.

1. Genus: **Ambryllis** Wkr.

This genus, in the habitus, still strongly recalls the genuine Arctiids. Hind tibiae with 2 pairs of spurs. In the forewing the 2nd radial is not forked with the 3rd to 5th, mostly connected with it by a transverse vein or anastomose. 3rd to 5th radial branch forked, the 5th rising before the 3rd, 1st median branch rising separate from the fork of the 3rd to 5th radials. In the hindwing the radial ramus and the 1st median branch rise from the same place, and so do the 3rd median branch and 1st cubitus; posterior ends of the cell not laciniformly produced. The margin exhibits a concave indentation before the anal angle. Hitherto only 1 species is known.

A. boisduvalii Hoev. (= funeralis H.-Schäff.) (60 b). Head and thorax black, ground of the patagia whitish-yellow, collar above white. Abdomen white, laterally with two rows of black spots, the last segment black, with an ochreous anal tuft. Wings transparent white, on the forewing the costal margin and anal margin are somewhat more densely dusted, with four black, generally red-pupilled spots. On the axillaris usually a black longitudinal stripe which, however, may also be absent. Hindwing only with some small, sometimes absent, red marginal spots. Beneath as above, the red fillings of the black spots on the forewing more distinct, particularly in the spot in the cell. Extreme base on all the wings with an orange spot. In South America from Venezuela to South Brazil. *boisduvalii*.

2. Genus: **Daritis** Wkr.

Entirely the same as the preceding genus except that here the indentation of the margin at the anal angle of the hindwing is absent. In the species of the genus approximating the preceding there is a considerable sexual dimorphism noticeable.

D. centenaria Burm. (60 d) resembles *A. boisduvalii* Hoev. in the marking of the wings, but all the markings are enlarged, the proximal margin of the forewing is broad black. The hindwing has a narrow black margin with continuous red spots. Under surface likewise with more pronounced red markings, the costal margin of the forewing black, filled up with red. Abdomen white, middle line of the dorsum and of the ventrum black, one black lateral line, ground of patagia white, otherwise like the preceding species. Argentina (Zarate); Uruguay (Montevideo). *centenaria*.

D. trapeziata Wkr. (= rubripicta Btlr., woodii Btlr.) (60 c). The ♂ resembles yet the preceding species, but the black markings in the forewing are still more extensive; in the hindwing the black margin is broader, with bluish-white dusted spots, the red likewise broader, on the transverse vein a red, black-edged spot. Collar and base of patagia brimstone-coloured, the black markings of the abdomen more extensive. ♀ with a brownish-black ground-colour on all the wings; forewing partly strewn with red scales, the markings brimstone-coloured, dusted somewhat blackish. Hindwing with whitish marginal dots, a red submarginal band being narrow in front and broad behind, a brimstone-coloured spot in and behind the cell. Beneath the red is more extensive. Abdomen black with above broad, beneath narrow yellow segmental margins, the collar and base of patagia being yellow. Distributed from Venezuela to Brazil. *trapeziata*.

D. thetis Klug (= mariamne Geyer) (60 c). Both sexes more similar, in the ♂ the inner area of the hindwing is hyaline transparent, in the ♀ the whole hindwing is of an ochreous-yellow ground-colour. Patagia in front yellow, abdomen red with a black dorsal line and yellow ventral side. — In the form **fenestrata** Btlr. in the ♂ and ♀ four fifths of the cell of the forewing are hyaline, in it there is an oblong spot of the ground-colour, the white markings are broader. — The form **howardi** Edw. has in the ♂ the reddish-yellow colour of the margin of the hindwing for the greatest part replaced by black. — Larva irregularly banded black and ochreous-yellow, the ground-colour being dusky ochreous, a broken black dorsal stripe and irregular subdorsal and subventral dots. Segments 5, 6, 9, 11 and 13 feebly banded black. Mexico to Costa Rica. *thetis*, *fenestrata*, *howardi*.

jaonis.

D. jaonis *Strd.* (60 g) resembles the ♂ of *trapeziata* *Wkr.* (60 c), in the forewing the discoidal spot on the transverse vein and the spot situate basally to it are connected; the latter as well as that situate at the tornus being broadly filled with red; the margin of the hindwing is in a basal direction from the red band much broader black, as well as the streak on the cell-end. Brazil (S. João).

3. Genus: **Thyrgis** *Wkr.*

From the preceding genera *Thyrgis* is distinguished by the posterior angle of the hindwing projecting distally. The antennae are in the ♂ bipectinnate, in the ♀ doubly dentate, the pinnae not attaining the thickness of the shaft. In the forewing the 1st and 2nd radials are separate, the 3rd to 5th being forked, the 5th rising before the 3rd; the 1st median branch is separated from this fork. In the hindwing the radial ramus and the 1st median branch rise on a short fork. The 3rd palpal joint attains about half the length of the second. From similarly coloured and marked species of *Calodesma*, *Thyrgis* is distinguished by the separate course of the 2nd radial in the forewing; in similar *Syntomidae* (*Coreura*) the hindwing lacks the subcostal. Hereto probably also *Cal. kedar* and *dilutana* *Drc.* belong (p. 432).

militta.

Th. militta *Stoll* (60 e). ♂ and ♀ not differently coloured. The tinge of the forewing varies from crimson to orange and yellow. Hindwing either uni-coloured or with traces of a yellow or red submarginal band. The typical *militta* *Stoll* with a narrower band of the forewing in Brazil, Bolivia, Venezuela, Colombia.

phlegon.

— **phlegon** *Drc.*, from Ecuador, the Upper Amazon River and East Peru, with a band of the forewing of about 4 mm width.

marginata.

Th. marginata *Btlr.* (60 e) differs from the preceding species by the more distal position of the red transverse band of the forewing; in *militta* about a sixth, in *marginata* only a tenth of the discoidal cell is red. The 3rd palpal joint is more than half the length of the 2nd. Hindwing with a light red marginal band of about 4 mm width. I did not see any forms of this species with yellow bands. Nicaragua, Bolivia.

constrictifascia.

Th. constrictifascia *Dogn.* was not before me. It is said to resemble *militta phlegon*, the red band is said to be straighter and not to traverse the discal cell, but only to touch it. It may be an *Eucyane*. Ecuador.

angustifascia.

Th. angustifascia *sp. n.* resembles *marginata* and was captured together with it. The position of the band of the forewing is like in the preceding, the band is narrower, proximally and distally with more pronounced projections, much narrower towards the anal margin, terminating behind or before the axillaris. The red margin of the hindwing is darker red, 2 mm broad at most. 1 ♂ from Bolivia (Bueyes, type), and 1 ♀ from Colombia in the Zool. Museum at Berlin, another ♀ from Ecuador in the Tring Museum.

chislon.

Th. chislon *Drc.* was not before me. Similar to *childon*, but the band of the forewing is much narrower, whereby it resembles the yellow-banded specimens of *militta* from which it differs beneath by the yellow abdomen and the blue submarginal dots of the forewing. Ecuador.

childon.
columbiana.

Th. childon. Head and collar with white dots. Ventral part of the abdomen yellow, other parts of the body bluish-black. Wings blackish-brown, proximally with a blue reflection, forewing with a broad yellow transverse band. Under surface of both wings with a row of whitish-blue submarginal spots. **childon** *Drc.* with a narrower yellow band the edges of which are almost parallel. Ecuador. — **columbiana** *subsp. nov.* is somewhat larger, the yellow band is broader, distally convex. Colombia.

flavonigra.

Th. flavonigra *Dgn.* is unknown to me, and I can therefore not decide whether it is a genuine *Thyrgis*. Forewing black with a yellow transverse band not reaching the costa and proximal margin. Hindwing uni-coloured black. Body black with yellow lateral spots at the collar. South East Peru (Rio Huacamayo).

ceron.

Th. ceron *Drc.* is likewise unknown to me; underside of the head yellow, the body black. Wings black, the forewing with a yellow discal band as in *militta*, hindwing with a yellow-margined apex. Colombia and East Peru.

4. Genus: **Composia** *Hbn.*

Distinguished from *Thyrgis* by the 3rd palpal joint being very short, one fourth the length of the 2nd at most.

credula.

C. credula *F.* (= *sybaris* *Cr.*) (60 e). Body and wings blackish-brown, all over covered with spots. Ventral side of the abdomen white with black segmental margins. At the costa of the forewing in the basal part above 2 or 3 red spots, beneath a red stripe. Antilles (Jamaica, Haiti, Portorico, St. Thomé).

fidelissima.

C. fidelissima *H.-Schäff.* (= *olympia* *Btlr.*) (60 e) resembles the preceding, but it is less spotted white. Hindwing only with submarginal spots, intensely suffused with blue. Abdomen above uni-coloured black, lustrous blue, below like in the preceding species. Common in Cuba, but also from Florida to Brazil. — Larva

shaped more like in the Noctuids, the thoracal subdorsal tubercles are not yet fused, but are inclined to it. First stage dull orange, the segments 5 and 6 and 9 to 11 reddish purple, tubercles dark; adult larva of a glaring pinkish-red colour with a violettish-blue reflection, scantily haired. Stigmata pale orange. On the segments 2 to 5 the lowest two, on 5, 6 and 9 to 11 all the tubercles are blue. Pupa fastened with very few threads on the head and cremaster, reddish mahagoni-coloured, with blue and violet spots on the wing-cases. Foodplant: *Echites umbellata* and *Canavalia obtusa*. — As to the peculiar behaviour of the imago on being taken, discharging a yellow spume with a bubbling noise, cf. the introduction (p. 424).

5. Genus: **Xenosoma** Fldr.

In the habitus the genus resembles *Coborisa*; it was hitherto referred to the Lymantriids from which it differs by the well developed proboscis, but it has 2 pairs of spurs on the hind tibiae. In the structure similar to *Thyrgis*, but the 1st cubitus in the hindwing about in the centre between the 2nd cubitus and 3rd median branch, and the cell of the forewing is behind more produced. Antennae in the ♂ strongly pinnate, the pinnae towards the apex, however, more abruptly shortened than in *Thyrgis*. 3rd palpal joint just as long as the 2nd.

X. progonum *sp. n.* (60 d). Head and thorax varying from wood-colour to an ochreous yellowish, *progonum*. palpi darker. Abdomen white, anal tuft ochreous. Wings hyaline milky white, the distal margins with a blackish-grey, posteriorly narrowed border. Veins greyish-brown, behind the cell a blackish spot at the proximal margin. Costa and proximal margin of forewing more intensely dusted greyish-white. Beneath as above. Peru. ♂ type from La Oroya, Rio Inambari (3100 feet) in the Tring Museum, ♀ type from Bolivia in the Berlin Museum.

X. nigromarginatum *Drc.* is very much like *progonum*, the patagia white with a yellow basal spot, *nigromarginatum*. the black border on the 1st median branch in the forewing only $1\frac{1}{2}$ mm, in the hindwing 1 mm; in the ♀ of *progonum* as much as 4 (in the ♂ 2) resp. 2 mm broad. Costa Rica.

X. flavisedes *Dogn.* (60 d). Body whitish, head, collar, thorax below, patagia and 2nd palpal joint *flavisedes*. and anal tuft ochreous yellow, 3rd palpal joint black. Wings quite whitish hyaline, at the margins, particularly before the apex of the forewing, more densely dusted with a somewhat greyish colour. Venezuela.

X. flaviceps *Wkr.* (= *nigricosta* Fldr.) (60 d). Body as in *flavisedes*. Wings quite milky white hyaline, *flaviceps*. nor are the veins darker; costa of forewing narrowly black. Mexico to Venezuela.

H. giganteum *Drc.* with whitish hyaline forewings exhibiting a yellowish base and proximal margin, the abdomen beneath pale yellow, with an expanse of 65 mm, from Honduras, is probably a Lymantriid.

Volcan de Chiriqui, Vol. 1, p. 543.

6. Genus: **Pseudophaloë** *gen. nov.*

Hind tibiae with 2 pairs of spurs (in *Phaloë* Guér. only 1 pair). In the forewing the 1st and 2nd radials are separate, the 3rd to 5th forked, the 5th before the 3rd; the 1st median branch from the same place as the fork. 2nd cubitus rising far before the 1st, the first portion of the posterior edge of the cell less than twice the length of the second. In the hindwing the radial ramus and the 1st median branch, as well as the 3rd median branch and the 1st cubitus are forked. Length of ♀ antennal pinnae not quite attaining the thickness of the shaft. Type of the genus: *Ps. verania* *Drc.*

Ps. verania *Drc.* Body blackish-brown, head and collar with white dots, the margins of the abdominal *verania*. segments narrow white, sides and last segment of abdomen are red. Wings blackish-brown, forewing with a red basal spot, a yellow median band, and a yellow subapical spot, hindwing with lighter yellow spots at the costa, behind the subcostal, behind the bifurcation of the radial ramus and 1st median, and between the 2nd median and 1st cubitus. Beneath as above the veins at the base whitish; in the hindwing the spot behind the subcostal is towards the base extended to a stripe, a stripe below the anterior edge of the cell and 2 or 3 bluish-white longitudinal stripes at the anal angle; distally to the latter 1 or 2 yellow spots. Mexico, Honduras, Guatemala.

Ps. schausi *Edw.* is unknown to me in nature. It differs from the preceding by exhibiting beside *schausi*. the subapical spot of the forewing another spot in its prolongation at the centre of the margin. In the original description the red lateral stripes of the abdomen, which are present in *verania*, are neither mentioned. Mexico.

Ps. helotes *Drc.* is similar to *Ps. verani*, the bands of both wings are brimstone-coloured, the subapical *helotes*. spot of the forewing in the ♀ smaller, only in one cell (in *verania* it extends to the 2nd, here to the 1st median branch). The yellow spots of the hindwing are broader, more closely together, no yellow spots in the anal portion beneath. Panama (Volcan de Chiriqui).

Ps. stenoxantha *sp. n.* is allied to *helotes*, on the abdomen not only the last, but also the two preceding *stenoxantha*. segments are beneath red. The centre of the other segments on the ventral side broader white; the band of the forewing is only half the width of that in *helotes*, the subapical spot in front extending beyond the 5th radial.

The yellow spots of the hindwing are lighter than the band of the forewing, the hindwing beneath shows more abundant light longitudinal stripes. Colombia, Mexico. ♂ type in the Berlin Zool. Museum from Colombia (Antiochia).

- veranioides*. **Ps. veranioides** *sp. n.* (60 d) is similar to *verania*, but smaller, the yellow median band of the forewing only half the width of that in *verania*, the subapical spot smaller. Abdomen laterally only on the 2nd segment with a red spot. ♂ and ♀ from Mexico, Misantla (June 1911).
- troetschi*. **Ps. troetschi** *Drc.* Body as in the preceding species, the last three abdominal segments above and beneath red. Forewing as in *verania*, the yellow band more proximally situate and more slanting. The yellow band of the hindwing is broader and longer, extending to the 1st cubitus. Panama (Volcan de Chiriqui).
- tellina*. **Ps. tellina** *Weym.* (60 d). Body black, beneath and laterally yellow. Collar with a lateral ochreous spot. Forewing blackish-brown, costa basally with an ochreous longitudinal streak. A yellow discal band rather intensely darkened by black dusting and traversed by black veins extends from the costa to the first cubitus, a hyaline yellow subapical spot is parted black by the 5th radial. Hindwing yellow with a broad black margin and costa, from the former a black spot goes across the transverse vein. Fringes blackish-brown, those of the hindwings partly spotted yellow. Beneath as above, the yellow markings more distinct. Brazil: Rio Grande do Sul.
- tessmanni*. **Ps. tessmanni** *sp. n.* is similar to the preceding, the costal streak at the base absent. The discal band of the forewing distinctly hyaline yellow, the subapical spot whitish hyaline, extending across the 2nd median branch hindward. Costa of forewing only in the last third black, the transverse vein not marked black. The light area of the hindwing is quite pale yellow. Beneath as above, white marginal spots at the 2nd cubitus of the forewing, the radial ramus, the 2nd cubitus and axillaris of the hindwing. Head, collar, and patagia with white dots; abdomen white, dorsal line, the last two segments and the posterior edges of the two preceding segments above black. 1 ♀ (type) from the Rio Pachitea, Monte Alegre, East Peru, in the Berlin Zool. Museum, discovered by G. TESSMANN. In the Tring Museum a ♀ from East Bolivia.
- tellinoides*. **Ps. tellinoides** *sp. n.* resembles *tellina* from which it differs by but one red spot at the costa of the forewing above, otherwise all the ochreous markings being red here. The yellow discal band of the forewing is broader, the apical spot shorter (only in 2 cells), more slanting, yellow. In the hindwing the transverse vein is less marked black, the margin projects less at it. Type (♀) from North-West Ecuador (Salidero) in the Tring Museum.
- patula*. **Ps. patula** *Wkr.* resembles *tessmanni*. Abdomen as far as the apex covered with white scales, transverse band of forewing in front narrower, behind the cell suddenly broader, ground-colour of hindwing mostly white, distally growing more hyaline. Bolivia.
- isosoma*. **Ps. isosoma** *Prout* resembles *patula*, with a red streak at the base of the costa on the forewing and a white discal band. Chanchamayo, Peru.]
- triangulata*. **Ps. triangulata** *Dogn.* (60 e). With yellow lateral lines on the abdomen, beneath curled white. All the markings saffron-coloured, forewing with a triangular spot, cutting the cell with the anterior edge behind at $\frac{1}{4}$, in front at $\frac{2}{3}$, its posterior edge being undulate. The second spot between the 3rd and 5th radial; veins black. Hindwing with a band as in *latifascia*, but the veins mostly black. Bolivia, Peru.
- Ps. cotta**. ♂: Body blackish-brown, before each of the antennae one white spot, collar above red. Abdomen above lustrous blue, beneath with white segmental margins. Forewing brown with a red costal streak at the base, a narrow pale hyaline yellow discal band and a similar subapical spot extending from the 1st radial to behind the 3rd median. Hindwing blackish-brown, with a blue lustre, from the base to the centre of the 3rd median branch between the anterior edge of the cell and the axillaris light brimstone-coloured. Beneath as above, costa and anal angle of hindwing with white longitudinal stripes. **cotta** *Drc.* (60 f), from Panama (Chiriqui), has pale yellow markings; — **levisi** *Schs.*, from Nicaragua, has greenish-yellow markings; the ♀ on the forewing only has a greenish-yellow band beyond the cell, being after the tornus narrowed to a dot. The hindwing shows on the blackish-blue ground a narrow bent hyaline band beyond the cell.
- cerealia*. **Ps. cerealia** *Drc.* (60 f). Body black, head with white dots, collar with red lateral spots. Abdomen laterally ochreous-yellow, beneath whitish-yellow, above with a blue reflection, with light segmental margins. Forewing blackish-brown, with a red costal stripe at the base, a triangular yellow spot in the angle between the posterior edge of the cell and the axillaris, a similar discal band between the anterior edge of the cell and the axillaris, and a similar, partly hyaline subapical band between the 5th radial and 1st cubitus. Hindwing yellow with a black, blue-dusted costal margin and distal margin. Panama (Chiriqui) and Colombia.
- ninonia*. **Ps. ninonia** *Drc.* (60 g). In the habitus similar to an *Eucyane*; body blackish-brown, collar red, forewing brown, with a red basal streak at the costa and a hyaline transparent subapical band between the 5th radial and in the tornus behind the cell. Hindwing black, with an intense blue lustre, with a narrower submarginal

hyaline band. Abdomen blue, beneath with white segmental margins. In the type the 1st and 2nd radials are to a great extent fused. Panama (Chiriqui) and Sitio (Costa Rica).

Ps. latifascia *sp. n.* (60 d) resembles *tessmanni*, the light area of the hindwing is just as dark yellow *latifascia*. as the transverse band of the forewing, which is more slanting and broader here. Subapical spot hyaline. Abdomen above darkened, all the light portions of the body chamois, not white as in *tessmanni*. ♂ type from Iquitos (Peru) in the Tring Museum.

7. Genus: **Gnophaela** Wkr.

Chiefly agreeing with *Pseudophaloë*, but the 2nd cubitus on the forewings rises here somewhat more distally than in the preceding genus.

G. latipennis *Bsd.* (= *hopfferi* *G. & R.*) (60 f). Body blackish-brown with a blue lustre. Prothorax *latipennis*. below and collar laterally ochreous-yellow. Abdomen with a white lateral line. Wings blackish-brown, forewing with a discal band of light yellow spots, one of which is quadrangular, in the cell, another in the cell-angle before the 2nd cubitus, one being prolonged towards the base between the 2nd cubitus and the axillaris. A subapical row of 4 spots between the 5th radial and 1st cubital. Hindwing correspondingly marked, discal band composed of only 2 spots, the spot before the 2nd cubitus being absent. Distally to the transverse vein 2 spots. Beneath as above. Pacific States of North America. — Larva of a black ground-colour, tubercles bluish-black, with a broad yellow dorsal stripe, lateral yellow streaks forming a broken line, and a yellow stigmatal band. Ventrums pale yellow, feet black. It lives on *Cynoglossum occidentale*.

G. vermiculata *G. & R.* (60 f) is similar to *latipennis*, but the wings in an oblique light show a blue *vermiculata*. lustre, the markings are lighter, whitish-yellow; on the forewing, the light spot in the cell is slantingly prolonged almost to its ground; the subapical spots are broader. Hindwing quite light, the costa, margin and anal margin as well as the veins are dark. — In *continua* *Edw.* the distal discal spot of the forewing is prolonged, so that *continua*. it touches the subapical spots; thereby arises a light central space into which, behind the transverse vein, a black spot projects. — The form *discreta* *Stretch* (= *arizona* *French*, *morrisoni* *Drc.*) has a light discoidal spot *discreta*. occupying only half the cell, in the hindwing the transverse vein and the 1st cubitus are broadly marked black, so that the subapical spots are separated from the discal spots. — The valves are narrower than in the preceding species. North America, Pacific States and Mexico. — Larva quite similar to that of the preceding.

G. aequinoctialis *Wkr.* (60 g) differs from the two preceding by its narrower forewings. The discal *aequinoctialis*. spot behind the cell is prolonged to the base; the two other discal spots as in *latipennis*. Hindwing like in the form *arizona*, the black of the margin as far as the cell very broadly projecting. Wings with a more intense blue lustre. Lateral dots of abdomen not strigiform as in the preceding species. — The form *disjuncta* *Edw.* *disjuncta*. has in the subapical area of the forewing behind the 1st cubitus another light dot. From Mexico to Colombia and Venezuela.

G. clappiana *Holl.* (60 g) which was not before me, has uni-coloured black hindwings, and in the discal *clappiana*. area of the forewing only a square spot (in the cell); the subapical row only contains 3 spots. Fringes of hindwing white. — The form *ruidosensis* *Cocqu.* has in the discal area of the forewing two more small spots behind the *ruidosensis*. cell, in the hindwing a small round spot in the cell and three subapical spots. Colorado and New Mexico.

G. epicharis *Drc.* (60 h) differs from all the preceding species by the loam-coloured to wood-brown *epicharis*. ground-colour of the wings, in which the typical *Gnophaela*-spots are only hazily visible. Light markings hyaline pale yellow, a longitudinal stripe at the costa of the forewing, a rectangular spot in the cell and some indistinct subapical spots. Central area of hindwing light, transverse vein and the space between the 1st and 2nd cubitus of the ground-colour. Guatemala.

8. Genus: **Josiomorpha** Fldr.

With narrower wings than the preceding genera, in the habitus similar to the *Josia*-species (*Diopitidae*) from which it is distinguished by the 2nd median being nearer to the 3rd (vein 5 nearer to 4). This mark and the course of subcosta and the anterior edge of the cell in the hindwing are often the only means to discern these *Pericopinae* from the species of *Josia*. In the latter mostly the 3rd median branch of the forewing is besides forked with the 1st cubitus, which never occurs in *Josiomorpha*. As the species of *Josia* are very frequently captured, the *Josiomorpha*, however, very rarely, we may presume the *Pericopina* to copy the other. The generic marks are like in the preceding genera, but owing to the forewing being narrowed, one vein is wanting, the 3rd radial.

J. penetrata *Wkr.* (= *longivitta* *Fldr.*) (60 f). Body black, thoracic sides in front yellow, sides of *penetrata*. abdomen yellow; abdomen beneath white. Wings blackish-brown, forewing with a broad yellow longitudinal

stripe from the base to the centre of the distal margin; the hindwing at the costa broad yellow, at the anal margin narrow yellow, but here broader than in the following. The brown groundcolour terminates far before the base in the ♀ wing, but in the ♂ it mostly reaches it. Mexico, Guatemala, Nicaragua.

triangulifera. **J. triangulifera** *sp. n.* in the habitus entirely resembles *penetrata* and may only be a race of it. Ventral side not uniformly broad white, but narrower white, on each segment the white colour narrows towards the front, so that a row of white triangles is produced. In the ♂ only the posterior segmental margins are white. Panama (Chiriqui), 2 ♀♀ in the Berlin Zool. Museum (holotype); a ♂ „South America“, a ♂ from Costa Rica in the Tring Museum.

J. erectistria Warr. (= *elisa* Drc. and *albolineata* Drc. are *Crocomela* species and therefore dealt with in the appendix on p. 452 seq.

9. Genus: **Calodesma** Hbn.

Separated from the genera hitherto dealt with by the 2nd radial of the forewing being forked with the 3rd to 5th. The 5th radial rises before the 2nd, the 1st median is not long-forked with the 2nd to 5th radials. The 3rd median in the forewing is nearer to the 2nd or midway between the 1st cubitus and 2nd median. The 1st radial rises in or behind the centre of the distance between the 2nd and 1st cubitus. It mostly contains species resembling in the exterior certain Syntomids, species of *Coreura* and *Ctenucha* (p. 155 and 189, plates 23 and 26), from which, however, they are readily separable, by the isolated vein 8 in the hindwing. In *Thyrgis* containing species of a similar habitus the 2nd radial in the forewing is separate, in *Eucyane* it rises before the 5th radial.

amica. **C. amica**. Body black, prothorax below and collar above strewn with ochreous scales. Wings blackish-brown with a red discal band of the forewing and a red marginal band of the hindwing. **amica** Stoll, from Surinam to South Brazil, has narrower bands, those of the hindwing being yet separated from the margin by a narrow black stripe; — **occidentalis** *subsp. nov.* (60 h) from Ecuador, Peru and Bolivia (type from Ecuador) has broader bands (about 4 mm maximum width), that of the hindwing passing, except at the apex, closely along the distal margin.

jordani. **C. jordani** *sp. n.* is similar to *amica amica*, somewhat smaller, fringes of the forewing at the apex and tornus beneath white; band of hindwing extending nearer to the margin. Hindwing above in the apex with a yellow spot, beneath with a white one which may also be absent; fringes of hindwing at the tips white. ♀ type from Sapucay and Villa Rica in the Tring Museum (Paraguay). The form from Matto Grosso has broader bands like in *amica occidentalis*.

rubricincta. **C. rubricincta** Dogn. resembles *amica*, body quite black, hindwing with a slight dull blue lustre, the band of the forewing is narrow, more bent (in the right forewing of a specimen there is a red longitudinal ray in the cell from the base to the band), hindwing with a broad band which is uniformly about 1 mm distant from the margin. Colombia.

chesalon. **C. chesalon** Drc. Body black, forewing as in *amica*, hindwing uni-coloured blackish-brown. (Not before me). Ecuador.

contracta. **C. contracta** Wkr. (60 h). Body black, head below, collar and ground of patagia as well as prothorax below ochreous-yellow. Wings as in *amica*, but the markings intensely yellow, sometimes warming into reddish. The bands are very variable in the different examples, those of the hindwing often only traceable or entirely absent. From Venezuela to South Brazil and Peru. The typical *contracta* has uni-coloured fringes of the ground-colour of the wings. — **itaitubae** *subsp. nov.* from Itaituba has lighter fringes, those of the apex of the forewing beneath are white. — **apicalis** *subsp. n.*, from Bahia, is similar to the preceding, the apex of the hindwing above with a yellow, beneath with a white spot.

kedar. **C. kedar** Drc. This and the following species have not been before me. Like the preceding, but the band of the forewing in front and behind partly red, that of the hindwing quite red. Colombia. (It may be a form of *Thyrgis militata* Stoll, like the following).

dilutana. **C. dilutana** Drc. resembles the preceding, the band of the forewing is yellow, that of the hindwing remote from the margin, turning reddish at the anal angle. Amazons.

collaris. **C. collaris** Drury (60 h) is like *contracta*, but the markings are white, in the hindwing sometimes dingy white, often indistinct or absent. In the ♂ the yellow colouring at the prothorax more extensive. Apex of abdomen likewise ochreous-yellow. Band of forewing shortened, only a white spot behind the cell, hindwing uni-coloured. Fringes in the ♂ white, in the ♀ black. Range as in *contracta*.

plorata. **C. plorata** Kaye is unknown to me; it is said to have only the bases of the eyes and of the palpi ochreous-yellow, otherwise like the preceding. Trinidad.

albiapex. **C. albiapex** *sp. n.* (60 h) resembles *plorata*, fringes in the ♀ white. ♂ and ♀ at the apex of the hindwing with a narrow white spot. Band of forewing oftener than in *plorata* shortened also in the ♀. Type (♂ and ♀) in the Berlin Museum from Pernambuco; Bahia. ♀ from Paraguay in the Tring Museum.

C. dioptis *Fldr.* (60 g). For this species FELDER established the genus *Chamesthema*. ♂ similar to *diopsis*. those of the preceding species, abdomen above with a white longitudinal line and below with broad whitish curls; head and patagia partly white. Forewing with a white longitudinal area behind the cell and a wedge-shaped longitudinal stripe in the cell. Hindwing with a white, black-veined central area, which may be very much darkened. Discernible from the ♂♂ of *C. collaris* *Drury* (60 h), in which also the forewing may be brightened up behind the cell, by the white dorsal abdominal line. From Venezuela to Brazil and Bolivia.

C. quadrimaculata *sp. nov.* (60 h). ♀ body as in *albiapex*, wings varying from black to brown, all the fringes white. The apices of all the wings with a white semicircular spot. Sometimes above indistinctly, beneath more distinctly a white postcellular spot on the forewing. Type in the Berlin Museum. Bolivia (type); Venezuela; Rio. The species very much resembles the Geometrid *Melanchroia cephe* *Cr.* *quadrimaculata.*

C. melanchroia *Bsd.* (61 a). Body black, head quite ochreous, thorax only in front. Wings bluish black, in each cell with white marginal spots growing longer towards the costa of the forewing. Mexico to Panama. *melanchroia.*

C. maculifrons *Wkr.* (61 a). Body above yellow, beneath white. Wings orange or yellow, the forewing with a black apical area in which there is a light spot behind the discal cell. Costal and distal margins of the hindwing black. All the wings with white longitudinal streaks at the margin. Mexico to Panama. *maculifrons.*

C. tamara *sp. n.* (61 a). ♀ more darkened than the preceding, the white marginal streaks are absent, the slanting subapical spot of the forewing is larger, all the veins broadly marked black. Type in the Berlin Museum. Upper Amazon River (Pebas; São Paulo de Olivença). *tamara.*

C. albiplaga *sp. n.* (61 a). Body black with an intense blue lustre, head laterally and collar partly with dispersed ochreous or red scales. Wings black, with a blue reflection, the forewing with a large hyaline-white subapical spot showing the veins in the ♂ finely, in the ♀ more broadly marked with black. Hindwing with traces of a corresponding spot, particularly beneath. Type (♂ and ♀) in the Berlin Museum, ♀ in the Tring Museum. Colombia. — In the habitus it reminds one of the form *alicia* *Bat.* of the Erycinid *Esthemopsis clonius* (Vol. V, p. 673). *albiplaga.*

C. eucyanoides *sp. n.* (61 a). In the habitus similar to *Esthema*. Body black with a blue lustre, dots on the head and thorax, two lateral lines and the ventral side of the abdomen bluish-white. Wings bluish-black, the forewing with a whitish hyaline subapical band of 4 or 5 spots, on the centre of the proximal margin anteriorly as far as the cell four similar longitudinal streaks above each other. Hindwing with a white, black-veined central area extending to the anal margin. Type (♂ and ♀) in the Berlin Museum. Upper Amazon River (Pebas, São Paulo de Olivença). *eucyanoides.*

C. approximata *sp. n.* ♂ similar to *eucyanoides*, abdomen beneath only with the last three rings white. The forewing only with a subapical band the anterior spots of which are larger than those behind. Traces of white longitudinal lines above the tornus. Hindwing uni-coloured, with lighter internerval stripes which terminate before the margin and are almost bluish-white there. Beneath these stripes are more distinct. Type (♂) in the Berlin Museum. Cayenne. *approximata.*

C. uraneides *Btlr.* (61 c) resembles the Erycinid *Tmetoglone dodone* *G. & S.* (Vol. V, p. 654). In its size, wing-contours and scheme of marking like *approximata*, but all the above-mentioned internerval stripes are bluish-white: in the forewing two longitudinal stripes in the cell, two longer ones and a shorter one behind the cell. Hindwing all white, except the veins, costal and distal margins being black. Abdomen above with a white dorsal line, beneath all white. French Guiana. It strikingly resembles the Erycinid *Uraneis hyalina* *Btlr.* (Vol. V, t. 138 e). *uraneides.*

10. Genus: **Ephestris** *Hbn.*

Veins chiefly agreeing with those of *Calodesma*, but the 1st radial of the forewing rises before the centre of the distance between the 1st and 2nd cubitus; the latter two veins converge from their origin towards the margin. Only one black and yellow species:

E. melaxantha *Hbn.* (61 b). Both sexes agreeing in colour and marking which is to be seen from the figure. Brazil. *melaxantha.*

11. Genus: **Cyanohypsa** *Giac.*

On the whole in the veins similar to the two last genera, distinguished from them and all the other *Pericopinae* by the 2nd median branch in the hindwing rising midway between the 1st and 3rd, scarcely nearing the 3rd.

C. stefanelli *Giac.* (61 a) is bluish-black, the collar, terminal tufts of the thorax and abdominal apex ochreous-yellow. Wings steel-blue, the forewing in the centre with two round white spots below each other. Peru, Argentina, Paraguay. *stefanelli.*

12. Genus: **Isostola** Fldr.

Veins agreeing with those of *Ephestris*, but the 1st and 2nd cubitus of the forewing run parallel or diverge towards the margin. All the species are black, with a lustrous blue colour, with whitish hyaline markings. They resemble certain *Syntomidae* (*Agyrta*, *Cyanopepla*, t. 24), *Dioptridae* (*Phanoptis*) or *Geometridae* (*Gonora*).

- divisa*. **I. divisa** Wkr. (61 c). The hyaline spot before the centre of the forewing behind the cell does not extend to the base, the hyaline central spot of the hindwing is the broadest before the centre of the wing; —
vicina. in the form **vicina** Btlr. the postcellular spot of the forewing extends to the base of the wing, the central spot of the hindwing is the broadest in or behind the centre. From Venezuela to South Brazil and Peru.
- flavicollaris*. **I. flavicollaris** sp. n. resembles the preceding, but on the collar there are instead of the white dots two yellow spots. The discal band of the forewing is longer, more uniformly broad, in front not pointed. Panama. ♂ type from Chiriqui in the Berlin Museum.
- dilatata*. **I. dilatata** sp. n. Wings on the whole broader than in *divisa* (61 c). The discal band of the forewing is very broad, occupying yet a part of the discal cell, at the proximal margin somewhat narrower. Collar with two white dots, basal joint of the palpi and prothorax like in *divisa* below red (in *flavicollaris* yellow). In this species and the following *tenebrata* the central area of the hindwing is expanded towards the proximal margin, so that the black border runs almost parallel to the margin, whilst in the first two species it is widened at the anal angle. Panama. ♀ type from Chiriqui in the Berlin Museum.
- tenebrata*. **I. tenebrata** sp. n. (61 c) resembles *dilatata*, but the forewing is as far as the discal band uni-coloured blackish-blue. The latter does not extend into the discal cell. Bolivia. ♀ type from Puerto S. Rosa (GARLEPP) in the Berlin Museum.
- nigrivenata*. **I. nigrivenata** sp. n. (61 c) resembles *divisa*, but the collar above with 2 red spots, the veins of the discal band are broadly bordered with black, like those of the hindwing. Colombia, Ecuador. ♂, ♀ type (Colombia) in the Berlin Museum.
- philomela*. **I. philomela** Drc. has remained unknown to me in nature. It is said to have the cell quite hyaline, without the red spots of the collar, otherwise like the preceding. Central Colombia.
- In the following species the subapical band is absent.
- rhodobroncha*. **I. rhodobroncha** Fldr. Collar with 2 white spots above, wings black, with a blue reflection; the forewing only with a white discal band, the hindwing with a greyish lustrous central area. Expanse of wings: 46 mm. Amazons.
- superba*. **I. superba** Drc. resembles *rhodobroncha*, the forewing with a basal, the hindwing with a central whitish hyaline area. Panama, Guatemala.
- thabena*. **I. thabena** Dgn. Collar without white spots, with red scales. Otherwise similar to *rhodobroncha*, the veins in the discal band of the forewing broadly black. Hindwing uni-coloured. Colombia.
- I. lydia** Drc. (*Phanoptis*) is probably a Syntomid.

13. Genus: **Josiomorphoides** gen. nov. *Dioptrids*

Posterior tibiae with 2 pairs of spurs, in the forewing the 2nd to 5th radial branches are forked (in *Josiomorpha* the 2nd radial rises separately), the 2nd radial rising before the 5th, the 3rd palpal joint but slightly shorter than the second. In the hindwing the radial ramus and the 1st median branch are forked, the other veins rising separately. The species known resemble Dioptrids (*Josia*) in just the same way as the species of *Josiomorpha* do. Generic type: (*Josia*) *gigantea* Drc.

- gigantea*. **J. gigantea** Drc. (= *flammata* Dgn.). Body black, with a blue lustre, patagia on the ground and collar laterally yellow, thorax above with a yellow median line. Abdomen above and laterally with yellow longitudinal lines, beneath whitish. Forewing with a yellow longitudinal line from the base of the proximal margin, in the ♂ ending before the margin, in the ♀ on it. Hindwing likewise black with a yellow longitudinal stripe, the abdominal margin yellow. Colombia. — Size and colouring similar to that of *Josiomorpha penetrata*, p. 431, t. 60 f.
- dognini*. **J. dognini** sp. n. The ♂ mentioned by DOGNIN as *flammata* belongs to a different species; from the preceding distinguished by broader yellow longitudinal stripes and the absence of the yellow dorsal side and white ventral side of the abdomen. Colombia.

14. Genus: **Sagaropsis** gen. nov.

Chiefly agreeing in the structure with *Josiomorphoides*, the 3rd palpal joint being a third to a half of the second. Black species with yellow markings, the wings being shorter and broader than in the preceding genus. The imagines resemble Dioptrids in the habitus. Generic type: (*Sagaris*) *horae* Drc.

S. horae Drc. (61 b). Black, with a blue lustre, particularly at the base of the wings. Forewing with *horae*, a yellow transverse band to the tornus. Guatemala, Panama.

S. monotona sp. n. is like *horae*, but without any blue lustre. ♀ type from Pebas in the Berlin Museum, *monotona*. ♂ type from the Rio Huacamayo (Peru) in the Tring Museum.

S. elegans sp. n. (61 b) is similar to *horae*, the band removed farther towards the base, terminating *elegans*. behind on the axillaris. Forewing at the base and abdomen with a more intense blue lustre. Beneath the yellow band is behind distally more expanded. Bolivia. ♂ type in the Berlin Museum.

S. brevifasciata sp. n. (61 b) is like *elegans*, the yellow band in front shortened, only extending to the *brevifasciata*. cell. Rosario; St. Inez, 1250 m. ♂ type in the Tring Museum.

S. centralis sp. n. (61 b). Body black, yellow spots on the collar and tips of the patagia, yellow *centralis*. longitudinal lines on the thoracal and abdominal dorsum, the abdomen with similar lateral stripes and white ventrum. Wings yellow, all the margins yellow, the distal margin of the forewing broadly blackish-brown. Venezuela, Valencia. ♀ type in the Berlin Museum.

S. palmeri Drc. (61 b). In the habitus similar to a *Crocomela* (*Darna*). Body black, with a blue lustre; *palmeri*. abdomen beneath ash-grey. Wings black with a blue lustre extending on the hindwing almost to the margin, on the forewing near to the yellow discal band. The latter ends shortly before the tornus, and is 4 mm broad at the costa, 6 mm at the broadest place. Ecuador.

S. rhombifera Dgn. (61 f). Body black, abdomen with a blue lustre and yellow lateral stripe. Wings *rhombifera*. black, with a blue lustre, with a yellow trapezoid central spot, which on the forewing irregularly pierces the black costal margin. Colombia.

S. tolimata Dgn. is unknown to me, but it presumably belongs to this species. Collar and patagia *tolimata*. with yellow spots. Forewing similar to those of *rhombifera*. Hindwing quite black, with a blue lustre. Colombia.

15. Gattung: **Eucyane** (*Esthema* Hbn.).

Posterior tibiae with 2 pair of spurs, 3rd palpal joint at most one third of the second, in the forewing the 2nd to 5th radial branches are forked, the 2nd rising before the 5th, the other veins being like in the preceding genera. Black species often exhibiting an intense blue lustre, with white, yellow or red markings.

1. Wings above without red spots or bands.

E. aletta Stoll (61 c). Black, with a blue lustre, head and thorax with white dots, ventrum white. *aletta*. Wings of the colour of the body, the forewing with a subapical band of white spots, which are pointedly extended towards the base on the hindwing. From Panama to Ecuador and Surinam, San Domingo.

E. euploeodes Btlr. (61 d). The white submarginal stripes extend on the hindwing to the margin. *euploeodes*. Costa Rica, Panama, Colombia.

E. speciosa Wkr. (= *herrona* Btlr.) (61 d). Blackish-blue, with white discal bands, which are broadly *speciosa*. crossed with black by the veins. Fringes at the apex and partly at the tornus white. Ventrums blue with white segmental margins. — In the form **venosa** Fldr. the discal band of the hindwing is expanded to the base, so *venosa*. that the hindwing appears white with a blackish-blue margin. Colombia and Upper Amazon River.

E. confluens Btlr. (61 d) is similar to *venosa*, on the hindwing the basal area is blue, the veins are *confluens*. narrowly black. Ventrums more extensively white. Bolivia; Iquitos.

E. eulalia Drc. (61 d) is likewise similar to *speciosa*, ventrum blue with quite narrow white segmental *eulalia*. margins. The discal bands are less broadly crossed by black, those of the hindwing are farther distally removed.

E. celadon Cr. (= *anacharsis* Bsd.) (61 d). Blackish-blue, forewing with a white postdiscal band, *celadon*. which is parted by narrow black veins. Hindwing above only with traces of an antenarginal band of white spots, whilst beneath it is sometimes distinct. Ventrums uni-coloured blackish-blue. Fringes as in the preceding species. Nicaragua to Surinam.

E. pylotis Drury (= *celina* Bsd.) (61 e) resembles *celadon*, but the ventrum exhibits 5 yellow rings, *pylotis*. the discal band of the forewing has quite white veins, the fringes of the hindwings are all white. Mexico, Guatemala, Honduras.

E. pylotoides sp. n. is quite similar to *pylotis* (61 e), the forewing is more brownish-violet, the band *pylotoides*. is more strongly bent and narrower (at the broadest part 3 mm), hindwing beneath in the centre of the costa with a red spot. The ventral rings are red, narrower. Mexico. ♀ type in the Tring Museum.

- escuintla*. **E. escuintla** Schs. above resembles *pylotoides*; hindwing beneath behind the red spot with a row of small white spots extending straight as far as vein 3, from where they bend inward. Guatemala.
- rhaetia*. **E. rhaetia** Drc. (61 e). Body blackish-blue, the last 5 abdominal segments in the centre red. Wings black, at the base with a particularly intense blue lustre. Discal band behind the cell narrow, parted black by the veins. Hindwing only with the beginning of a submarginal band (up to four spots). Fringes of the hindwings and at the apex of the forewing white. Colombia. *Bolivia*
- rhea*. **E. rhea** Dogn. has remained unknown to me, it may be only a form of the preceding. The white band of the forewing more towards the base, so that the transverse vein is about in its centre, the band of the hindwing is likewise more proximal, so that its first spot in front is 6 mm distant from the end of the subcostal. Colombia.
- The species following now have two bands on the forewing:
- rhamses*. **E. rhamses** Dgn. resembles *rhaetia* (61 e), the spots of the hindwing are somewhat more proximal, the fringes of the hindwing between the 1st median and the 1st cubitus black. Colombia.
- bicolora*. **E. bicolora** Sulz. (= *crocota* Drc., *dichroa* Hbn.) (61 e). Base of the wing with several longitudinal stripes irrorated with blue, the discal band is straight, distinct, broadly parted black by the veins. Apical spot large. With or without a white spot between the bands. Internerval stripes of the hindwing narrow, two stripes in the cell. Fringes black, ventrum white. Guiana to South Brazil and Peru.
- simulata*. **E. simulata** Wkr. (= *mimica* Wkr.) (61 e). Base of the forewing without distinct longitudinal stripes, the discal band in the centre mostly interrupted, the cell of the hindwing at most with traces of longitudinal stripes. Venezuela, Colombia, Brazil.
- plagifera*. **E. plagifera** Fldr. (= *uranigera* Wkr.) (61 e). Body and forewing as in *bicolor* Sulz., at the base of the forewing only a blue stripe on the proximal margin. Basal area of the hindwing blue, with a broad discal band, which only extends to the anterior edge of the cell, broadly parted black by the veins. Bolivia, Amazons, East Peru.
- strigifera*. **E. strigifera** sp. n. (61 f). Forewing as in *plagifera*, in the hindwing the white stripes extend farther distally, whereby it resembles *bicolor*, the stripes of which, however, are much narrower and not so purely white. Itaituba. ♀ type in the Berlin Museum.

2. Wings with red spots or bands.

a) Forewing with a white discal band.

- albimacula*. **E. albimacula** Drc. (61 f). Body blackish-blue, with 5 red rings on the ventral side of the abdomen. Forewing violettish-brown, without red spots, except perhaps the costa at the band narrowly reddish. Hindwing bluish-black, in the anal half with a blue reflection, on the centre of the costa with a red spot extending to the cell. Fringes as in the following white at the apex of all the wings and partly at the distal margin of the hindwing. Mexico, Honduras.
- diana*. **E. diana** Btlr. (61 f). Wings at the base with an intense blue lustre. Forewing at the costa with a red spot joining directly the proximal side of the band. Behind the red spot of the hindwing 2 or 3 more forming a slanting band. Colombia, Amazons, Guiana, Venezuela, Brazil.
- uranicola*. **E. uranicola** Wkr. resembles *diana*, the bands are narrower (at the broadest part 2 mm), those of the forewing mostly only extending to the axillaris, terminating a little before the tornus. Colombia.
- rubrifascia*. **E. rubrifascia** sp. n. resembles *diana* (61 f), the band of the hindwing is quite red. ♂ type from Manicoré in the Berlin Museum.
- glauc*. **E. glauca** Cr. (61 f) resembles *diana*, the band of the forewing, particularly in front and behind, with a pink shine. In the hindwing the whole band or only the foremost spot of it is red. Upper Amazon River.

The following species are wanting the intense blue lustre at the base of the forewing:

- turbida*. **E. turbida** sp. n. resembles *diana* (61 f), without the blue lustre at the base of the forewing, where there are only single greenish-blue particles of dust. Wings broader. Colombia. ♀ type from Cauca in the Berlin Museum.
- excellens*. **E. excellens** Wkr. (= *hermaea* Drc.) (61 e). Forewing brownish-violet, dull, at the costa with a red spot which does not touch the discal band. Hindwing with a white slanting band extending into cell 2 or 3, beneath with a red costal spot, with an intense blue lustre. Venezuela, Colombia.
- reedia*. **E. reedia** Schs. is like the preceding, presumably only a form of it, with a red spot also at the tornus of the forewing. Costa Rica, ? Venezuela.
- rubrimaculata*. **E. rubrimaculata** sp. n. In the wing-contours and scheme of markings similar to the preceding, forewing browner, the red costal spot on the forewing touches the band, a second red spot at the tornus. Band of the

hindwing composed of 2 or 3 red spots, only extending to the 2nd median. Venezuela. ♂ type from Maracaibo in the Berlin Museum.

W. joiceyi Dgn. Forewing black, marking as in the preceding, hindwing with larger spots (red or *joiceyi*, white?), extending to the 1st cubitus. Colombia.

E. drucei Schs. (61 f). Ground-colour of the wings as in *rubrimaculata*, the red costal spot of the forewing *drucei*, distantly remote from the band which is broader than in the two preceding species (maximum 5 mm). Hindwing with a red costal spot and some adjoining white spots. Venezuela to Costa Rica.

E. dejanira Drc. (61 g). Ground-colour of both wings bluish-black, the white bands in the forewing *dejanira* and hindwing very broad, the red costal spot remote from the band, a similar one on the hindwing beneath. Colombia.

b) Discal band of the forewing yellow.

E. arcaei Drc. (61 g) entirely resembles *E. albimacula* Drc. (61 f) with the exception of the yellow *arcaei* band. Honduras, Panama.

c) Discal band of the forewing red.

E. temperata Wkr. (= *jucunda* Fldr., *egaensis* Btlr.) (61 g). Black, with a blue lustre, the last *temperata*, 5 ventral segments red, edged with white. Base of all the wings with a blue lustre, fringes at the apex white, partly also on the hindwing. Discal band of the forewing pale red, at least at its broadest place. $3\frac{1}{2}$ mm broad; the oblique band of the hindwing likewise red and rather broad. From Guiana and Colombia to South Brazil.

E. hystaspes Btlr. (61 g) is similar to the preceding, the discal band of the forewing is dark red, *hystaspes*, narrower, never extending into vein 3. Band of the hindwing narrow, broken up into spots, sometimes being absent, but in this case there is beneath at least one red spot. Venezuela.

E. chalybea sp. n. resembles *hystaspes* (61 g), the discal band of the forewing extends to the tornus, *chalybea*, whereas in the two preceding it terminates at the axillaris, about as broad as in *temperata*. The band of the hindwing is long, more remote towards the margin than in the allied species and more parallel to the margin, extending into cell 2; not broken up into spots. Under surface like the upper. ♀ type from the Rio Songo (Bolivia) in the Berlin Museum.

E. calida Fldr. (61 g). Forewing without an intense blue lustre at the base, only strewn with greenish-blue scales. Discal band of the forewing extending to the posterior margin, dark red; band of the hindwing as in *temperata*, sometimes wanting above. Colombia.

E. meres Drc. Body in this species and the following quite black, abdomen with a blue lustre. Forewing *meres*, black, with a red line from the costa to the tornus beyond the cell. Hindwing black, with a blue lustre. Colombia. (This species was not before me.) — *E. constrictifascia* Dgn. which was mentioned in the genus *Thyrgis* (p. 428), may also belong hereto.

E. ambigua sp. n. (61 g). Body and wings of the same ground-colour as in *meres*, but the forewing *ambigua*, is violettish-brown. A flesh-coloured discal band runs rather straight across the last quarter of the discal cell to the tornus. Hindwing with a peculiarly dull blue lustre. Honduras. ♂ type in the Berlin Museum.

E. gundlachia Schs., from Cuba, has remained unknown to me and is doubtfully placed here. *gundlachia*.

16. Genus: **Pericopis** Hbn.

In this genus we also comprise the *Chetone* Bsd., *Sermyla* Wkr., *Dysschema* Hbn. (partly), and *Thebrone* Bsd., because these genera are only founded upon coloristic marks and are therefore of subgeneric value at most. It is the most polytypical genus of the subordinate family, in the colouring, marking, and wing-contours particularly copying species of *Heliconius* with which they also fly together. Sometimes the screening hue only refers to the ♀♀. In this genus and the following genera the posterior tibiae only exhibit terminal spurs denoting a more continuous specialization corresponding with the mimetic habitus. In the forewing the 2nd radial branch rises separately, but mostly anastomoses with the forked radial branches 3 to 5. The 5th radial rises before the 3rd. The pinnae of the ♀ antennae are shorter than the diameter of the shaft, whereby the genus differs from *Phaloë* and others. The ♂♂ are often different from the mimetically coloured ♀♀; this sexual dimorphism is not yet known in all the species, so that later on probably some species will have yet to be combined.

1. Abdomen above uni-coloured, without a darker median line, without hardly any sexual dimorphism. ♂ forewing without diffuse hyaline stripes, with welldefined bands and spots (= *Chetone* Bsd.).

- catilina*. **P. catilina** Cr. (= *nasica* F., *perspicua* Wkr.) (62 a). Wings blackish-brown, markings greenish-yellow with white marginal dots. Body above blackish-brown, beneath sand-coloured. Brazil, Colombia, Guiana.
- conjuncta*. **P. conjuncta** sp. n. (62 a) is quite similar to *catilina*, forewing at the base behind the cell with a large greenish-yellow spot, the posterior edge of the cell and 2nd cubitus very broadly black, whereby the discal band is divided into 3 large spots. On the hindwing the transverse vein is not broadly marked black, and therefore the light spot distally to the cell coheres with the yellow ground-colour. Colombia. ♀ type from the Rio Dagua in the Berlin Museum.
- ithomia*. **P. ithomia** Fldr. (62 a) is rather variable, head and thorax black, dotted white or yellow, abdomen blackish-brown, at the base more or less ochreous-brown, beneath straw-coloured. Forewing blackish-brown, in the basal area without or with ochreous-brown longitudinal stripes at the costa and on the fold. Discal band composed of ochreous, yellow or white spots, a likewise yellow or white subapical band, a series of large similar marginal spots. Hindwing ochreous, costa basally and distal margin broadly black, with yellow or white marginal spots. Panama, Honduras. It copies *Heliconius zuleika* Hew. (Vol. V, t. 74 c) flying in the same region.
- kenara*. **P. kenara** Btlr. (= ♂ *salvini* Fldr., *Drc.*) (62 a). Forewing similar as in *ithomia*, the apical spots smaller. Hindwing likewise similar to the preceding, but the veins and costa quite black. Forewing beneath at the base broadly ochreous-yellow, with a black cellular spot. — The form **separata** form. nov. (62 b) has the band of the hindwing broken up into broad black streaks on the veins. Panama, Colombia, Venezuela.
- angulosa*. **P. angulosa** Wkr. (62 b). Scheme of markings in the forewing as in *ithomia*, but the base of the forewing is broadly ochreous-brown, with a black wedge in the cell. Discal band at least behind the cell ochreous-brown. Hindwing as in *ithomia*. Veins finely black. Colombia, Venezuela. — **heliconides** Bsd. (= *irenides* Btlr.) (62 b) from Central America (Honduras, Panama) has the wedge at the base of the forewing connected with the bordering of the ochreous-brown area.
- suprema*. **P. suprema** sp. n. (62 b). Body and forewing as in typical *angulosa*, the yellow discal band of the forewing is much broader, light brimstone-coloured, steeper; it terminates considerably far before the proximal angle. Margin of the hindwing much broader black, its proximal edge going across the transverse vein. Costa not black. Colombia, Ecuador. ♂ type from Rio S. Juan in the Berlin Museum, ♀ paratype from Zamora in the Tring Museum.
- phaeba*. **P. phaeba** Bsd. (= *ithrana* Btlr.) (62 c). Head and thorax black, dotted white and ochreous, abdomen above brown, beneath straw-coloured. Forewing blackish-brown, at the base one or several longitudinal lines varying from red to ochreous-brown, with a yellow broad discal band ending obtuse at the 2nd cubitus or pointed behind it, 1 to 4 yellow subapical spots and a series of white marginal spots. Hindwing with a broad black costal margin and distal margin, in the latter a series of marginal spots varying from ochreous-yellow to red-brown, the veins thickly black, otherwise ochreous-yellow to red-brown. Guatemala to Colombia, Ecuador, Peru, Upper Amazon River. — In the form **intersecta** form. nov. (62 c) the marginal band of the hindwing is broken up into thick black streaks which are situate to the right and left of the ends of the veins; the basal parts of the veins are less thickly black. As this form only occurs in the Amazon District and Eastern Peru, it is perhaps the southern race of the species, but perhaps also a distinct species. It copies *Heliconius aoede* Hbn. (Vol. V, t. 76 f).
- meta*. **P. meta** Drc. is unknown to me in nature. Quite similar to *intersecta* (62 c), but the head and thorax are black, the hindwing in the ground-colour pale yellow. Colombia.
- phyleis*. **P. phyleis** Drc. (62 c) varies a great deal in the different specimens. Head and thorax similar to *phaeba*, but abdomen beneath chocolate-brown. Forewing blackish-brown, at the base of a variably extensive ochreous colour. A broad brimstone-coloured discal band rarely extends somewhat beyond the 2nd cubitus, some yellow or white submarginal dots. Hindwing blackish-brown, with reddish-brown or ochreous-brown internerval stripes which are often very much reduced. Colombia, Ecuador, Peru, and Bolivia. It copies *Heliconius melete* Fldr. (Vol. V, 77 b).
- mimica*. **P. mimica** Fldr. (62 c) is similar to *phyleis*, the brown dusting on both wings is much scantier, the hindwing being sometimes uni-coloured black, a subapical row of spots is parallel to the discal band, marginal spots are wanting. Colombia.
- isse*. **P. isse** Hbn. (62 d). Body coloured as in most of the species of this subgenus, forewing blackish-brown, rarely at the base with two ochreous-brown longitudinal lines; discal line narrow, uniform, extending to the axillaris, a subapical band composed of 3 yellow spots, and white marginal spots. Hindwing ochreous-yellow, with black veins and a narrow black margin, before this a broad black band which is distally extended on the veins and connected there with the margin; costa likewise black, analis and stripes before and behind it likewise black. Brazil.
- decisa*. **P. decisa** Wkr. (62 d) is similar to *isse*, the discal band is narrower, behind more pointed, subapical spots hyaline, shaded somewhat with yellow. Discal cell of the hindwing and partly its surroundings brimstone-coloured. South Brazil.
- studyi*. **P. studyi** sp. n. (62 d) is likewise similar to *isse*, 3 wood-coloured longitudinal lines at the base of the forewing, all the markings hyaline, the discal band broader, behind tapering, terminating a little before

the axillaris. Hindwing as in *isse*, but more red-brown. Abdomen beneath dusted somewhat blackish. Colombia. It was denominated in honour of E. STUDY, the well-known mimicry-explorer. ♀ type in the Berlin Museum.

P. histrio Fldr. (62 c). Ground-colour of the wings brown, the forewing basally with 5 or 6 black longitudinal stripes, a black spot at the cell-end, opposite which a similar one is at the costa, 2 or 3 black spots between the 2nd cubitus and the 3rd median branch; apical part black, with a marginal line of yellow and white spots. At the costa a yellow spot and a yellow band of a variable extent. Hindwing on two thirds of the costa, in the cell, distal margin and proximal margin black, with yellow or brown submarginal spots. Fringes at the apex white. Amazon River. — In the form **eugenia** Drc. (62 e) the yellow band of the forewing is absent, and its apical part is much narrower black. *P. histrio* copies *Heliconius euphonia* Fldr. and *Lycorea ceres* Cr. (Vol. V, t. 31 c).

P. hydra Btlr. (62 e) is quite similar to *histrio*, but larger, the apical part of the forewing is broader black, at the apex there are no light spots. Hindwing black, with a brown costal spot before the apex and small yellow submarginal spots. Fringes at the apex white. Ecuador, Peru. — **histriomorpha** form. nov. has hindwings entirely resembling those of *histrio*, but the black margin of the hindwing is narrower. ♀ type from Zamora in the Tring-Museum. — *P. hydra* copies *Heliconius aristiona* Hew. and *messene* Fldr. (Vol. V, t. 73 d).

P. felderi Bsd. (62 f). Forewing black, at the base extensively red-brown, so that only a basal wedge in the cell, and the proximal margin remain black. Across the cell-end a band of 2 hyaline spots to which a bent brown spot is joined. A postdiscal and a submarginal row of spots are likewise whitish-hyaline. Hindwing red-brown, with a black margin, which exhibits a series of white submarginal spots. Colombia.

P. salvini Fldr. Base of forewing red-brown, black longitudinal stripes on the veins and in the cell, the rest of the wing being blackish, with red-brown traces. A yellow costal spot in two thirds of the cell, a similar one right behind it, extending to the 3rd median vein, behind it continued by two yellow dots, a submarginal row of white spots. Hindwing red-brown, the costa and distal margin broadly black, the submarginal row of spots and a spot at the apex white. Panama.

2. Abdomen in the ♀ (sometimes also in the ♂) above uni-coloured, mostly a distinct sexual difference in the colouring, ♂ often with hyaline places on the forewing. Costa at the base not with a conspicuous light streak (*Thebrone* Bsd.).

P. tricolora Sulz. (= *turbida* Wkr., *aglaure* Cr.) (62 d, e). Body blackish-brown, abdomen beneath in the ♂ entirely pale yellow, in the ♀ partly pale yellow at most; dorsum of abdomen in the ♂ varying from yellow to a bluish grey, with a black dorsal line. Base of collar and of patagia in the ♂ (very rarely in the ♀) with yellow spots, ♀ on the mesothorax sometimes with a whitish spot. Forewing blackish-brown, with hyaline places. Hindwing in the ♂ whitish hyaline, the costa, distal margin and transverse vein broad black, at the anal angle traces or spots; in the ♀ at the anal angle a red band extending to the 1st cubitus, distally to the cell a yellow spot, otherwise the hindwing blackish-brown. The races are distinctly ascertainable only by the ♀. The typical form from Guiana, the Amazons and East Peru has in the hindwing the anal band pink, more or less distinctly broken up into single spots; the hyaline bands of the forewing are indistinct. The ♂ has almost invariably whitish hindwings, without red spots at the anal angle. — **jansonis** Btlr., from Panama, Colombia, Venezuela, generally has shorter and broader wings, in the ♀ the brick-red band of the hindwing is uniform behind the 2nd cubitus, not broken up into spots. The bands of the forewing exhibit a yellow or brownish tinge and are more distinct. In the ♂ there are often red spots at the anal angle of the hindwing. — The ♂ form **flavopennis** Rbl. has yellow instead of white hindwings. — The Colombian ♀♀ mostly exhibit yet in the cell some yellow scales, thus forming the transition to the form **salome** Drc. (= *albisarta* Prout) (63 a) from Ecuador and Bolivia. Here there is also proximally to the transverse vein another yellow spot. — In South Brazil flies **lunifera** Btlr.; in the ♀ forewing only the apical band is hyaline, hindwing with a short anal band and a large yellow spot of 5 mm diameter, which is not parted by black veins.

P. nigriventralis Dgn. (63 a). ♂ similar to that of *tricolora*, in the forewing the discal band and subapical band are fused behind the cell; hindwing with a broader border containing white submarginal dots and before it a series of rust-brown indistinct spots. Collar and patagia darker. The yellow under surface of the abdomen with a black longitudinal line. ♀ unknown. Upper Amazon River.

P. hypoxantha Hbn. (= *sibylla* Btlr.) (63 a). ♂ similar to *jansonis*, hindwing yellowish to red-brown hyaline, with a submarginal row of white spots, before them sometimes rust-brown spots. Transverse vein narrow black, in front broader at most. Base of wings without the red spots exhibited in the preceding species. In the forewing the discal band and subapical band are at least connected above. Colombia, Venezuela, Brazil, Bolivia, Peru.

P. thyridina Btlr. (= *unxia* Drc.) (62 d). ♂ similar to *hypoxantha*, the margin of the hindwing above and beneath without the rust-brown marking, the discal area paler yellow, collar and patagia with smaller yellow spots. Ecuador, East Peru and Bolivia.

P. nigrivenata sp. n. (62 c). ♂ similar to the preceding, hindwing with black veins, also the cell longitudinally parted by black lines. Forewing without white submarginal spots, all the black markings, particularly beneath, with rust-brown patches. Collar and patagia as in *hypoxantha*. Ecuador, ♂ type in the Berlin Museum.

- evanescens.* **P. evanescens** *sp. n.* (63 a). ♂ similar to the preceding, somewhat larger (forewing 30 mm long), all the white dots and rust-brown markings are absent. Brazil. ♂ type from Casa Branca in the Berlin Museum.
- ccialis.* **P. ccialis** *Drc.* (63 a, b). ♂ similar to *tricolora*, transverse vein of the hindwing only very narrow black, its margin with a submarginal row of white spots, before which there is a row of glaring red spots as far as the apex. ♀ with a distinct discal band and uniform subapical band on the forewing, in the hindwing the red band extends to the apex, at the margin a row of white spots. Costa Rica, Panama, Colombia.
- lucifer.* **P. lucifer** *Btlr.* (63 a). ♂ similar to *tricolora* (62 d, e), collar and patagia less yellow, ventrum with a black median line. Hindwing with broader black margins, also the proximal margin as far as the cell darkened by blackish. Brazil, ? Venezuela.
- subapicalis.* **P. subapicalis** *Wkr.* (= *tristis* *Wkr.*) (63 b). ♀ body blackish-brown, anal tuft ochreous-yellow. Forewing blackish-brown, proximal margin and a band at $\frac{1}{3}$ darker, a hyaline broader transverse band distally to the cell; hindwing jet-black, with a dull dark blue reflection, a row of white marginal spots, the largest at the apex and anal angle. ♂ (= *noctuites* *Btlr.*) collar with yellow spots, patagia with red spots, abdomen yellow, above with black longitudinal lines and black transverse lines on the segments, anal tuft ochreous-yellow. On the forewing the hyaline places are enlarged; the distal margin is broad blackish-brown, the proximal margin broad trapezoidal dark, of the transverse band particularly the spot in the centre of the cell, as well as the costa and transverse vein are blackish-brown. Hindwing quite hyaline white, costa and distal margin broad black; — in the male form **parnassioides** *Wkr.* the ground-colour of the hindwing is yellow. Brazil; ? Venezuela.
- fantasma.* **P. fantasma** *Btlr.* is a well recognizable species. Body similar to that of *parnassioides*, but abdomen beneath brown, only laterally narrow yellow. Forewing with yellowish to brownish more thinly scaled places: a band from the tornus towards the cell-end, broadly forked blackish-brown by the transverse vein; the base the same, separated from it by a feebly blackish band, distal margin and proximal margin particularly dark. Ground-colour of the hindwing and of the abdomen above radiantly yellow, the costa black, transverse vein broadly black, the distal margin and proximal margin broadly black, the latter with yellow longitudinal stripes, the margin with some red scales at the anal angle, anal tuft red. Expanse of wings: 50 mm. Colombia.
- larvata.* **P. larvata** *Wkr.* (62 f). ♀ body blackish-brown, abdomen beneath yellow with a broad black median line. Forewing blackish-brown, with a hyaline discal and subapical band, the latter in front pointed. Hindwing brimstone-coloured, costa, veins and margin black, the latter broad, extending to beyond the transverse vein and containing a yellow spot distally to the transverse vein as well as some red spots from the anal angle towards the centre of the wing. Guiana, Amazons.
- formosissima.* **P. formosissima** *Btlr.* (62 f). ♀ body as in *larvata*, the forewing almost uni-coloured brown, the hindwing blackish-brown, with a row of yellow spots distally to the cell and some red spots at the anal angle. Amazons, Putumayo.
- buckleyi.* **P. buckleyi** *Drc.* resembles the preceding, body black, hindwing only with three yellow spots (between the 2nd median and the radial ramus), the red anal band extending to the 3rd median. Ecuador.
- rosina.* **P. rosina** *Btlr.* (63 b) is similar to *jansonis* *Btlr.* Bands in the forewing mostly connected, in the hindwing the pinkish-red spots are continued to the apex, the yellow ones are wanting. Upper Amazon River.
- leucophaea.* **P. leucophaea** *Wkr.* (= *rubrimargo* *Bsd.*, *salvatoris* *Bsd.*) (63 b) is somewhat like *rosina*; collar and patagia spotted yellow or white; in the ♀ forewing almost uni-coloured brownish-black, in the ♂ the usual hyaline places, in the ♂ and ♀ the hindwing is blackish-brown, with a band of red spots being here situate more towards the margin and more continuous than in *rosina*, behind it a marginal row of white spots. — The form **flora** *Btlr.* has in the ♂ twice as broad red bands, in the ♀ the forewings show bright markings like in the ♂ (from Guatemala). — Mexico to Nicaragua. — Larva pale straw-coloured with lateral, subventral and ventral purple brown lines, traces of similar subdorsal and stigmatal lines. Transverse bands of broad purple spots on the segments 3, 5, 11 and 13, a lateral spot on segment 6. Tubercles orange, hairs black, some on segments 3 and 4, 12 and 13 longer than the others. — The ♀ resembles the species of *Didonis* (Nymphalidae; Vol. V, t. 94 f, of which tori emitting an offensive smell were described), which therefore probably form the model of the species.
- damon.* **P. damon** *Drc.* remained unknown to me. ♀: body black, head, collar and patagia spotted white, abdomen above black, beneath yellowish-white. Forewing dusky hyaline, apex, distal margin, proximal margin, and two transverse bands black, veins also black. Hindwing yellowish-white. Distal margin broad black with white submarginal spots. Transverse vein broad black, veins black. Expanse of wings: 85 mm. Peru, Chanchamayo.
- semirufa.* **P. semirufa** *Drc.* is neither before me. ♀: body black, collar with yellow spots, base of patagia also yellow. Abdomen above red-brown, beneath yellow. Forewing similar to that of *damon*. Hindwing reddish hyaline, with a black distal margin containing white submarginal spots and before them a red band. Beneath the forewing shows a red apical band and a red spot at the tornus, the hindwing a red costal margin. Like the preceding. Perhaps both are female forms of *hypoxantha* *Hbn.* (63 a).

P. sylvia Drc. is unknown to me. ♀: body black, collar and patagia dotted white. Abdomen above *sylvia*. grey, beneath pale yellow. Forewing like in the preceding, a red-brown line on the proximal margin, some white subapical spots. Hindwing whitish hyaline, veins and the broad transverse vein black. Distal margin broad black with white submarginal spots. Beneath the costa is chrome-yellow. Size and range as in the preceding.

P. terminata Guér. Body blackish-brown, abdomen beneath only with two narrow yellow lines, patagia *terminata*. with a red dot. Wings blackish-brown, forewing with a narrow yellowish transverse band extending from the costa to the tornus and being somewhat reddish at the ends. Hindwing with a broad red marginal band parted black by the veins. Fringes partly black. Forewing beneath in the centre with a yellow spot, hindwing beneath on the inner side of the red marginal band bordered with yellow, the latter band mostly paler. — The form **holofermes** Btlr. (62 f) is wanting the yellow spots beneath. Brazil: Rio. *holofermes*.

P. marginata Guér. (63 c) resembles the preceding, but in the forewing the transverse band extends *marginata*. towards the centre of the distal margin, not to the tornus. The ♂ has uni-coloured blackish-brown hindwings. Anal tuft orange, not red like in *terminata*. Brazil: Leopoldina, São Paulo.

P. constans sp. n. (63 c). ♂ and ♀ almost uniform. Body blackish-brown, collar and patagia spotted *constans*. ochreous-yellow, abdomen above blackish-violet, beneath white. Wings similar as in *tricolora*-♂, the dark portions, however, irrorated bluish, fringes of hindwings white, margin of hindwing in the ♀ narrower than in the ♂. Beneath all the wings with a yellow basal spot, the bluish irroration more distinct. Brazil. ♂ type from Leopoldina, ♀ from Bahia, in the Berlin Museum.

P. hilarina Weym. (= *biformis* Schs. ♂) (63 c). Body blackish-brown, collar and patagia with light *hilarina*. spots, in the ♂ abdomen beneath with two narrow light longitudinal stripes. Forewing partly hyaline, with a dark dentate transverse line across the centre of the cell, a similar one across the transverse vein, a dark apical and tornal area. A yellowish-white band extends from the costa to the centre of the margin, yellowish-white marginal spots. Hindwing light red, costa and distal margin black, the light area projecting on the centre of the distal margin to the border. Single dark spots in the red area may be present or absent. In the ♀ the black margins are somewhat broader. — In the form **fulva** Weym. (63 c) the red area of the hindwing is yellow. *fulva*. South Brazil.

P. hilara Weym. (= *biformis* Schs. ♀) (63 c) resembles the preceding, but the hindwing is extensively *hilara*. black at the anal margin and from the direction of the base, whilst the red colouring is only found in a large crescent round the cell-end. It may only be a form of the preceding. South Brazil. — It likewise occurs with yellow colouring on the hindwing, like *fulva* Weym.; this is **mutata** form. nov.; ♀ from Castro (Paraná) in the *mutata*. Tring Museum.

3. Costa at the base with a very much contrasting light longitudinal streak; abdomen in the ♀ uni-coloured or with a dark dorsal line. Subgenus *Sermyla* Wkr.

P. transversa Wkr. (63 f) is blackish-brown, collar and patagia spotted yellow. Abdomen in the ♀ *transversa*. above with two yellow lines, two similar lateral ones and two ventral ones. Wings black, forewing with a yellow costal streak as far as about $\frac{2}{3}$ of the costa and a yellow subapical band to the centre of the distal margin, hindwing with a yellow central spot. Beneath the base is yellow in the length of the costal streak as far as the analis. Brazil.

P. morta Schs. approximates *transversa* (63 f), the costal line and subapical line are connected, *morta*. hindwing uni-coloured blackish-brown. Abdomen blackish-brown. Brazil.

4. Abdomen in the ♀ with a dark dorsal streak. costa at the base not with a conspicuously light longitudinal line. Subgenus *Pericopis* Hbn.

P. lycaste Klug (= *iscariotes* Bsd., *cydon* Drc.) (63 e). Body blackish-brown, patagia and thoracal *lycaste*. sides with scanty yellow scales; abdomen above red with a black dorsal line, laterally with black lines, beneath brimstone-coloured, posterior margins of the segments in the centre black. Forewing blackish-brown with a diffuse hyaline transverse band extending from the tornus to the costa, bifurcating at the discal cell, the outer portion projecting between the 1st cubitus and 2nd median towards the margin. Hindwing hyaline in the ♂; costa, transverse vein, and margin black, the latter with a row of white submarginal spots, before them a brick-coloured red band being more or less extended to the apex. ♀ hindwing of an ochreous-red ground-colour, margin black with white spots, before it an irregular black line. Beneath the costa of the forewing with a red basal streak, the black markings partly covered with red-brown. — In the ♂ form **praetides** Drc. (63 f) *praetides*. the red parts in the margin of the hindwing are absent; — in **tibesis** Drc. (63 d, e) the ♂ hindwing is not whitish *tibesis*. hyaline, but red-hyaline. Mexico to Colombia. — Larva dark brown, spotted black in dorsal, lateral, and stigmatal lines between the reddish-brown tubercles. Segment 4 is lighter, 5 and 11 dark, their tubercles black; 3, 6 and 13 are somewhat darker.

P. viuda Schs. (63 d). ♀ similar to that of *lycaste*, but much larger, abdomen above ochreous-yellow *viuda*. with black posterior margins of the segments and a black dorsal line. Hindwing ochreous-yellow, the black band between the cell and margin very broad, analwards very much widened. Panama.

- P. marginalis.** All the forms of *marginalis* differ from those of *lycaste* by the broad yellow basal spot of the patagia. The transverse band of the forewing is more distinct, more hyaline, not so dusky as in the preceding.
- marginalis.* Abdomen beneath yellow, without black segmental margins. **marginalis** Wkr. (♂ = *dissimulans* Wkr.). ♂ ground-colour brown, ♀ with a black postdiscal line in the hindwing, which is hardly widened towards the anal margin, the hindwing being brick-red to ochreous. Venezuela, Colombia. — **crassifascia** subsp. nov. (63 d) is in the ♂ larger, with more blackish-brown forewings, the bands in the hindwing as well as the ground-colour of it in the ♀ more dark red, the hindwing with a black postdiscal line being very much widened towards the anal margin. South Colombia, Bolivia, Ecuador (type from the Putumayo in the Berlin Museum). — **panamensis** subsp. nov. resembles more *marginalis*, but in the ♀ the postdiscal band is narrow and short, not continued to the anal margin, mostly terminating before the 2nd cubitus; the band of the forewing is in the ♂ more whitish, not so hyaline as in the preceding races. Panama. (Type from Chiriqui in the Berlin Museum). — **magdala** Bsd. (63 f) is the smallest race. Forewing 32 (♀) or 29 (♂) mm long; in the ♂ the band of the forewing and of the hindwing is very much strewn with white scales, nor are the veins behind the cell of the hindwing dark. ♀ similar to *marginalis*, but smaller. Hindwing hyaline reddish, band as in *marginalis*. Nicaragua to Guatemala.
- lygdamis.* — **lygdamis** Drc. In the ♀ likewise similar to the type, ♀ forewing brown, the band less contrasting, distally indistinctly defined; hindwing brick-red, band similar to that in *crassifascia*. ♂ in the band of the forewing very white, the red antemarginal band of the hindwing almost as broad as in the ♀. — In the form **leda** Drc. the costal margin of the forewing is basally quite pale, all the markings are narrower. Costa Rica.
- fortis.* **P. fortis** Schs. is extremely similar to the preceding, but the forewing at the base behind the red costal dot yet with a short, thick yellow longitudinal streak on the cell. In the ♀ the veins of the hindwing are only distally to the antemarginal band black, otherwise like *lygdamis*. Costa Rica.
- zeladon.* **P. zeladon** Dyar bears a relationship to *marginalis* just like *tibesis* to *lycaste*; a remarkable fact is that also *tibesis* as well as *zeladon* is chiefly the Mexican representative of the respective species. ♂ with a red-hyaline hindwing, otherwise like *marginalis*. Separable from *tibesis* by the broad yellow basal spot of the patagia. Mexico.
- gaumeri.* **P. gaumeri** Drc. (63 c). ♂. Body as in *marginalis*, but the black dorsal line does not reach to the anal segments; anus black. Hindwing white, marginal line and ochreous spots brown. Forewing hyaline, at the costa two spots, the anterior portions of the distal margin and proximal margin brown. The ♀ being supposed to belong to it resembles Central American ♀♀ of *marginalis*, but it has no white spots in the margin of the hindwing. Mexico.
- neda.* **P. neda** Klug (= *submarginata* Wkr.) (63 f). ♀ brown, collar and patagia spotted ochreous. Abdomen above with a black dorsal line and black segmental margins, beneath yellow with a black central line. Forewing grey, feebly hyaline, $\frac{2}{3}$ of the proximal margin, a transverse band at $\frac{1}{2}$ of the costa, transverse vein and distal margin darker blackish-brown, the latter indented at the 3rd median. Sometimes there are some dark internerval stripes. Hindwing yellow varying with red-brown, veins and margin black, the latter often with yellow submarginal spots. ♂ (= *fanatica* Dogn.): abdomen above lighter, dorsal line broader, wings more extensively hyaline, forewing often without a transverse band, hindwing hyaline sulphur-coloured, margin much narrower than in the ♀, sometimes quite absent. — In the form **nubila** Wkr. of which only the ♀ is known to me, the veins of the posterior half of the hindwing are very broadly bordered with black. Brazil, Colombia.
- nubila.* **P. indecisa** Wkr. (63 g). Body blackish-brown, collar and patagia on each side with 2 yellow spots, abdomen above with 2 yellow subdorsal stripes, beneath yellow with a narrow black median line. Proximal margin of forewing as far as the analis blackish-brown, of the same colour a transverse band at $\frac{2}{5}$ of the costa, another broader one across the cell-end to the tornus and with a blackish-brown apical part. Subapical band yellowish hyaline, the other hyaline portions dusted with brownish. Hindwing varying from yellow to ochreous. Costa, transverse vein, and distal margin as far as the cell blackish-brown, the distal margin with yellowish or white submarginal spots and in front of it with a ferruginous red band being interrupted between the 2nd cubitus and 3rd median branch. Brazil.
- indecisa.* **P. aorsa** Bsd. (= *lucetia* Btlr., *umbra* Drc.) (64 a). Body as in *indecisa*, abdomen with a very broad black median line beneath. Forewing as in *indecisa*, but shorter, hindwing varying from ochreous to pinkish-orange, with a narrow, black margin dotted bluish-white, a black costa and veins, distally to the cell a black postdiscal line being pointedly extended on the veins, at the anal margin extended to the base. S. Salvador, Honduras, Guatemala.
- aorsa.* **P. recta** sp. n. (63 g) is very much like *aorsa*; but whilst in the latter the dorsal line of the abdomen is on each segment expanded at the posterior margin, it runs here uniformly. Wings on the whole lighter, the postdiscal band of the hindwing is much narrower, not so pointedly extended. The discal and subapical bands of the forewing are more broadly separated, not connected. Panama, Colombia. ♀ type from the Canca in the Berlin Museum.
- recta.* **P. joiceyi** Dgn. (♂ = *talboti* Dgn.) (63 g). In the forewing the dark ground-colour is confined to the costa, apex, distal margin, proximal margin as far as before the analis, a black thin line from $\frac{2}{5}$ of the costa to the proximal margin, another one from $\frac{3}{4}$ of the costa to the distal margin; the latter line is broader, it crosses the transverse vein and is expanded at the distal margin. The black places are covered with reddish-brown, the hyaline ones in the ♂ almost transparent, in the ♀ dusted with brownish. Hindwing red-brown, in the ♂ very hyaline, with black veins, in the ♀ a broad black transverse vein and a black margin containing white

submarginal spots and before them ferruginous spots. Body blackish-brown, patagia basally broad yellow, thorax with 2 or 3 white spots, abdomen at the base, particularly in the ♂ white-haired, with a black dorsal line and black lateral lines; the ochreous colour warms behind into greenish. Anal tuft ochreous-yellow. Ventral side quite brimstone-coloured. Colombia.

P. molesta *sp. n.* (63 g). ♂. Body blackish-brown, collar and patagia spotted yellow, thorax behind *molesta*. and anterior half of abdomen red-brown, the posterior half greenish, dorsal and lateral lines of the latter black, underside quite brimstone-coloured, anal tuft ochreous-yellow. Forewing as in *P. recta*, but with comparatively large white triangular antemarginal spots. Hindwing reddish-yellow, veins of the same colour, margin black, narrow, with large white triangular spots. Under surface similar to the upper, proximal margin of forewing red-brown, hindwing somewhat dusted dark. Colombia. ♂ type from Popayan in the Berlin Museum.

P. anadema *Drc.* was not before me. Very much like *molesta* (63 g), larger (expanse of the ♂ 65 mm), *anadema*. hindwing with black veins, the ♀ forewing brownish-yellow, with a broad, broken, yellow transverse band; hindwing orange, distal margin black with indistinct white spots. Colombia.

P. bivittata *Wkr.* (= *disjuncta* *Wkr.*) (64 a). In the habitus recalling *P. aorsa* (64 a) and *recta* (63 g), *bivittata*. wings more longish, underside of abdomen without the black median line. Discal band and subapical band of forewing broad, yellow, both nearing each other, rarely narrow. Hindwing red-brown, with a black margin dotted bluish-white, and a black transverse band before it. The veins between both, and the transverse vein black. Postdiscal band and white submarginal spots may disappear. Venezuela, Panama.

P. daphne *Drc.* (64 a) is one of the rarest species. Similar to *P. bivittata*, the yellowish-hyaline transverse *daphne*. bands of the forewing white, of the same colour distinct submarginal dots on both wings and a spot behind the cell on the hindwing beneath. Panama.

P. eurocilia *Cr.* (= *zerbina* *Stoll.*) (64 a). Forewing blackish-brown, in the basal half more or less *eurocilia*. lighter, with a narrow brimstone-coloured discal band and subapical band which are so close together that they are confluent before and behind the cell and thus enclose the blackish-brown spot on the transverse vein. The posterior band may be shortened. White submarginal spots absent or present. Hindwing as in *bivittata*, the extent of the black markings very variable. Body also like in *bivittata*. — In *obscurata* *form. nov.* the whole *obscurata*. basal part of the forewing is fused with the bands which are here densely dusted with brownish, there only remains a blackish spot in the centre of the cell; hindwing black, only the costa, a posteriorly narrowed submarginal band from the costa to about $\frac{1}{2}$ of the distal margin, the upper part of the cell, distally and basally prolonged, are red-brown (♀ from the Chanchamayo in the Berlin Museum). — *melaina* *form. nov.* is quite *melaina*. blackish, only the bands in the forewing brimstone-coloured, the red-brown markings marked with a violettish grey (♀ from Tachira, Venezuela, in the Tring Museum). Colombia, Amazons, Guiana, Ecuador, Peru, Bolivia.

P. irene *Drc.* (64 a). Forewing blackish-brown, at the base more or less lighter, with but one yellow *irene*. transverse band in the centre of the wing. Hindwing and body as in *eurocilia* *Cr.* The Brazilian race has a length of the forewing of about 33 mm. — In the subsp. *staudingeri* *Drc.* the forewing is at least 37 mm long, *staudingeri*. and it has a somewhat narrower band of the forewing. — Of the latter there exists a form with a milky-white band of the forewing, and a similar oblong spot crossed by the red transverse vein in the distal half of the cell in the hindwing: *splendidissima* *form. nov.* (64 b) (♀ type from San Domingo, Carayaba in the Tring Museum). *splendidissima*.

P. unifascia *sp. n.* (64 b). Body blackish-brown, collar and patagia on each side with two yellow *unifascia*. spots. Abdomen above yellow, dorsal line and lateral line black. Ventrums light yellow; anal segment black with an ochreous-yellow apex. Forewing blackish-brown, band as in *staudingeri*, hindwing yellow, costal margin and transverse vein and a broad distal margin black; the latter at the cubitus almost 1 cm broad, anteriorly narrowed, all the wings with above indistinct, beneath distinct white submarginal spots. Beneath as above, bases of wings and costal stripe at the base of the hindwing brown. Paraguay. ♀ type from Sapucay in the Tring Museum.

P. amphissa *Geyer* (64 b). Body and forewing as in *indecisa* *Wkr.*, on the forewing above the two *amphissa*. transverse bands are connected behind the cell. Hindwing ochreous-yellow, margin and veins broad black, the margin with yellow submarginal dots. — In *subguttata* *Wkr.* the ground-colour of the hindwing is not *subguttata*. brownish-yellow, but brimstone-coloured. ♂ (described as *Coborisa vestalis* *Bltr.*) body whitish, with brown markings on the thorax; palpi, abdominal end and basal spot of forewing ochreous-yellow, dorsal line of abdomen black. Wings whitish hyaline, with thinly blackish-grey markings: in the forewing the margins, except at the tornus, one transverse band each across the centre of the cell and the transverse vein, in the hindwing the costa, distal margin and veins. Sometimes the markings, except the veins, are not grey, but densely white. Brazil. — The ♀ copies certain species of *Actinote*.

P. forbesi *Drc.* (64 b). Forewing with a red basal dot and the usual hyaline markings, which are *forbesi*. similarly shaped as in *joiceyi* (63 g). Hindwing yellow, costa, transverse vein, and distal margin broad black, the latter sometimes with traces of red spots. Veins black. Body varying from yellow to greenish, dorsal line and lateral line black, abdomen brimstone-coloured with a black median stripe. South Brazil.

- picta*. **P. picta** Guér. (= *capella* Drc.) (64 c) resembles *forbesi*, in the forewing the subapical band is like in *indecis*a, slender and straight, almost reaching to the distal margin. Hindwing in contrast with *forbesi* with white or yellowish small submarginal spots. Brazil.
- puhites*. **P. puhites** Drc. (described as *Hyalurga*). Head and collar pale yellow, thorax and abdomen brown, with a central bluish-white line; abdomen beneath dusky white, anus orange. Wings greyish hyaline, the margins of the forewing black, the broadest at the apex, with a black transverse band to the tornus, enclosing an oval, white, black-veined spot. Hindwing as in the ♂ of *amphissa* (64 b), veins broad black. Although the species was not before me, I do not doubt that it belongs to the *Pericopis* being similar to *Coborisa*. Upper Amazon River.
- fulgorata*. **P. fulgorata** Btlr. was not before me. Forewing in the marking similar to *P. (Thebrone) hilarina* Weym. (63 c), hindwing yellow, veins black, transverse vein with a broad black band, margin with a dentate black band. Body black, thorax with yellow spots, abdomen yellowish, at the end greenish, with a black dorsal and lateral line, beneath yellow. Pará.
- fenestrata*. **P. fenestrata** Wkr. (64 c). ♂. Still more thinly scaled than *amphissa*-♂ (*vestalis*), distal margin of forewing somewhat convex (in *vestalis* straight); blackish are in the forewing at most the transverse band, costa, veins, and minute spots at the margin, in the hindwing some spots on the veins at the margin at most. Otherwise like *amphissa*-♂. Mexico.
- grassator*. **P. grassator** sp. n. (64 c). In the habitus somewhat like *P. thyridina* Btlr. (62 d), in both sexes the body is black, thorax and patagia mostly dotted, abdomen above greenish, beneath brimstone-coloured, dorsal line and lateral line black. Wings longer and more extended than in *thyridina*, the hyaline basal part of the forewing is more broadly separated, in the hindwing the transverse vein is broader black, the posterior margin of the cell black. Colombia to Peru. ♂♀ types in the Berlin Museum from Puerto S. Rosa — The species, in its exterior, recalls species of *Thyridia*.
- sacrifica*. **P. sacrifica** Hbn. (= *crucifera* Perty) (64 c). Body blackish-brown, half of the collar, base of patagia, two subdorsal and two smaller lateral rows of spots yellow. Forewing blackish-brown, basally with 2 red dots, with a whitish hyaline marking resembling a \rightarrow . Hindwing with a brown margin, before it a row of white spots before which there is a red, black-edged band; the rest of the wing in the ♂ whitish hyaline, in the ♀ brown with some yellowish-white spots distally to the cell. In the whole of South America as far as Argentina. — The larva lives on Compositae (*Senecio balansae*, and a species of *Eupatorium*), it is greyish-yellow, with a narrow dorsal line, a broader subdorsal line, 3 narrow lateral lines, a broader subventral line and a narrow ventral line, all of which are dull purple red. Tubercles ochreous-yellow, one on the 2nd, two on the 4th, two on the 10th and 1 on the 13th abdominal segments blackish-purple. Pupa blackish-brown, with a violet lustre, with small ochreous-yellow bristles.
- dissimulata*. **P. dissimulata** Wkr. (= *madana* Drc.) (64 d). Body blackish-brown, head, collar, patagia and thorax with bluish-white dots. Abdomen with two bluish-grey subdorsal lines, otherwise black, beneath yellow. Wings blackish-brown, the lighter markings whitish hyaline; in the forewing are hyaline: a basal triangle between the costal margin and proximal margin, a broad discal band as far as the tornus, a subapical band terminating before the centre of the distal margin, the two latter bands being above, but not beneath, connected by a hyaline spot. Sometimes there are white submarginal spots. Hindwing whitish hyaline, costa, margin, and the broad transverse vein and the veins are black, the margin with white submarginal spots. The black parts of both wings are more or less dusted with red-brown. Venezuela, Colombia, Ecuador.
- mosera*. **P. mosera** Drc. is perhaps the ♂ of *dissimulata*. On the whole smaller, the collar with yellow instead of white spots. The subapical band of the forewing almost reaches to the distal margin. Colombia, Peru.
- moseroides*. **P. moseroides** sp. n. is in every way a true image of *mosera*, but on both wings the whitish-hyaline places are brownish-yellow hyaline, the shade of the colouring like in *joiceyi* (63 g), abdomen above greenish-yellow with a black dorsal line. The transverse vein of the hindwing is less broad black. Forewing with the same very convex distal margin as in *mosera*. Both are perhaps seasonal dimorphisms of one species. Bolivia. ♂ type from the Rio Songo in the Berlin Museum.
- arema*. **P. arema** Bsd. (64 d). This species, and those allied to it, strongly recall the species of *Thebrone*, but the ♂ and ♀ are similarly coloured and marked. Forewing blackish-brown with a hyaline triangular spot at the base, a similar discal and subapical band, both being behind the cell connected. Hindwing whitish hyaline, distally scaled somewhat yellow, costa and distal margin broad black with a row of white submarginal spots. Body brown, patagia at the base yellow. Abdomen with two subdorsal rows of yellow spots, a red anal tuft, with two ventral rows of yellow spots. Nicaragua, Venezuela.
- imitata*. **P. imitata** Drc. (64 d) resembles *arema*. Abdomen with subdorsal spots varying from greenish to bluish-grey, beneath only with one row of spots in the forewing. The hyaline places are more brownish, the dark band through the centre of the cell broader, hindwing with a broader black distal margin (particularly at the anal angle), the discal area uniformly hyaline greenish-yellow. Bolivia, Peru.

P. pagasa Dgn. ♂ similar to that of *palmeri*. Hindwing of a pure white, with a broad black costal and distal margin as well as transverse vein. There are, however, no white and red spots at the margin. Brazil: São Paulo.

P. titan Drc. (♀) resembles *imitata* (64 d), collar with white spots which are yellow in *imitata*; abdomen beneath yellow. Forewing as in *imitata*. Ground-colour of hindwing hyaline white, otherwise like the preceding. Peru: Chanchamayo. This and the following *palmeri* remained unknown to me. Expanse of wings: 45 mm.

P. palmeri Drc. Body black, patagia in the ♂ spotted yellow, abdomen with yellow subdorsal spots, beneath yellow, at the end red. Forewing with a red basal spot, a yellow streak on the proximal margin and hyaline markings as in the preceding, the latter, however, edged with yellow; hindwing white (♂) or yellowish (♀), with a broad black distal margin in which there are white submarginal spots and before which red spots. Veins black, transverse vein broad black, costal margin red. Expanse of wings: ♂ 70, ♀ 90 mm. West Colombia, East Peru.

P. practides Drc. (63 e). Body black, patagia spotted yellow, abdomen above with subdorsal rows of white spots, beneath with two rows of yellow spots. Forewing blackish-brown, proximal margin with an ochreous-yellow margin. Across the cell-end extends a grey hyaline band to the proximal margin, enclosing the brown cell-end spot; white submarginal spots. Hindwing whitish hyaline, clouded with blackish, veins black, transverse vein broad-black, costal and distal margins ochreous-yellow, on both sides narrowly edged with black, white marginal spots. Forewing beneath more extensively ochreous-yellow. ♀ with more indistinct markings, abdomen with white bands. Colombia.

P. luctuosa Dgn. is similar to the preceding, patagial and abdominal spots white. The projection of the hyaline band towards the margin is very short. Hindwing quite black, beneath with a darker discal spot. Peru.

P. hodeva Drc. is unknown to me. ♀ body black, collar spotted yellow, patagia edged with red-brown. Abdomen above red-brown, with a black dorsal line and black lateral lines. Underside pale yellow, anus bluish-grey. Apical third of forewing black, cell brownish-yellow, clouded with brown, the proximal margin the same; veins black. At the cell-end a yellow line. Hindwing black, yellowish-brown at the apex and half the distal margin. Under surface more contrasting, a distinct black spot on the centre of the cell of the forewing. Expanse of wings: 90 mm. Peru.

P. brunnea Drc. Likewise unknown to me, allied to *hodeva*; body black, collar spotted yellow. Abdomen black, above with yellow subdorsal spots, beneath dingy yellow. Forewing basally dark brown, distal half light brown, apex and distal margin blackish-brown. Hindwing blackish-brown with an indistinct red-brown submarginal line. Forewing beneath with a red-brown transverse band near the apex, a pale brown cell-end spot and three similar streaks at the tornus. Hindwing with a red-brown costal margin, a large pale brown spot distally to the cell, the submarginal line more distinct. Expanse of wings: 35 mm. East Ecuador.

P. rhea Drc. is also unknown to me. Body black, collar spotted yellow, thorax yellowish-brown like the abdomen, with a black dorsal line and black lateral lines, beneath pale yellow. Forewing with a brownish-black apical third, the other two thirds dark orange-yellow, with black veins, a black transverse vein and band from the costa to the 2nd cubitus. Hindwing orange, distal margin and a transverse band before it black. Expanse of wings: 95 mm. Peru: Rio Pachitea.

P. practidoides sp. n. (64 d). Body blackish-brown, patagia and bases of wings with a red spot. Abdomen above with 2 rows of greenish-yellow spots, beneath yellow with black segmental margins, behind narrow red. Forewing brown, with yellowish and olive-coloured tints, with a lighter discal and subapical band, the latter as in *lycaste* and others projecting towards the margin. Hindwing pale yellow, margin black, extending to the cell, with red submarginal crescents, veins black, transverse vein broad black, costa reddish. Colombia. ♀ type from the Upper Rio Negro. (Coll. FASSL.) (It may be the ♀ of *practides*?)

P. guapa Schs. ♀. Unknown to me, in the habitus it is said to resemble *P. (Chetone) ithomia* (62 a). Body black, head and thorax with white spots. Abdomen red-brown with a black dorsal and lateral line, beneath yellowish-white, anal hairs red-brown. Forewing blackish-brown, with white marginal spots, a row of indistinct pale spots from the costa across the cell-end, and two subterminal spots below the 2nd cubitus. Beyond the cell there are 5 whitish hyaline spots from the costa to the 1st cubitus. Hindwing reddish-brown, veins and extreme base black; costa narrow black, distal margin broad black, the latter with yellowish-white marginal spots. Hindwing beneath with a red stripe or dot at the base of the costa, the black distal margin is reduced to some black dusting. Expanse: 66 mm. Costa Rica.

P. humeralis Wkr. (64 d, e) differs from *guapa* as follows: base of patagia, and collar with yellow spots, abdomen beneath with black posterior margins of the segments, forewing with a more distinct light costal spot before the transverse vein, without marginal spots; hindwing with no black veins, distal margin without marginal spots, forewing beneath more reddish-yellow, particularly at the proximal margin. The ♂ has on the mesothorax two large yellow spots, the forewing is darker, with a red and yellow basal streak, the fresh specimen irrorated with greenish on the dark places. Hindwing otherwise like in the ♀ of *guapa*, anal margin black-haired. Forewing beneath almost black, costa of both wings basally red. Mexico.

perplexa. **P. perplexa** Schs. ♂. Body similar to *guapa* Schs. Abdomen above dark grey with a black dorsal and lateral line, beneath whitish. Forewing blackish with a red costal streak at the base, grey hyaline streaks in and below the cell, a black longitudinal line in the cell, a broad, grey-dusted light cell-end spot, four whitish hyaline subapical spots and white marginal spots. Hindwing whitish hyaline, veins, costal and distal margins black, the latter with white submarginal spots, a broad black transverse vein and a blackish proximal margin. Expanse: 59 mm. Costa Rica.

montezuma. **P. montezuma** Schs. (64 f). ♀ body as in *humeralis* (64 d, e). Abdomen above grey. Forewing likewise as in *humeralis*, hindwing yellowish-white with a black, yellow-spotted distal margin which is broader than in *humeralis*, transverse vein broad black. Expanse: 85 mm. Mexico.

rorata. **P. rorata** Wkr. I was unable to place this species. ♀ dark red-brown, abdomen spotted white, at the end ochreous-yellow, laterally with a white subdorsal stripe, beneath white. Forewing spotted white with short, broad, slanting white stripes across the transverse vein. Hindwing yellow with a broad dark red-brown margin, which contains beneath white submarginal spots. Length of wings: 45 mm. Colombia.

17. Genus: **Dysschema** (*Anthomyza* Swns.)

This genus, on the whole, agrees with *Pericopis*, but the ♀ antennal pinnae are longer, at least as long as the diameter of the shaft, and the 2nd radial in the forewing is mostly separate. The 3rd palpal joint is short, less than $\frac{1}{2}$ of the second. They are a striking imitation of the *Danaidids*, and are very similar to species of *Thyridia* and *Ituna*.

tiresias. **D. tiresias** Cr. (= *swainsoni* Drc.) (64 e). Body black, head and thorax dotted white, abdomen above blackish-brown, two fine lateral lines yellow, beneath yellow. Forewing black, basally with some white dots and a yellow inner-marginal spot, above the centre of the cell with a yellow transverse band which terminates on the axillaris before the tornus, a yellow subapical band between the 1st cubitus and 5th radial branch; in the yellow bands the veins are black. A more or less complete row of white antemarginal spots. Hindwing yellow, slightly hyaline, veins black, costal and distal margins broad black, the latter with white submarginal spots; transverse vein hardly broader black than the other veins. — According to a drawing by Dr. SEITZ from life, the adult larva is black, with dense, tufted hairing of hard prickles on tubercles, somewhat like in the larvae of *Ecpantheria*, the 3rd, 6th and 11th rings being light lemon-coloured. The lustrous brown pupa lies in a very thin web, and yielded the imago after 3 weeks.

heliconides. **D. heliconides** Swns. (64 e) agrees with *tiresias*, but all the yellow markings are here quite hyaline, pale yellowish. The transverse vein of the hindwing is broad black, behind connected with the black, here projecting distal margin. — **obsoleta** form. nov. (♀ type from Surinam) is without this band of the transverse vein and the projection of the distal margin. Guiana, Amazons, Colombia, Peru.

The following species remained unknown to me, for which reason I cannot guarantee their being correctly placed in this genus.

brotes. **D. brotes** Drc. Head and thorax according to the description quite black, the white basal spots and the yellow inner-marginal spot are absent; hindwing pale yellow, with black veins and a black broad margin exhibiting only 1 submarginal spot at the apex and four next to the anal angle. British Guiana.

buckleyi. **D. buckleyi** Drc. Body as in *heliconides* (64 e), forewing brownish hyaline, base, a transverse band across the cell-end, apex, costal margin, distal margin, and partly also the proximal margin black, costa basally with white dots, a yellowish-brown spot on the proximal margin, the white submarginal spots like in the preceding. Hindwing brownish hyaline, with a black margin containing white submarginal spots, and black veins; ♀ paler. Ecuador.

18. Genus: **Are** Wkr.

The generic marks agree with those of the following genus, but the distance between the 1st and 2nd radials is twice as long as that between the latter and the 3rd to 5th.

marginata. **A. marginata** Drury (64 f). Body blackish-brown, collar, patagia, and costa of forewing as far as the centre wood-coloured. Abdomen above with bluish-grey subdorsal spots. Forewing blackish-brown, with a reddish, duskily dusted transverse band across the cell-end, enclosing a costal spot on the transverse vein of the ground-colour; in the ♀ mostly only this light-edged spot is left. Hindwing blackish-brown, milky-white spots near the base in and behind the cell, distally to it a larger and smaller antemarginal spot. Beneath all the markings are very faint, costa of forewing with an ochreous-yellow stripe, that of the hindwing with such a spot. Jamaica.

mumma. **A. mumma** Cr. (64 e). Forewing blackish-brown, its centre wood-coloured, with irregularly inserted dark places, which are here and there silvery blue like an antemarginal waved line. Hindwing black, with a white iridescent central spot, fringes at the apex white. Smaller than the preceding species. Surinam.

19. Genus: **Phaloë** Guér.

It differs little from *Dysschema* Hbn., the 3rd palpal joint, however, is about a half of the second or longer, in the forewing the distance from the 1st to 2nd radial is about the same as that from the 2nd to the 3rd to 5th, or shorter.

Ph. cruenta Hbn. (= *lorzae* Bsd.) (64 e, f). Body blackish-brown, head and thorax with white *cruenta*. dots, abdomen above brown, with 2 fine yellow lateral lines, beneath dingy white, apex red. Forewing brown, basally at the costa some red spots or streaks, behind the cell a not unfrequently absent yellow spot, a band of yellow spots from the centre of the costa to the tornus, often shortened, a yellow or hyaline subapical band. Hindwing yellow, with a black margin and white submarginal spots, in the ♀ the veins are black, particularly the transverse vein and the distal branches of the veins. The markings of the ♂ are generally more hyaline than those of the ♀. Guatemala to Argentina. Larva on *Eupatorium laeve*, dingy grey with interrupted, narrow purple longitudinal lines. Tubercles ochreous-yellow, but blackish-violet are on each side: on the 2nd (thoracal) segment two (behind them a red spot), on the 4th to 6th three, on the 8th to 10th and the 12th also three. Pupa blackish-brown.

The following 3 species remained unknown to me; they may partly belong to *Pseudophaloë*.

Ph. pyste Drc. resembles *cruenta* (64 e, f). Forewing without any red dots, a broad yellow band extends *pyste*. on the forewing from the base on the proximal margin almost to the tornus, a submarginal row of white spots. Both wings beneath at the base of the costa chrome-yellow. Ecuador.

Ph. ignita Btlr. entirely agrees with *cruenta* (64 e, f), but on the forewing there are also at the apex *ignita*. white submarginal spots which I could never ascertain in *cruenta*, not even in very large series. Tapajos.

Ph. vespertilio Dgn. Body black; patagia behind yellow. Forewing lemon-coloured, with black markings: *vespertilio*. one spot occupying more than half of the costal margin, extending down to the posterior edge of the cell from where it despatches a pointed branch to the 1st cubitus and to the 3rd median, and entering at the proximal margin a broad black band which goes almost to the base; behind the cell there remains an oblong yellow spot. The last quarter of the costa and the margin likewise black. Hindwing orange with a black apex and distal margin. Colombia. This species presumably hardly belongs to *Phaloë*.

Separated from *Phaloë* by the straight, scarcely convex margin of the forewing. (Subgenus: *Sphaeromachia* Grt.).

Ph. cubana H.-Schäff. (64 f). Body blackish-brown, thorax in front dotted yellow or white, behind *cubana*. like the abdomen yellow (♂) or white (♀). Wings yellow (♂) or white (♀), a black band on the forewing extends at first along the costa, filled up with red spots, at about $\frac{2}{3}$ bent to the posterior margin, terminating shortly before the tornus. The distal half of the wing is black, with two rows of hyaline spots, and 1 or several yellow (white) submarginal spots. Proximal margin in the ♂ like the abdominal apex black. Hindwing with a black distal margin and in the ♂ besides black costal margin, submarginal spots in the ♀ numerous, in the ♂ mostly only one. Mexico, Yucatan, Honduras, West Indies.

20. Genus: **Ctenuchidia** Grt.

Small, rather similar species with a Syntomid-like habitus. From all the *Pericopinae* with 1 pair of spurs on the hind tibiae and a separate 2nd radial in the forewing, in which the 5th radial rises before the 3rd, it is distinguished by the long -forked, sometimes fused 3rd median and 1st cubitus of the hindwing. The species mostly exhibit blackish-brown forewings with 2 or 3 hyaline dots behind the centre of the cell, and an undulate subapical band of such dots. Sometimes also some dots between the cell and proximal margin. Hindwing and the centres of all the wings beneath black with an intense blue lustre. Before the apex of the hindwing there may be 1 or 2 hyaline dots.

Ct. virgo H.-Schäff. (65 a). Abdomen black, above lustrous blue, the last three rings yellow, with a *virgo*. black dorsal line and anus. This yellow colouring coheres with two lateral stripes of the abdomen, which are basally, rarely entirely red. Abdomen beneath with 2 rows of white spots. Forewing with a red costal spot at the base. Cuba. — The pupa (original example of HERRICH-SCHAEFFER) deviates from those of all the *Pericopinae* known to such an extent that it is almost questionable whether it belongs hereto. Pupa golden brown with minute purple spots, in front with two multicuspitated black conical protuberances, below them another similar one, but with only one point. These small cones probably serve the pupa for extricating itself out of the web.

Ct. fulvibasis sp. n. The spots at the base of the forewing are ochreous-yellow, abdomen above quite *fulvibasis*. black, only with yellow lateral stripes, beneath the white spots are more streak-shaped, otherwise like *virgo*. Jamaica. ♂ type in the Berlin Museum.

- interrupta*. **Ct. interrupta** *sp. n.* Basal spot of the forewing ochreous-yellow, abdomen like in the preceding, but the yellow lateral stripes in the centre very much narrowed or interrupted. Hindwing with two hyaline subapical spots, which equal the very large other subapical spots of the forewing in size. Dominica (Antilles). ♂ type in the Tring Museum. Expanse of wings: 25 mm.
- subcyanea*. **Ct. subcyanea** *Wkr.* Abdomen with red lateral stripes, basal spot of the forewing red. Length of forewing: 20 mm. Patria unknown. — This species and the two following were not before me.
- agrius*. **Ct. agrius** *F.* Abdomen with yellow lateral stripes, forewing without the red basal spot. Surinam.
- butus*. **Ct. butus** *F.* Body beneath and the whole of the abdomen yellow, anus blackish. Wings uni-coloured. South America.

21. Genus: **Phaloësia** *Wkr.*

From all the genera hitherto dealt with exhibiting 1 spur on the hind tibiae, it is distinguished by the 3rd radial in the forewing rising before the 5th.

- saucia*. **Ph. saucia** *Wkr.* (= *chalybea* *Btlr.*, *fulvicollis* *Btlr.*, *venezuelae* *Btlr.*, *gentilis* *Bsd.*) (65 a). Body black, metallic; collar, lateral lines of abdomen, and lateral spot of thorax red or ochreous-yellow. Abdomen beneath sometimes with 2 rows of white spots. Also the base of the patagia is often yellow or red. Wings blackish-brown, with a violet reflection, forewing with a red costal streak at the base, behind it a similar spot a little behind the costa. In the centre of the cell a row of yellowish-white spots from the costa to the posterior edge of the cell at most, a similar one of five spots before the apex. Colour and shape of markings variable. Hindwing more dark blue, with white fringes. The marks of distinction, stated by BUTLER, are merely individual differences. — Larva: head blackish-blue, body dark ochreous, with bluish-black tubercles forming transverse bands, double black streaks on the segmental indentations and similar small irregular dots, a continuous subventral stripe. Hairs black, partly white on the subdorsal tubercles of segments 3 and 4 and on tubercle 3 on segment 12. Pupa in an open yellow network, light brown with numerous bluish-black dots and streaks on the wing-sheaths. Mexico to Venezuela.
- rubriplaga*. **Ph. rubriplaga** *Dgn.* remained unknown to me, it probably does not belong hereto. Wings of a deep blackish blue, lustrous, with four longish red spots, three of which are at the base, the fourth between the 5th radial and 1st median somewhat distally to the cell. Fringes and body bluish-black. Expanse of wings: 40 mm. Peru.

22. Genus: **Hyalurga** *Hbn.* (incl. *Lauron*, *Laurona* *Wkr.*). (*Gyara* *Wkr.*, *Cletorna* *Bsd.*)

Hind tibiae with 1 pair of spurs, in the forewing the radials 2 to 5 forked, in the hindwing the 3rd median and 1st cubitus not forked, in the forewing the 2nd radial rising before the 5th, in the hindwing the distance from the 3rd median branch to the 1st cubitus is less than double the distance of the 2nd median branch from the 3rd. — The smaller and darker species of *Hyalurga*, which were described as *Lauron*, strikingly look like certain Diopids, but they are easily discernible by the veins.

- fenestra*. **H. fenestra** *L.* (= *fenestriger* *Hbn.*, *egeon* *Cr.*) (65 a). Head and thorax black, collar with 2, thorax with 6 white spots. Patagia ochreous-yellow, often edged with blackish-brown. Abdomen above ochreous-yellow, the first and last segment white, with a black dorsal line and black subdorsal lines, the lateral lines and ventrum being white. Wings whitish hyaline, all the margins of the forewing varying from ochreous to reddish yellow, on both sides narrowly or more broadly edged with black; a similar transverse band extends across the transverse vein to the tornus where it bends towards the base. Veins blackish-brown. Hindwing with white veins and a black, more or less white-filled apex and distal margin. The transverse band is rarely quite black: — **supposita** *form. nov.* (♀ from Ucayali in the Berlin Museum), so that the species then resembles *sixola* *Schs.* (65 b), distinguished by the differently coloured abdomen and the broader band of the hindwing. — The form **amazonica** *Btlr.* has deeper reddish-yellow margins which are more broadly edged with black, and the distal margin of the hindwing only shows traces of the white filling. The form occurs with transitions among the typical form. South America to South Brazil and Peru.
- dorsilinea*. **H. dorsilinea** *sp. n.* (65 a). Head and thorax black, head and collar with white spots, patagia red-brown, edged with blackish. Thorax behind with a large red-brown dorsal spot before which and at the sides of which there are white spots. Abdomen white, with a red-brown, black-edged dorsal line, a similar subdorsal line and lateral line. Forewing similar to *fenestra*, but the transverse band only black, in the centre strangulated or interrupted. The black inner borders of the red-brown marginal line are broader. Hindwing in the black marginal area with a red-brown line, before the apex a black subapical band connecting the costal-marginal and distal-marginal bands, the part of the hyaline area, which is thereby cut off, is very small, 2 mm long, 1 mm at most broad. Veins also in the hindwing blackish-brown. ♀ type from Cumbase in the Berlin Museum (GARLEPP).

H. cinctella *Strd.* is quite similar to the preceding. The transverse band of the forewing is not interrupted or strangulated, the subapical band of the hindwing placed nearer to the cell, almost touching it, broader; the cut off hyaline spot is therefore larger. Sarayaku, Ecuador.

H. whiteleyi *Drc.* was not before me. Abdomen above brownish-yellow, sides and under surface white, *whiteleyi*. with black lateral lines. Forewing whitish hyaline, costa to the centre dark yellow, then grey, apex and distal margin yellow, proximally bordered with black, distally with white. Fringes black. Transverse line narrowly black extending towards the distal margin, veins dark. Hindwing hyaline white with a yellow distal margin as in *orthotaenia* (65 b). Expanse of wings: 50 mm. Peru, Ecuador.

H. uria *Btlr.* (65 a). Body as in *fenestra*, only in the abdomen first and last joint not white. Forewing *uria*. likewise similar to *fenestra*, transverse band only black, in the centre narrower. Hindwing with a red-brown, black-edged distal margin and black costa. All the veins black. Brazil.

H. urioides *Schs.* (65 b) resembles *uria*, but the thorax and abdomen are white with a narrow black *urioides*. dorsal line, abdomen besides with broad black subdorsal stripes; patagia red-brown, head and collar black, spotted white. The transverse band of the forewing is composed of a detached spot on the transverse vein, from which a thin line extends to the distal margin, behind the 1st cubitus bending round to the tornus and ending where the distal-marginal band meets the hind-marginal band. The red band in the hindwing is narrowed, its veins and costa are white. Panama, Venezuela.

H. noguei *Dogn.* (65 b) is quite similar to *urioides*, the collar with two white spots above each other, *noguei*. forewing without a black spot on the transverse vein, only with a thin transverse line showing towards the tornus, bending round only behind the 2nd cubitus and ending farther proximally than in *urioides*. Veins of hindwing white. Peru, Bolivia.

H. grandis *Drc.* is similar to *noguei*, abdomen above brownish-yellow with a black dorsal line and *grandis*. greyish-black lateral lines. Forewing with a black spot of the cell-end, hindwing with an ochreous marginal band extending farther anteriorly, and black veins. Peru. (Was not at hand.)

H. sixola *Schs.* (65 b). Body as in *fenestra* (65 a), forewing also similar, but the transverse band is quite *sixola*. black and very thin. Margin of hindwing only blackish-brown, 1 mm broad. Colombia, Venezuela.

H. mysis *Erichs.* (65 c) is similar to *sixola*, the dorsal and subdorsal lines are in both narrower than *mysis*. in *fenestra*. Forewing as in *sixola*, but the red-brown colouring of the anal margin only extends to the centre of the distal margin, so that its anterior half is white. Hindwing all white, without the black margin. British Guiana.

H. modesta *Mschlr.* (65 b). Body coloured as in *fenestra*, wings as in *uria*, but the transverse band *modesta*. of the forewing uniformly narrow, strongly bent, far distally from the transverse vein, anal margin only basally or with traces of red-brown, in the hindwing at the margin only the fringes are blackish-brown. In the ♀ the hyaline parts are greyish. Colombia, Guiana.

H. orthotaenia *sp. n.* (65 b) is similar to *modesta*, but the transverse line of the forewing is quite *orthotaenia*. straight, the whitish subapical spot is without darker veins, the reddish-yellow distal band of the hindwing is distally bordered with white. Costa basally as far as one fourth bordered with reddish-yellow, then only again distally to the transverse line reddish-yellow. Upper Amazon River, ♂ type from São Paulo in the Berlin Museum.

H. fenestrata *Wkr.* (65 c). Body white with a black dorsal line, collar and patagia partly ochreous. *fenestrata*. Wings hyaline milky-white, the forewing with dark veins, a longitudinal stripe at the costa varying from wood-coloured to ochreous, rarely a similar one at the tornus, sometimes indistinct traces of a blackish transverse line. Brazil.

H. clara *Btlr.* (65 c). Similar to *fenestrata*, wings shorter and broader, all the veins darker, forewing *clara*. at the base with an ochreous spot, costal stripe mostly only densely greyish-white. Abdomen with 3 narrow black dorsal lines. Brazil.

H. pura *Btlr.* remained unknown to me. ♂ smaller than *fenestrata* (65 c), whiter, with a comparatively *pura*. broader yellow costal margin of the forewing; base of „media and submedia“ not black. Hind margin never yellow, no trace of a transverse line. Brazil.

H. subnormalis *Dyar* (65 d) is similar to *clara* *Btlr.* (65 c), but smaller, ♂♀ with a more darkened costal *subnormalis*. stripe, which is invariably ochreous at the base and end, always with a blackish spot distally to the cell and a similar one at the margin between the 1st and 2nd cubitus. From Panama to Brazil.

H. alboritrea *Wkr.* (65 c). Body as in *subnormalis*, wings quite greyish hyaline, basal spot of forewing *alboritrea*. and sometimes part of the costa ochreous, whitish hyaline remain: a subapical band of the forewing and the discal cell of the hindwing, and sometimes the distal margins of the wings. Panama to Brazil and Peru.

H. caralis *Drc.* Head and thorax black with white spots. Abdomen above brownish-black with broad *caralis*. subdorsal and lateral lines, beneath dingy white. Forewing whitish hyaline, the margins broadly black, at

the costa a red-brown stripe to the centre of the cell, a reddish line from the centre of the hind-margin to the apex, at the distal margin expanded, a black transverse band to the tornus. Hindwing with a black distal-marginal band filled up with red-brown. All the veins black. Expanse of wings: 70 mm. Ecuador. (Was not at hand.)

lauronoides. **H. lauronoides** *sp. n.* (65 b). Body black, head and collar with white dots, patagia red-brown, end of thorax and abdomen above with two bluish-white subdorsal lines, beneath white. Forewing whitish hyaline, the margins and a broad transverse band to the tornus black, the veins in both wings broadly black. Costa of forewing with an orange-red stripe, somewhat interrupted before the transverse band, a similar stripe from the centre of the hind-margin to the centre of the distal margin bent at the tornus, extending to the hyaline subapical spot. Hindwing hyaline white, with a broad reddish-yellow distal-marginal band which is bordered with black on both sides. Costa black. From the similar species comprised under *Lauron* it is distinguished by the less convex distal margin of the forewing. ♂ type from Massauary in the Berlin Museum.

The following species with a relatively broader transverse band of the forewing were hitherto mostly designated as *Lauron* (*Laurona*) *Wkr.* They strikingly resemble certain Diopitids, and some of the species which I was unable to examine may prove to be Diopitids. The colours of the body are often difficult to recognise in specimens belonging to collections. The abdomen is above almost invariably blackish with greyish-blue subdorsal lines, beneath whitish, with a black median line. — They copy Erycinids and Danaidids (*Leucothyris* and others).

syma. **H. syma** *Wkr.* (65 e). Thorax black, patagia red-brown. Wings greyish hyaline, apical part of forewing black, with a white subapical band not reaching to the margins, its veins being white. Margins of hindwing and all the veins black. — Its extremest form is f. **flammicollis** *Dgn.* (= *albiplaga* *Schs.*) (65 e). Wings quite black, with a blue reflection, not hyaline, the white subapical band short and broad. It particularly occurs in the ♂ and is connected with the type by all kinds of transitions. Brazil.

leucophaea. **H. leucophaea** *Wkr.* (= *osiba* *Drc.*) (65 e). Thorax blackish-brown, patagia red-brown. Ground-colour of the wings in the ♂ hyaline white, in the ♀ quite dark greyish hyaline, veins black. Forewing with a black costal margin and hind-margin and apical half, the latter with a white subapical band in which the hindmost vein is dark at most. At the costal margin and hind-margin an orange longitudinal streak to the subapical band; the hind-marginal stripe is often shortened. Analis white. Hindwing with a black margin being at most partly filled up with reddish-yellow. Venezuela, Brazil, Peru.

partita. **H. partita** *Wkr.* (= *transita* *Mschlr.*) (65 d) is quite similar to *leucophaea*, in the forewing the analis is black, the subapical band is veined black, at least two veins black. Hindwing frequently with a reddish-brown filling of the marginal band, the hyaline areas of the ♀ are much more transparent, less greyish. Range like in *leucophaea*, perhaps only a form of it. It copies the Erycinid *Esthemopsis lithosina* *Bat.* (Vol. V, pl. 128 b).

peritta. **H. peritta** *sp. n.* is quite similar to *partita*, but the margin of the hindwing is here quite black, strongly expanded at the anal angle and continued to the base. Costa of forewing only before the transverse band with a yellow spot, costa basally to it whitish. Anal vein white. Venezuela, Brazil. ♂ type from Bahia in the Berlin Museum.

sora. **H. sora** *Bsd.* (= *panamensis* *Btlr.*, *domingonis* *Btlr.*) (65 d) is similar to the two preceding species, the subapical band of the forewing almost reaches the margins of the wings, without black veins, margin of hindwing much narrower, quite black, analis of forewing black, costal stripe and hind-marginal stripe red-brown, a similar stripe proximally to the subapical band in the ♂. Wings in the ♀ as greyish hyaline as in *partita*. Mexico to Panama.

leucophlebia. **H. leucophlebia** *sp. n.* (65 e) is separated from *sora* and *soroides* by the white analis and broader, quite black margins of the hindwing in the ♂; the ♀ has only a linear costal stripe, subapical band at least with one black vein, shorter; *partita* ♂♀ have a reddish-yellow filling of the band in the hindwing, which is absent here, *leucophaea* has in the ♀ darker hyaline wings. In the ♂ a red-brown postdiscal band and apical area which are absent in the ♀. Thorax black. Massauary, Itaituba. ♂♀ type from Massauary in the Berlin Museum, ♂♀ from Venezuela in the Tring Museum.

soroides. **H. soroides** *sp. n.* (65 e) is separated from *sora* by the following marks: in the ♂ the distal margin of the hindwing with reddish-yellow filling at the anal angle, the same being the case in the ♀ which also shows a reddish-yellow band before the white subapical band. Also at the apex of the forewing in the ♂ and ♀ mostly dusted with reddish-yellow. Mexico to Colombia. ♂♀ types from Chiriqui in the Berlin Museum.

halizoa. **H. halizoa** *Drc.* Forewing reddish-orange, near the base hyaline, veins black, a subapical band of fine spots white; hindwing hyaline brownish-black, both wings beneath brownish-black, costal margin of forewing reddish-orange. Jamaica.

vinosa. **H. vinosa** *Drury* (= *ergolis* *Wkr.*, *horologica* *Goeze*) (65 e) is similar to *soroides*, but the thorax is quite red-brown, the hyaline areas of the wings in both sexes darker. West Indies.

rica. **H. rica** *Hbn.* (65 f). Thorax quite reddish-yellow, wings still darker, scarcely hyaline. Forewing with reddish-yellow stripes only at the costal margin and hind-margin. Venezuela, West Indies.

H. chthonophyla Drc. (65 f as *chthonophila*). Wings blackish-brown, with a slight violet reflection, *chthonophyla* without hyaline areas, forewing with a white subapical band. Thorax red-brown. Mexico.

H. rufilinea Wkr. is unknown to me. ♀ black, forewing with an ochreous line at the costa and hind-margin, sometimes small ochreous spots at the distal margin, with a white subapical band. Expanse 55 to 60 mm. Ega.

H. diastilba sp. n. (65 f) is very small, length of forewing in the ♀ 16 mm. Thorax ochreous, wings *diastilba* black, at the bases more or less hyaline, on the hindwing more extensively so. Costa of forewing basally to $\frac{1}{3}$ ochreous, subapical band only 1 mm broad, otherwise similar to *chthonophyla*. Jamaica. ♀ type in the Tring Museum.

H. hoppi sp. n. (65 f) is one of the largest and most beautiful species, named after its discoverer WERNER *hoppi*. HOPP. Body black, head and thorax with greyish-blue spots, abdomen with greyish-blue subdorsal and lateral stripes, beneath greyish-blue. Wings bluish hyaline, costa, hind-margin, and apical third black, at the costa a red-brown basal streak, a similar one on the hind-margin where it is only absent in the basal quarter, but continued to the subapical band which is very broad, white. Hindwing with a black distal margin filled up with red-brown; all the veins black. Colombia. ♀ type from S. Francisco (Mocoa) in the Berlin Museum.

H. subafflicta Wkr. resembles *hoppi*, but lacks the reddish-yellow markings. Colombia, Bogota. (Per- *subafflicta*. haps only a race of *hoppi*.)

H. batesi Drc. (65 f). Forewing blackish-brown with a reddish-yellow costal streak from the base to *batesi*. $\frac{1}{2}$ of the wing, a similar bent subapical band extending to the tornus where it ends very narrow, whilst at the costa it is at least 5 mm broad. At the cell-end a whitish hyaline spot, another one behind it. Hindwing whitish hyaline with a broad black distal margin and costa, the former with a reddish-yellow submarginal band. Amazons, Peru. The species copies the Erycinid *Comptosia cascella* Hew. Vol. V, pl. 127 h) and the Danaidid *Pseudoscada aureola* Bat. (Vol. V, pl. 41 b).

H. padua Drc. is unknown to me. From *batesi* it differs in the posterior half of the cell of the forewing *padua*. and the area behind the cell as far as the axillaris being whitish hyaline. Ecuador.

H. scotina sp. n. (65 f) is distinguished from *batesi* in the hindwing by black veins and a broader black *scotina*. margin; in the forewing the cellular spot is reduced. Amazons. ♀ type from São Paulo in the Berlin Museum.

H. melania sp. n. (65 g). Hindwing reddish-yellow, with a very narrow (1 mm) black margin, a broad *melania*. black apex and a black clouded central spot above the posterior half of the cell. Forewing with a reddish-yellow costal streak as far as about $\frac{3}{4}$, hyaline spots as in *batesi*, hind-margin with a reddish-yellow stripe which is continued to the centre of the distal margin; it is then anteriorly prolonged by a hyaline white, not very much expanding, subapical stripe. Habitat illegible on label. ♀ type in the Berlin Museum.

H. putumayana sp. n. (65 g). Hindwing as in *batesi*, of the reddish-yellow submarginal band only traces *putumayana*. at the anal angle are noticeable. Forewing black, behind the cell on the 2nd cubitus with a large whitish-hyaline spot. Costa, hind-margin and apical third reddish-yellow, the borders finely black. Colombia. ♀ type from Sanbico, R. Putumayo (W. HOPP) in the Berlin Museum. The four forms mentioned last may be the races of one species.

H. chariata Drc. and the following are unknown to me. Thorax black, wings whitish hyaline, veins *chariata*. black, costal margin of forewing and distal margin broadly chrome-coloured, distal margin edged with black, hind-margin black. Hindwing with an ochreous, black-edged distal margin, and a black costa. Expanse 38 mm. Ecuador.

H. choma Drc. Thorax orange. Forewing black, hyaline to the centre, costal margin at the base *choma*. yellowish, hind-margin and two spots on the distal margin yellowish, a white subapical band. Hindwing hyaline, veins black, apex black, distal margin broadly orange. Fringes black. Expanse 35 mm. Ecuador.

23. Genus: **Scearctia** gen. nov.

The only species known recalls Diophtids. Hind tibiae with but 1 pair of spurs. In the forewing the 1st radial is separate, the 2nd to 5th forked, the 5th rising before the 2nd before the 3rd and 4th, the stalk of the 2nd to 5th rising at the anterior cell-angle, with the 1st median from the same place. In the hindwing the 2nd median branch is nearing the 3rd, the distance from the 3rd median to the 1st cubitus is at least twice as great as that from the 2nd to the 3rd medians. Type of the genus: (*Gangamela*) *figulina* Btlr.

Sc. figulina Btlr. (65 i). Body blackish-brown, abdomen above and beneath with whitish-grey, in- *figulina*. distinct lateral stripes. Forewing yellow, costa, hind-margin, and apical third blackish-brown, of the same colour a broad streak on the analis and some veins. Hindwing blackish-brown. Beneath in the forewing the streak on the analis is extended to the hind-margin, the veins being yellow. Brazil. It copies the Erycinid *Mesenopsis albivitta* Lathy (Vol. V, pl. 138 b) and the Diophtid *Myonia basivitta* Prout.

24. Genus: **Stenognatha** Fldr.

Near to *Hyalurga*. The footstalk of the radials 2 to 5 with the 1st median branch from the same place or forked, separated from *Scearctia* by the non-projecting posterior angle of the cell of the forewing, ♀ antennae with long combs.

gentilis. **S. gentilis** Fldr. (65 f, g). Body brownish-ochreous, abdomen with 2 rows of white dorsal spots, in the ♂ beneath dingy white. ♂ wings hyaline, apical half of forewing, costa and distal margin of hindwing dark brown. $\frac{3}{4}$ of the costa and hind-margin of forewing and anal angle of hindwing red-brown. ♀ dark brown, two thirds of costa of forewing and a spot between the cell and axillaris, as well as the base of the hindwing as far as the cell red-brown. Veins in the ♂ and ♀ blackish-brown. Brazil.

25. Genus: **Graphelysia** Hmps.

A genuine Pericopina, since the anterior edge of the cell and the subeostal in the hindwing at the base are distinctly separated. In the forewing the 1st radial is separate, the 2nd to 5th forked, the 5th rising before the 2nd before the 3rd and 4th. The 1st radial with the 2nd cubitus on the same height. In the hindwing the radial ramus and the 1st median, and the 3rd median and the 1st cubitus rise on a short footstalk. — The only species of the genus was described by its author as *Elysius* and was placed by HAMPSON who branched off the genus *Graphelysia*, to the group corresponding with our *Phegopterinae*. It has therefore already been dealt with on p. 399 and is figured there.

strigillata. **Gr. strigillata** Roths. (49 h) exhibits the habitus of a Phegopterina. Body blackish-brown, collar, terminal tufts on the thorax and abdomen varying from yellowish-brown to red-brown. Wings varying from a lustrous-brown to black, forewing finely transversely irrorated with yellowish. Brazil.

26. Genus: **Syntomidopsis** gen. nov.

variegata. **S. (Eudule) variegata** Wkr. (66 a). Black, costa of forewing as far as $\frac{3}{4}$, a broad transverse band, and some longitudinal stripes in and behind the cell red, the latter also in the hindwing. Apex with 3 or 4 white subapical spots, a similar one at the tornus, hindwing with white, small submarginal spots. Body black, abdomen with white rings, patagia, thoracal stripes, basal spots on the abdomen red, in the ♂ the hindwings are reduced, only blackish. Veins similar to *Hyalurga*, radials 2 to 5 far before the cell-angle, near to the 1st, in *Hyalurga* nearer to the 1st median. Jamaica. This species is also a genuine Pericopina; the generic name mentioned above is proposed for it.

(27). Genus: **Paratype** Fldr.

Perhaps a Geometrid genus.

lacticolor. **P. laeticolor** Fldr. (66 a). Black, forewing in the basal half yellow, except at the hind-margin, with 4 black longitudinal rays, a yellow postdiseal band to the tornus; hindwing yellow, costa and distal margin broadly black. Expanse 47 mm. Colombia.

The following genus remained unknown to me, probably no *Pericopinae*.

(28). Genus: **Didaphne** C. Berg (= *Daphne* Neumögen)

The hindwing is said to have „7 veins“, it may therefore be a Syntomid. The venation is not accurately mentioned; it also resembles certain *Lithosia*.

cyanomela. **D. cyanomela** Neumögen. Head, prothorax, and abdomen of a glaring orange colour. Thorax and wings abound in a metallic blue. Costa and a broad marginal band black, the latter extending to the centre of the hind-margin. Expanse 46 mm. Cuba.

I append here some more genera not belonging to the genuine Pericopinae, among which, however, they are mostly looked for.

(29). Genus: **Crocomela** Ky. (Darna Wkr.).

This genus does not belong to the *Pericopis*; the subeostal of the hindwing rises from the cell; a basal noose at the base is not present, at most developed as a fold. The ♂ shows scent-areas on the hindwing, which are absent in all the Pericopinae and by which the genus approximates the *Lithosia*. From the latter, however, it is separated by exhibiting accessory eyes. For practical reasons we deal with it here. In the forewing the 2nd to 5th radials are forked, the 5th rising before the 2nd; in the hindwing the radial ramus and the 1st median are forked, all the other veins being separate; the posterior cell-angle is strongly produced. All the species similar to *Crocomela*, not belonging hereto, exhibit a distinct basal noose at the rise of the subeosta of the hindwing.

1. Wings mostly with a more or less intense blue lustre, hindwing without yellow marking. In the ♀ the yellow marking is generally somewhat broader than in the ♂. Body black, often with a blue lustre, rarely with yellow colourings.

C. colorata Wkr. Wings black, at the bases with a blue lustre, the yellow spot in the ♂ almost oval, 5 to 6 mm broad at most, in the ♀ posteriorly expanded, 6 to 7 mm broad. Length of forewing 16 to 20 mm. Colombia.

C. abadesa Dgn. (65 h) is similar to *colorata*, but smaller, forewing 16 to 17 mm long, the yellow band in the ♂ 4, in the ♀ 5 mm broad at most, somewhat darker yellow. Colombia.

C. regia Warr. Forewing and hindwing more extensively blue than in the preceding, the black margin of the hindwing only about 2 mm broad, the blue colour of the forewing being paler, extending near to the band; otherwise like *C. colorata*. Ecuador.

C. imperialis Drc. resembles *abadesa* (65 h), but the yellow band is at the costa very narrow, 3 mm broad (♀), maximum 5 mm. The blue lustre strongly developed in a similar way as in *regia*. (Was not at hand.) Ecuador, Chiguinda.

C. unifasciata Drc. (♂ = *rubiplaga* Warr.). Forewing brownish-black, with an orange-red, large (maximum 6 to 8 mm) discal spot. The area from the base to the discal spot is pale grey. (Was not at hand.) Ecuador.

In the following species the yellow band is broadest at the costa, whence it narrows down.

C. inca Schs. (65 g). Base dark blue, band 7 to 8 mm broad (♀), length of forewing 18 mm. Hindwing in the ♀ almost black, only at the anal margin blue traces. Chanchamayo, Peru.

C. maxima Drc. (65 g, h). Forewing 19 (♂) to 26 (♀) mm long, the yellow band relatively narrower, at the costa 5 (♂) or 7 (♀) mm broad; base of wings not with an intense lustre, but dull greyish violet, Bolivia.

C. minima sp. n. (65 h) is similar to *maxima*, the yellow band here also extends almost to the margin, but it is smaller, length of forewing 16 (♂) to 19 (♀) mm, band 4 (♂) to 5 (♀) mm at the costa, bases of wings with a dark blue lustre. Bolivia. ♂♀ types in the Berlin Museum.

C. conscita Drc. (= *volitans* Warr.). Forewing black, scarcely lustrous blue, with a large yellow spot which at the costa is strongly extended towards the base; the costa itself remains finely black. The bordering of the yellow spot extends from $\frac{2}{3}$ of the costa hardly bent almost to the end of the 1st cubitus and bends round before the 2nd towards the base, from there it extends convex as far as shortly behind the rise of the axillaris, the foremost part of this convex bow being situated shortly behind the rise of the 2nd cubitus, not touching the cell and finally with the last part about on the axillaris to the base of the wing. Hindwing black, in the ♂ anteriorly lighter with a brown scent-spot surrounded by ochreous. Peru, Chanchamayo.

C. praelata Warr. is similar to *conscita*, the distal edge of the yellow spot arises nearer the apex, extending to the end of the 3rd median, where it bends in a right angle to the end of the 2nd cubitus. (The species was not at hand.) Peru, like the preceding.

C. flammifera Warr. (♀). Wings blackish-purple, with a reddish-orange spot of a similar shape as in the preceding, its distal edge arising from about $\frac{2}{3}$ of the costa and likewise running to the end of the 3rd median, whence it extends close at the margin to the 2nd cubitus. From there it likewise goes with a convexity to the base, which, however, touches the posterior margin of the cell. Expanse of wings: 50 mm. South-East Peru, Limbani, in November. (Was not at hand.)

C. orthocraspeda sp. n. (65 g) is quite similar to *flammifera*, the distal edge of the orange spot extends almost straight to shortly before the end of the 2nd cubitus, not being angularly bent at the 3rd median, extending about from the centre of the 1st cubitus along it and then along the posterior margin of the cell to the base. South East Peru, like the preceding, in March. ♂ type in the Tring Museum. It is not impossible that this species is the ♂ of the preceding or another generation of them. But as the species of *Crocomela* often fly together, this question cannot be decided yet.

C. trigonata Warr. (♀) is separated from *conscita* Drc. and *flammifera* Warr. by the much broader orange area of the forewing; its distal edge extends from $\frac{1}{2}$ of the costa to the distal margin, before which it bends round on the 1st cubitus and goes to the axillaris, from where it extends, roughly bordered and narrowing down, to the base of the wing. (Was not at hand.) Peru, Huanuco.

2. Also the hindwing with light markings.

C. intensa Wkr. (♀ = *marginata* Warr., *vitellina* H.-Schäff.) (65 i). Deep yellow wings, with broad, black distal margins, forewing from the base broadly black, this border being then narrowed; about from the centre of the costa the broad black margin begins, occupying the apical third and extending bent to about $\frac{4}{5}$ of the hind margin. Hindwings at the costa without a black border, in the ♂ the anterior half of the wing is pale, not scaled, with an oblong brown scent-spot. Venezuela.

- erectistria*. **C. erectistria** Warr. (= *elisa* Drc.). Wings black, forewing with a yellow longitudinal streak (about 2 mm broad) pointing towards the apex and being more (♂) or less (♀) narrowed, ending before the margin in the distance of its greatest width, the last end being very feebly bent upward like a hook, or in the ♂ even being deposited in a dot. Hindwing yellow with black margins, which are broadest at the posterior margin of the 3rd median branch. ♂ beneath with black scales on the anterior angle of the cell, ♀ beneath with a yellow stripe on the basal costa. Ecuador.
- fusifera*. **C. fusifera** Wkr. is not determinable from the author's short description; wings pale yellow, rather long, moderately broad, with black margins which are much broader on the forewing than on the hindwing. Length of wings about 32 mm. Colombia, Bogotá.
- luxuriosa*. **C. luxuriosa** sp. n. resembles *erectistria* Warr., the yellow colouring is more extensive, on both wings only ending 1 mm before the margin, so that the yellow colouring is at the 2nd median branch much farther extended towards the margin. In the ♀ the area between the subcostal and the cell of the hindwing is dusted with blackish. Colombia. ♀ type from the Rio Dagua in the Berlin Museum.
- tenuifascia*. **C. tenuifascia** sp. n. In the distal extent of the yellow colouring between *luxuriosa* and *erectistria*, the yellow areas narrower, that of the forewing in the maximum 1½ mm broad, paler yellow. Beneath the costa of the hindwing is brown at the base. Ecuador. ♀ type in the Berlin Museum.
- latimargo*. **C. latimargo** Dgn. (65 i). Wings black, forewing with a very broad yellow longitudinal spot from the base, anteriorly extending to the centre of the cell, posteriorly beyond the axillaris, cutting the latter about in the centre and being at the end (about in the area of the transverse vein) broadly truncate and somewhat emarginated. Hindwing similar to that of *erectistria*, but the black anal-marginal border is somewhat narrower. Colombia.
- acuminata*. **C. acuminata** sp. n. (65 h) is similar to *latimargo*, the yellow central spot of the forewing, however, almost extends to the centre of the 3rd median branch, it is pointed. Hindwing entirely as in *erectistria*. Colombia. ♂ type in the Berlin Museum. (This form is perhaps the ♂ of *fusifera* Wkr.).
- albolineata*. **C. albolineata** Drc. Described as *Josiomorpha*, unknown to me, but probably belonging hereto. In the scheme of markings similar to *erectistria* and its allies, but all the yellow markings are here white. Colombia.
- pluricineta*. **C. pluricineta** Dgn. is extremely similar to *Antiotricha integra* Wkr. (38 f), but on all the wings the costal margin is broader black, fully one millimeter broad on the forewing (in *integra* about half a mm). Wings otherwise orange, all being margined with black. Colombia. The species was not at hand.
- cecata*. **C. cecata** Dgn. (♀). Wings orange, margined with black (except the costa and anal margin of the hindwing), also similar to *integra*, but the forewing with a black transverse line in the centre. Ecuador. The species was not at hand, perhaps it does not belong hereto.
- furonia*. **C. furonia** Drc. (♂). In the size (expanse of wings 35 to 40 mm) corresponding with *cecata*, but it has 3 white dots on the collar, and the costal margin of the hindwing is said to be black; otherwise similar to *cecata*, perhaps the ♂ of it. It was not at hand. Ecuador.

NOTE: *Darna tripunctata* Dr. is a *Micrarctia*, allied to *Hetiactinidia*. *Darna formosa* Dogn. is a Geometrid; the same is probably the case with *Darna splendens* Drc. which is unknown to me (habitus of *Cr. Colorata*, hindwing at the costa near the apex with a yellow spot), and with *Darna grandis* Drc. (similar to *splendens*, hindwing with a yellow costal streak almost to the apex and a yellow streak from the base to the apex and a yellow streak from the base to the centre of the wing).

30. Gattung: **Episcea** Warr.

This genus also contains no genuine Pericopinae; but as it is frequently reckoned to it, it may be mentioned here. Separated from *Crocomela* by the absent sexual differences, otherwise rather similar to it in the veins, but in the examined specimen *Ep. sancta* the 2nd radial in the forewing arises from the same place with the 5th. Antennae in both sexes strongly pectinate. Accessory eyes present.

- sancta*. **E. sancta** Warr. (65 i) strikingly resembles the Dioptid *Scea auriflamma* Hbn., but in the forewing the proximal bordering of the apical black colouring runs straight, the latter being therefore more extensive. The anal margin is narrower black, so that there is yet some ground-colouring between it and the axillaris. The analis is broader black, particularly towards the base, than in *auriflamma*. The dark apical parts and the hindwing is chocolate brown, in the forewing the veins are lighter; beneath in the forewing a broad black stripe from the base along the proximal margin. Sa. Catharina.
- extravagans*. **E. extravagans** Warr. (65 i) resembles still more the said Dioptid, the markings as in *auriflamma* almost black. Otherwise separated from *Scea* by the straightly cut off apical part of the forewing; beneath the basal part of the hind-margin of the forewing is not black. Rio de Janeiro.

(31). Genus: **Gardinia** Ky.

No accessory eyes, consequently the genus belongs to the Lithosiinae. In the forewing the 1st radial is separate, anastomosing with the subeostal; the 2nd radial is separate (in a ♀ forked with the 3rd to 5th, so that the 2nd radial arose before the 5th before the 3rd to 4th). The 2nd and 3rd median branches are forked, the others separate. In the hindwing the cell in the ♂ is very short, changed by the scent-organ. The subeostal as far as the centre of the anterior margin of the cell fused with it, the radial ramus and the 1st median, as well as the 1st and 2nd cubitus forked. The species were hitherto all united under *magnifica*, they are only ascertainable by the ♂. All the species have a black body with a blue reflection, wings black, with a green or blue reflection, generally the forewing more golden green, hindwing varying from blue to violet.

G. magnifica Wkr. (65 i). ♂ at the antennal base without a place thickened by scales and covered with long hairs. Left valve of ♂ without a pointed terminal spine. Honduras, Nicaragua, Panama, Venezuela, Paraguay, Colombia. Length of forewing 27 to 32 mm. A more careful examination of the sexual armatures will necessitate a subdividing of this species.

G. amyntica sp. n. corresponds with the preceding in the size and exterior, antennae without a basal torus in the ♂, left valve at the end above extended into a spine, the curve of which is situate in the continuation of the valval convexity. Peru. ♂ type from Marepata in the Berlin Museum.

G. anopla sp. n. is a smaller species, forewing at most 25 mm long, ♂ antennae at the base with a black torus of scales, left valve of the ♂ without a terminal spine. In the ♀ there is before the much larger introitus vaginae a roundish protuberance which is indistinct in *magnifica*. Mexico. ♂♀ types in the Berlin Museum.

G. boliviensis sp. n. Size of *anopla*, ♂ antennae with an ochreous, black-haired torus of scales at the antennal base, which is just as thick as in *anopla*. Valves more unsymmetrical, left valve at the end twice as broad as the right valve. Bolivia. ♂ type from La Paz (Chaco) in the Berlin Museum.

G. paradoxa sp. n. Size of the preceding two species, the ♂ basal torus of scales likewise ochreous, black-haired, but much thicker. Left valve with a very long, entirely in-curved terminal spine, in the ♀ the vaginal area is very large, the introitus entirely removed to the left, the torus before it broad. Peru (Callanga, Chanehamayo). ♂♀ types from the Chanehamayo in the Berlin Museum.

Note:

Another imago may be mentioned yet, which had formerly been generally reckoned to the *Arctiidae* resp. *Hypsiidae* and has been figured by us on pl. 60 b:

Gypsius sumptuosus Wkr. According to recent statements by W. SCHAU, however, the species belongs to the group of the *Thyrididae* and will also be dealt with there. It originates from Mexico.

Additions to the Arctiidae.

Nolinae (p. 233).

P. 234, line 22, before *Nola niveibasis* insert:

habrophyes.

Nola habrophyes Dyar (66 b). Head and thorax of a pure white. Basal third of forewing white with a dark brown spot at the base of the costal margin; the distal two thirds of the forewing are blackish-brown, straightly cut off, scantily strewn with silvery blue scales; a faint, lighter postmedian line curved round the cell-end is noticeable, and before the apex some small light scales. Hindwing blackish-grey with a darker discal spot. Expanse of wings: 13 mm. Panama.

turbana.

N. turbana Schs. (66 b) is similar to the preceding, but it has brown shoulders; somewhat more than the basal third of the forewing is white, the distal half is lighter brown, only the straight nebulous stripe forming the border is dark; base of costal margin brown except a white basal spot; behind the centre there are at the costal margin fine white transverse lines, on the transverse vein a black spot round which a fine, black, dotted postmedian line makes a large curve. Hindwing whitish-grey, at the margin darkened. Expanse of wings: 12 mm. Guatemala.

Line 23 from below, before *N. pulverea* insert:

baracoa.

N. baracoa Schs. (66 b). Anterior body greyish-white, frons strewn with brown, abdomen light grey, at the base white. Forewing greyish-white, with a large, light brown spot at the base of the costal margin; from a smaller antemedian spot the fine black² anterior transverse line proceeds, behind which there is a brown spot in the cell; the similar black postmedian line arises from a spot in the centre of the costal margin, encircling the cell-end in a large curve, being strongly in-curved below the upper median branch, then again distally to the anal angle; a subterminal, light brown, spotted, irregular nebulous stripe. Hindwing white, at the margin light brown. Expanse of wings: 15 mm. Cuba.

folgona.

N. folgona Schs. (66 b). Head white, body grey like the forewing, the latter scantily strewn with brown, with a brown dot at the base of the costal margin; the punctiform transverse lines are composed of accumulations of brownish-grey scales, in the centre of the cell with small dark spots; subterminally are dark internerval streaks. Hindwing whitish, distally light brownish-grey. Expanse of wings: 13 mm. Cuba.

Line 16 from below, after *N. sabulosa* insert:

maria.

N. maria Schs. (66 b). Body and forewing light grey, towards the margin darkened, the transverse lines very indistinctly marked by darker scales, in the cell a black spot, at the cell-end accumulations of white scales, the punctiform postmedian line is proximally removed on the upper median branch; at the margin there are small dark spots. Hindwing white, fringes brown. Expanse of wings: 18 mm. Guatemala.

Line 12 from below, after *Nola mesographa* insert:

joanna.

N. joanna Schs. (66 b). Anterior body white, on the thorax mixed with brown. Forewing white, costal base striated blackish-brown; the fine antemedian line is almost removed into the centre, before it there is a black cellular dot, behind it blackish-brown shading, which is costally expanded into a large triangular spot; the posterior transverse line is very fine and feeble, brown, curved round the cell, from the lower median branch it extends vertically to the hind-margin with a short bent line before it; margin and fringes blackish-brown. Hindwing dark grey. Expanse of wings: 11 mm. French Guiana.

Line 9 from below, after *Nola triplaga* insert:

santamaria.

N. santamaria Schs. (66 b). Head white, collar blackish-brown, posteriorly bordered with white, thorax blackish-brown with white shoulder-covers. The white forewing is strewn with black, at the base of the costal margin a black spot with black dots before and behind it, before and in the centre there are some more black spots close together, from the former proceeds an undulate antemedian line, below the latter there are spots in the cell; the postmedian line being curved round the cell-end is blackish-brown, on the veins striped black, inwardly

downwards from the cell shaded with blackish-brown; marginal area broadly blackish-brown, in it a fine white undulate line interrupting the black veins of the marginal area. Hindwing whitish-grey, the postmedian line of the under surface showing through. Expanse of wings: 20 mm. Guatemala.

Line 3 from below, insert before *Nola perluta*:

N. limona Schs. (66 b). Anterior body and forewing white, the latter strewn with light brown, with a black, interrupted, anterior transverse line, with a round light brown cellular spot behind it; the fine black posterior transverse line is curved round the cell-end and extends from the lower median branch vertically to the hind-margin; the fine undulate line is proximally removed on the middle radial branch, forming small sagittae towards the hind-margin; in the dark grey marginal area there is a white marginal line with black vein-dots. Hindwing white, at the margin grey. Expanse of wings: 16 mm. Costa Rica; Guatemala.

N. yegua Schs. (66 b). Anterior body white like the forewing which is scantily strewn with a dark colour, at the costal margin spotted dark brown, in the centre a larger spot; the fine punctiform transverse lines extend as in *limona*; a subterminal irregular light brown shadow, the distal margin still lighter brown. The whitish hindwing is darkened brownish-grey towards the margin. Expanse of wings: 14 to 17 mm. Guatemala.

P. 235, line 3 from above, insert before *Nola biconica*:

N. elsa Schs. (67 b). Anterior body and forewing white, the latter scantily strewn with a darker colour, with traces of brownish transverse lines and accumulations of light brown scales in the cell; distally above them there is a triangular light brown costal spot; the feeble undulate line is followed by 2 rows of short marginal streaks. Hindwing whitish-grey. Expanse of wings: 12 mm. Guatemala.

N. cubensis Schs. (67 b) has an exterior very similar to *Roes. bifiliferata* (32 c). Anterior body and forewing white, the latter in the cell and above it red-brown, with double black transverse lines, the distal line below the lower median branch as far as the undulate black median line inwardly angular, from that place another line runs to the anal angle, shortly before it it incurves again; the undulate line is on the middle radial connected with the distal transverse line. Hindwing whitish, with grey veins. Expanse of wings: 18 mm. Cuba.

N. prothyma Dyar (66 c). Forewing whitish, at the margin grey with an irregular clouded submarginal line, a small dark spot at the base of the costal margin and with dusted, broken transverse lines, the anterior line being dentate, the posterior line forming two bows, the upper of which is larger; from a triangular brown median spot at the costal margin a straight line runs to the hind-margin. Hindwing brownish-grey, towards the margin darkened. Expanse of wings: 10 mm. Panama.

N. zeteci Dyar (66 c) has narrow forewings with almost parallel costal and hind margins. Forewing dark blackish-grey, with a dark costal-marginal spot at the base and a larger one near the centre, the latter being below indistinctly defined; the distal transverse line is oblique and dotted on the veins, like the undulate line. Hindwing lighter grey, at the margin darker. Expanse of wings: 14 mm. Panama.

N. rubescens Schs. (66 c). Forewing white, strewn with red-brown, with 4 large redbrown costal spots from which blackish transverse lines proceed, the distal line is proximally shaded with red-brown; marginal area red-brown with a fine white marginal line. Hindwing brownish-grey. Expanse of wings: 12 to 16 mm. Guatemala.

N. recedens Schs. (66 c). Forewing greyish-white, at the costal margin shaded with brownish with black transverse lines, the anterior line undulately dentate, with 4 black dots before it and a brownish-grey cellular spot behind it, the distal line punctiform, on one side shaded with brownish-grey; a dark subterminal shade is twice detached. Hindwing brownish-grey. Expanse of wings: 19 mm. Guatemala.

N. contorta Dyar (66 c) is on the forewing light grey, at the costal margin light brown, forming 2 spots situate close together, one between the accumulations of scales in the cell, the other close behind it; the feeble blackish transverse lines are broken, the proximal line undulate, doubled owing to spots accompanying it, the distal line curved round the cell is shaded with brown; the undulate line is also brownish. Hindwing brownish-grey with a darker median spot. Expanse of wings: 16 mm. Panama.

N. flavescens Dyar (66 c). Forewing light yellow, strewn with blackish, in the marginal area grey, distally and proximally darkened and here defined by the distinct black postmedian line against the yellow ground of the wing, in which there is a median shade; the indented dark undulate line is dentate. Hindwing brownish-grey, towards the base lighter. Expanse of wings: 16 mm. Panama.

Line 10 from above, insert after *Nola sperata*:

N. parana Schs. (66 c). Anterior body and forewing dull white, scantily strewn dark, particularly in and below the cell, at the costal margin towards the base brown; the anterior transverse line is very feeble, distally bent, the posterior line is proximally accompanied by a brownish-grey shade expanding towards the hind-margin; undulate line and marginal shadow dark greyish-brown. Hindwing brownish-grey, at the hind-margin whitish. Expanse of wings: 18 mm. Castro (Paraná).

nimbimargo. **N. nimbimargo** Dyar (66 c) is very similar to the following *chauma*, the marginal clouding is blacker, the undulate line obsolete, the distal transverse line dusted, dentate, the brown costal-marginal band in the basal two thirds distinct, at the end expanded into a small spot. Hindwing diaphanous brownish-grey. The species is also very similar to *artata* (32 k), but the distal transverse line does not form on the submedian such a distinct tooth. Expanse of wings: 12 mm. Panama.

chauma. **N. chauma** Dyar (66 c) is very similar to the following *artata*, but the costal spot is longer and extends more obliquely. Forewing whitish, at the margin grey, here crossed by the white undulate line; the blackish distal transverse line approaches the grey marginal area and forms 2 bows; costal margin shaded with brown, behind the centre forming a large spot. Hindwing brownish-grey, towards the margin darker. Expanse of wings: 9 mm. Panama.

Line 13 from above, insert after *Nola artata*:

aeschyntela. **N. aeschyntela** Dyar (37 c). Forewing light grey with accumulations of black scales, the anterior transverse line irregularly bent, the distal line punctiform, before it a black shade, at the costal and hind margins shaded with red-brown; undulate line blackish speckled. Hindwing brownish-grey, towards the base lighter. Expanse of wings: 14 mm. Panama.

brunneifera. **N. brunneifera** Dyar (67 a) is similar to the preceding, but the transverse lines have entirely disappeared in the black irroration which forms streaks on the veins; hind-margin and anal angle brown. Hindwing lighter. It may be the ♂ of the preceding species which was described from ♀♀. Expanse of wings: 12 mm. Panama.

rufizonalis. **N. rufizonalis** Hmps. Forewing silvery white with a red-brown spot at the base of the costal margin, a straight red-brown median band which narrows down below the cell, with a silvery white dot in it below the costal margin and at the cell-end; before the apex and at the margin large red-brown spots. Hindwing silvery white. Expanse of wings: 14 mm. Colombia.

Line 20 from above, insert before *apera*:

nephelepasa. **N. nephelepasa** Dyar (67 a) is light grey almost without any markings, only in the centre of the costal margin with an accumulation of darker scales as far as into the cell; the distal transverse line is marked by single dark scales, instead of the undulate line a shadow. The grey hindwing is basally lighter. Expanse of wings: 15 mm. Panama.

quintessa. **N. quintessa** Dyar (67 a). Forewing light grey, irrorated darker, particularly at the margins, with broad, almost straight, shaded, very oblique and parallel transverse lines; the dark subterminal shadow is far remote from the margin, distally undulately defined. Hindwing light grey. Expanse of wings: 13 mm. Panama. From *apera* (32 a) distinguished by the distal transverse line not forming any vein-dots.

P. 236, line 12 from below, insert after *Roeselia canescens*:

pecta. **Roeselia pecta** Dyar (67 a). Forewing whitish-grey, irrorated darker, with a rounded triangular, blackish-brown costal-marginal spot in the centre, and fine brown transverse lines, the posterior line undulate, before it in the lower half some small brown spots; the blackish subterminal line is irregular, behind it analwards brown shading at the margin. Hindwing brownish-grey, with a median spot. Expanse of wings: 15 mm. Panama.

hypopecta. **R. hypopecta** Dyar (67 a) is likewise whitish-grey, the costal-marginal spot in the centre almost quadrangular, black and extending down to the median; the anterior transverse line is removed into the centre near the posterior line which runs straight, before it the small brown spots are absent; the undulate blackish transverse line is distally followed by brown dusting leaving only the apex bare. Expanse of wings: 13 mm. Panama.

micropecta. **R. micropecta** Dyar (67 a). Forewing light grey, with a dark grey triangular spot in the centre of the costal margin; the transverse lines are fine, blackish, the distal line bending round the cell-end; in the grey-shaded marginal area is the still darker undulate line, the costal margin is finely speckled grey and white. Hindwing monotonously brownish-grey. Expanse of wings: 10 mm. Panama.

P. 236, line 1 from below, insert after *unilinea*:

castigata. **R. castigata** Dogn. Anterior body and forewing of a pure white, in the first third of the costal margin two black dots, and with a white median band edged with blackish-brown, the interior bordering begins at the costal margin with a brown triangular spot, the distal 2 mm distant from it, at the hind-margin only 1 mm, behind it with a blackish costal spot from which a brown faded line proceeds, vanishing again in the brown marginal shading and proximally accompanied by a similar line. Hindwing light grey. Expanse of wing: 16 mm. Amazons.

P. 237, line 4 from above, insert after *Roeselia trocha*:

inga. **R. inga** Schs. (66 d). Anterior body and forewing silvery white, basal fourth of costal margin black with a large dark brown costal-marginal spot in the centre, flowing together with a smaller cellular spot, both edged with blackish-brown; from the lower cell-end a vertical blackish-brown line extends to the hind-margin;

before the grey margin there is a brownish subterminal shadow, before and behind it at the costal margin one dark dot each. Hindwing whitish with a grey margin. Expanse of wings: 18 mm. Peru (Carabaya).

Line 24 from below, insert after *Roeselia effusa*:

R. trias Schs. (66 d). Anterior body and forewing white, on the wings tinted silky grey with a blackish-*trias*. brown anterior transverse line, a large V-shaped median spot at the costal margin, which is continued to the hind-margin as a line being angular at the lower cell-end; at the cross-vein a white line; the fine black distal transverse line at first runs almost parallel to the costal margin, becomes thicker after the bend and approaches very closely to the median line below the cell; the dark subterminal line is undulate, interrupted. Hindwing white with a fine brownish postmedian line. Expanse of wings: 23 mm. Peru.

P. 237, line 20 from below, insert after *R. hermana*:

R. pseudermana Dyar (66 d) resembles the preceding; forewing silvery grey with a long brown costal-*pseudermana*. marginal spot filling up the cell and ending sharply cut off at the distal edge of the reniform macula; both the similarly coloured maculae are marked by accumulations of scales; transverse lines single, the anterior line is a curved streak below the cell, the distal line is distally bordered with white, behind it the veins are finely striped black; the undulate line is only visible above and obliquely cuts off the apex. Hindwing greyish-white. Expanse of wings: 22 mm. Mexico (Chiapas).

Line 8 from below, insert after *Roeselia pedante*:

R. melletes Dyar (66 d). Forewing whitish, at the margin broadly irrorated with grey, with blackish-*melletes*. transverse lines, the proximal line broken, the distal line far curved round the cell-end below it double. The black undulate line is dentate and vanishes more or less in the grey marginal irroration; black marginal dots change off with black fringe-dots. Hindwing brownish-grey, towards the base lighter. Expanse of wings: 16 to 18 mm. Panama.

P. 238, line 4 from above, insert after *Roeselia dentata*:

R. varia B. & Linds. is similar to *dentata* Dyar (32 l) and *conspicua* Dyar (line 15 from below), the *varia*. latter of which is a distinct species and not a synonym to *fuscata* Grt. It differs from *dentata* in a more uniformly rounded and invariably double posterior transverse line, from *conspicua* in the much shorter palpi which in the latter species project by the length of the head. Ground-colour varying from dark grey to brownish-grey; the brownish grey median shadow begins with 2 costal-marginal dots and turns lighter towards the hind-margin; the light undulate line is irregular. From *minor* it is distinguished by a more sharply dentate postmedian line and a darker ground-colour. Expanse of wings: 26 to 32 mm. Arizona.

P. 238, line 20 from above, insert before *patina*:

R. caruscula Dyar (66 d) is allied to the following species, but smaller, the lines are lighter, the hind-*caruscula*. wing whitish without the grey shading. Expanse of wings: 12 mm. Mexico (Mirador).

Line 14 from below, insert after *Roeselia postalbida*:

f. **eucalyptula** Dyar (66 e) is larger and lighter than typical *minuscula* with entirely white hindwings *eucalyptula*. showing a faint median dot. Expanse of wings: 21 to 24 mm. Described from California.

After *Roeselia minuscula* we introduce as a distinct species, line 15 from below:

R. conspicua Dyar (66 e). Larger and darker than *minuscula* (32 f) with much longer palpi. From Colo-*conspicua*. rado and New Mexico, and in a somewhat lighter form from Winnipeg, Manitoba. The larva lives on oaks.

After it insert as non-synonymous with *minuscula*:

R. minor Dyar (66 e) is probably also a distinct species, still larger than *fuscata*, the forewing smoothly *minor*. scaled, grey, with finer markings, the distal transverse line is more distantly bent round the cell-end.

R. bicrenuscula Dyar (66 e). Forewing lustrous dark grey with 3 accumulations of raised brown scales *bicrenus-**cula*. in the cell; the two transverse lines are thin, black, both finely erenulate, the inner line regularly curved; behind the dark undulate subterminal shadow white irroration. Hindwing light brown, towards the base lighter. Expanse of wings: 28 mm. Arizona. Allied to *conspicua* from which it is distinguished by more distinct, finer markings.

R. extusata Dyar (66 e). Forewing dark grey, in the distal half of the cell with a quadrangular blackish *extusata*. shadow as far as the costal margin, with a white discal spot therein; transverse lines crenulate, the distal line far curved round the cell-end; the light, dentate undulate line is more or less broken up into spots, proximally bordered with a darker colour; fringes speckled. Hindwing dark brown. Expanse of wings: 25 mm. Arizona.

P. 239, line 24 from above, insert before *metaleuca*:

R. atypica Dyar (66 d) has whitish forewings scantily strewn with black, with a dark spot at the base of *atypica*. the costal margin, a curved anterior transverse line, the posterior line parallel to the margin bordering on an

oblique dark costal-marginal spot; the finely crenulate subterminal line is likewise parallel to the margin on which the grey irroration becomes denser. Hindwing light, on the veins and margin brownish-grey. Expanse of wings: 15 mm. Panama.

P. 239, line 14 from below, insert after *medioscripta*:

emissa. **R. emissa** Dyar (66 d). Forewing dark grey, the posterior transverse line single, distinctly black, with vein-streaks; in the centre of the costal margin a triangular spot extends along the upper median branch almost to the distal line; at the base a dark shadow, behind it the feeble, fine, anterior transverse line; the undulate line is only marked. Hindwing whitish with finely darker veins and margin. Expanse of wings: 23 mm. Mexico (Zacualpan?).

clarciana. **R. clarciana** Dyar (66 e). Forewing light grey, at the base and above the cell whitish, with a triangular black spot at the base of the costa and a black median shade covering the proximal half of the reniform macula, the distal half being white, without a border-line; the distal transverse line is double, curved round the cell-end; behind the dark, speckled undulate line brightened up by whitish, on the margin black dots. Hindwing light grey. Expanse of wings: 29 mm. Mexico (Hidalgo).

P. 240, line 19 from below, insert after *appelia*:

phacotermi-
na. **C. phaeotermi** Hmps. Anterior body and forewing white, the latter in some places dusted with red-brown and irrorated at the costal margin, with a dark brown marginal area, only towards the apex mixed with white; the accumulations of scales and a spot in the centre of the cell are red-brown; a faint red-brown, posterior transverse line is only visible in the upper third, behind it at the costal margin a small brown spot. Hindwing light brown. Expanse of wings: 14 mm. Peru.

sylpha. **C. sylpha** Dyar (66 d). Forewing whitish, with a light grey aspect owing to fine irroration, and a small brownish-grey costal-marginal spot near the base, a nebulous spot at the beginning of the proximal transverse line, and a larger oblique one behind the centre, from which the median line proceeds, all the three lines being brownish-grey; the clouded undulate line forms 3 bows. Hindwing light grey, at the margin darker. Expanse of wings: 11 to 13 mm. Panama.

Line 15 from above, insert before *semirufa*:

cogia. **C. cogia** Schs. (66 d). Anterior body and forewing of a pure white, the forewing at the costal margin as far as before the centre, at the hind-margin as far as behind the centre, behind it dark grey with feebly brownish postmedian, subterminal, and marginal lines with black vein-streaks therein; transverse vein marked brown and black. Hindwing whitish grey. Expanse of wings: 14 mm. French Guiana.

P. 241, line 7 from above, insert before *Celama albirufa*:

ralphia. **Celama ralphia** Schs. (66 e) has a white head; thorax and forewing are brownish-grey, forewing at the margin darker with a dark brown streak at the base of the costal margin and fine, punctiform transverse lines, behind the anterior line with a round black cellular spot; the distal line ends at the hind-margin with a faded brown spot; parallel to the margin a subterminal row of dots. Hindwing white, at the margin smoky. Expanse of wings: 13 mm. Guatemala.

euryppennis. **C. euryppennis** Dyar (66 e). Forewing white with blackish-brown markings: near the base a subcostal small heap of scales, behind it one at the costal margin which is finely spotted dark; the proximal transverse line consists of 3 dots, behind it a large cellular spot connected with the costal margin; the distal transverse line also consists of a row of dots; the brownish subterminal line is broad, undulate. Hindwing white, on the veins and margin somewhat brownish. Expanse of wings: 22 mm. From Utah, taken in July.

Line 10 from above:

obliquata. **C. obliquata** B. & McD. is synonymous with *lagunculariae* Dyar and must be placed to *Nola*. *lagunculariae* becomes a distinct species and is not synonymous with *apera*.

Lithosiinae (P. 241).

P. 242, line 9 from below, insert after *Boenasa nigrorosea*:

toryca. **Boenasa toryca** Schs. (66 e). Anterior body and forewing lustrous silky olive-brown, antennae, vertex and collar white. Marginal area of forewing suffused with white; below the cell a broad white area extending downward to the hind-margin, distally to behind the centre, the upper border-line being bent; on the transverse vein a white, distally black-edged streak, behind it a feeble bent postmedian line composed of dark irroration. Abdomen and hindwing conch-coloured pink. Expanse of wings: 17 mm. Cuba.

angelica. **B. angelica** Schs. (66 f) is very similar to the preceding, the pink colour is darker, also the vertex and collar are pink, the white hind-marginal area probably extends to the anal angle, it is strewn with olive-brown and in some places suffused with pink, upwards not extending to the cell and being above shaded darker. Expanse of wings: 18 mm. S. Domingo. Both species have accessory eyes and ought therefore to be placed to the Arctiinae.

2a. Genus: **Torycus** H.-Schäff.

Separated from *Boenasa* by the presence of all the veins in the hindwing which shows the normal shape and size. Only 1 species:

T. domingonis Schs. (66 f). Body and wings light drab, on the thorax and forewing tinted yellowish- *domingonis*. reddish, on the forewing densely strewn with blackish-brown except the marginal area, the irroration being subterminally intensified into a black line; on the transverse vein there are 2 black dots; from the base below the cell proceeds a white line bending downwards near the centre of the hind-margin. Expanse of wings: 13 mm. S. Domingo.

P. 245, line 10 from below, insert before *Clemensia*:

15a. Genus: **Anaene** Dyar.

Proboscis developed, palpi erect, the middle joint in front densely scaled, reaching the vertex with the short terminal joint. Hind tibiae with very long spurs. Forewing narrow, the costal margin bent down before the apex, the apex tapering off, almost falciform, only the uppermost subcostal branch being separate, in *Clemensia* the two uppermost; on the hindwing the upper median and the lowest radial branch are forked, the middle radial arises above the centre of the cross-vein.

A. spurca Dyar (66 f.) Forewing whitish with a dark brown costal margin, below it dusted with grey, *spurca*. crossed by 2 broad white lines, between both lines at the hind-margin a triangular brown spot; anal angle tinted yellowish, with a small dark spot in it, another one in the centre of the margin. Hindwing brownish-grey. Expanse of wings: 13 mm. Panama.

A. squalida Dyar (66 f) resembles the preceding, but the grey dusting is much more extensive and *squalida*. covers almost the whole wing; below a dark basal ray a whitish spot; the white transverse lines are narrower and do not reach to the costal margin; the dark spots are more olive and not so distinctly pronounced. Expanse of wings: 13 mm. Panama.

A. improspira Dyar (66 f). Forewing wood-coloured brown with numerous fine straight lines almost *improspira*. parallel to the distal margin with a large oblong discal spot. Costal margin copper-brown with fine white striae running towards the dark ones, and a small preapical spot; distal margin narrow dark brown. Hindwing greyish-brown. Expanse of wings: 10 mm. Panama.

A. diagramma Dyar (66 f), with longer palpi and the forewing below the apex somewhat fretted away, *diagramma*. is grey, the discal veins are lighter, dusted with yellowish, and very finely transversely striated alternately dark and light, with 2 blackish-brown transverse lines; at the costal margin, apex and distal margin there are small darker spots. Expanse of wings: 10 mm. Panama.

15b. Genus: **Dixanaene** Dyar.

Like *Anaene*, but on the forewing the upper median and the lowest radial branch are forked, the terminal joint of the palp is much longer, and the apex of the forewing is rounded. Only 1 species.

N. lepidocaena Dyar (66 f). Forewing lightgrey, very finely transversely striated whitish and dark *lepidocaena*. brown, with white spots at the base, in the basal third of the hind-margin and in a subterminal line, and with 2 copper-coloured transverse lines, the proximal one being shortened; between them with 3 spots of long, spatulate, black and white scales, a subbasal, median and subterminal one, all 3 not reaching the costal margin. Hindwing whitish, distally brownish. Expanse of wings: 11 mm. Panama.

P. 246, line 5 from below:

C. lactea Stretch is to be eliminated from the Lithosiinae; according to Mr. BENJAMIN it is an *Erastrina* *lactea*. and belongs to the genus *Grotellaforma* (= *colora* Barnes).

P. 246, line 8 from below, insert after *Clemensia urucata*:

Clemensia pontenova Dogn. Wings white, forewing behind and below the lower cell-angle tinted yellow- *pontenova*. ish, at the costal margin with 6 small brown strigiform spots: 3 before the centre, the third being the longest and extending obliquely to the cell-fold; behind the centre 2 close together, then enclosing a large black discal spot, the distal one extends as a light line not quite to the hind-margin; the sixth runs as a horizontal line below the apex; in the centre of the distal margin a brown shadow. Hindwing at the margin brownish. Expanse of wings: 13 mm. Amazons (Rio Xingu).

chala. **C. chala** Schs. (66 f) has greyish-white forewings with 4 small blackish-brown costal spots before the centre, below the most distal spot with a dark line, before which there is a large brownish-grey spot in the cell, followed by a smaller black spot; near the cell-end runs a second, irregular, interrupted transverse line, at the end itself a black discal spot; the postmedian line is fine, crenulate, in the lower half irregularly speckled; a subterminal brownish-grey shadow, behind it internerval spots; a submedian light brown shadow from the base to the distal transverse line is united here at the hind-margin with a large, greyish-brown, semicircular spot; the white fringes are spotted black at the apex and in the centre. Hindwing greyish-white with a central spot and small faint marginal spots. Expanse of wings: 18 mm. Guatemala.

Line 2 from below, insert before *brunneomedia*:

remida. **C. remida** Schs. (67 a). Allied to the following species. The white forewing is irrorated with light brown, the brown basal area is bordered by a dark brown line; the anterior transverse line is fine dark brown, before it a curved brown shadow, behind it a dark cellular dot; the postmedian line is a broad light brown shadow, partly finely bordered with dark, forming a brownish-grey spot below the cell-end; single brownish-grey, small subterminal clouds. Hindwing smoky grey. Expanse of wings: 20 mm. Guatemala.

P. 247, line 25 from above, insert after *Clemensia cernitis*:

holocerna. **C. holocerna** Dyar (66 g) is allied to *cernitis* (33 m), but it is browner, the costal margin before the apex more strongly bent down, forming an angular projection. Forewing brown with a dark brown costal-marginal spot before the apex, the transverse lines very feebly marked by darker irroration; the light undulate line is the most distinct, and forms a white border of the costal-marginal spot. Hindwing brownish-grey. Expanse of wings: 13 mm. Mexico (Tabasco).

P. 248, line 17 from above, insert after *Clemensia flava*:

plumbeifusca. **C. plumbeifusca** Hmps. The dark brown forewing is suffused with a silvery bluish grey; behind the centre an indistinct double row of white dots and a subterminal row of white dots. Hindwing coloured like the forewing. Expanse of wings: 18 mm. Peru.

Line 25 from above, insert after *Anaulosia*:

17a. Genus: **Geridixis** Dyar.

The generic marks correspond with *Chrysochlorosia* (p. 264), but on the forewing the uppermost subcostal branch arises separately from the cell; on the hindwing the cell is of normal size. Only 1 species:

minx. **G. minx** Dyar (66 g). Forewing white, somewhat irrorated with ochreous, the greatest part of the wing is occupied by an oval, large, black spot, so that only the costal-marginal third, a narrow distal-marginal area and the anal angle remain white. Hindwing brownish-grey with white fringes. Externally very similar to *Paratalara inversa* (pl. 34 m). Expanse of wings: 14 mm. Panama.

P. 249, line 6 from below, insert before *Talara barema*:

minynthadia. **Talara minynthadia** Dyar (66 g). Body brown, with a metallic black tint, neck and base of antenna yellow; abdomen above carmine, at the anus orange mixed with black. Forewing slate-coloured brown, at the costal margin and in the centre shaded with bluish-black. Hindwing carmine with a blackish-brown marginal band. The ♀ probably belonging to it lacks the dark shadow, the marginal band of the hindwing is much broader. Expanse of wings: 15 mm. Panama.

violescens. **T. violescens** Dyar (66 g). Forewing dark slate-coloured brown with a violet reflection. Hindwing black, in the basal third carmine. Abdomen carmine with a bluish-black anal tuft. Expanse of wings: 16 mm. Panama.

Line 1 from below, insert after *Talara leucocera*:

mesospila. **T. mesospila** Dyar (66 g). Head, thorax and forewing white, forewing with a brown spot in the basal third of the hind-margin and another oblique one at the anal angle. Hindwing and abdomen carmine. Expanse of wings: 11 mm. Panama.

P. 250, line 17 from above, insert after *Talara leucophaea*:

melanosticta. **T. melanosticta** Dyar (66 g) has slate-coloured forewings. Hindwing of a somewhat browner tinge with a large velvety black androconium in the disc. Expanse of wings: 15 to 16 mm. Panama.

Line 25 from above, insert after *Talara violaceogrisea*:

synnephela. **T. synnephela** Dyar (66 g). Forewing greyish-white with a black clouded spot above the anal angle and a subcostal lighter part. Hindwing and abdomen blackish. Expanse of wings: 14 mm. Mexico (Tabasco).

thea. **T. thea** Schs. (66 g). Anterior body drab, abdomen black. Forewing greyish-white, a stripe in the cell and a broad postmedian area from the upper radial branch to the hind-margin black, and the hind-margin is also broadly black and the distal margin inclusive of the fringes narrowly black. Hindwing black. Expanse of wings: 20 mm. Ecuador.

P. 251, line 18 from above, insert after *Talara diversa*.

T. mona Dyar (66 g). Forewing grey mixed with whitish, particularly towards the hind-margin; the *mona*. anterior transverse line is formed of 3 small light spots, the straight undulate line is dark, behind it a light spot at the anal angle and at the costal margin one dot each before and behind it. Hindwing and abdomen above earmine, hindwing with a dark grey apex narrowing down into a narrow margin at the anal angle. Expanse of wings: 11 mm. Panama.

Insert before *Barsinella*:

23a. Genus: **Abrochocis** Dyar.

This new genus was established for the structurally different *Talara esperanza* (p. 249, line 19 from below, pl. 32 n) as a typical species. On the forewing the two upper radial branches are on a long footstalk; on the hindwing the upper median branch anastomoses with the lower radial, the middle radial arising from the lower cell-angle. Separated from *Barsinella* by the bifurcation of the upper median and lowest radial branch and by the anastomosis of the uppermost radial and subcostal branches on the hindwing.

A. esperanza Schs. occurs also in Panama.

Line 13 from below, insert after *Barsinella mirabilis*:

Barsinella desetta Dyar (67 b). Forewing orange, dusted with red, with a earmine discal streak and *desetta*. margin; at the base there are 3 black dots followed by 4 finger-shaped streaks, then the trebly dentate anterior transverse line; the postmedian line has a long tooth, behind it are 8 black vein-streaks. Hindwing earmine with a black apical spot and orange fringes. Expanse of wings: 9 mm. Panama.

P. 253, line 19 from below, insert after *Lycomorphodes eptatra*:

Lycomorphodes genificans Dyar (66 h) is externally quite similar to *Talara rugipennis* (34 e), but has *genificans*. different veins. Forewing dark slate-coloured, hindwing of a purer black. Abdomen above earmine. Expanse of wings: 13 to 14 mm. Panama.

P. 254, line 17 from above, insert before *Ascaptesyle*:

30a. Genus: **Gaudeator** Dyar.

Proboscis developed; palpi short, erect as far as the centre of the frons. On the forewing the upper median branch arises before the lower cell-angle, the two lower radial branches are separated, the upper branch comes from below the upper cell-angle; the 3 lower subcostal branches are forked, the two upper ones arise separately from the cell, the uppermost is slightly bent. On the hindwing the upper median and the lower radial branch from the cell-angle, the middle radial from the centre of the cross-vein, the upper radial on a long footstalk with the lowest subcostal branch, the costal vein from the centre of the cell. Hind tibiae with two pairs of spurs.

G. paidicus Dyar (66 h). Body yellow, abdomen above tinted red. Forewing yellow with a purple black *paidicus*. basal streak; an oblique anterior transverse band is connected by a longitudinal streak with a curved posterior transverse band which is broken up into spots below the connection, its lower end terminating near the anal angle. Hindwing pink with yellow fringes. Expanse of wings: 13 mm. Panama.

Line 4 from below, insert after *Urozana cordatula*:

Urozana metaphaenica Dogn. Forewing and anterior body deep blackish-green, with a metallic red *metaphaenica*. iridescence. Hindwing black, in the abdominal half red. Abdomen black, posteriorly red, the hair-tuft ochreous brown, the anal tuft black. Expanse of wings: 16 mm. Brazil (São Paulo).

P. 255, line 11 from above, insert before *Nodozana*:

34a. Genus: **Serincia** Dyar.

Structured almost the same as *Cincia*, but on the forewing the second and third lowest subcostal branches anastomose. Only 1 species is described.

S. metallica Dyar (66 h). Head, thorax and forewing of a bright metallic green, hindwing and abdomen *metallica*. dull black. Expanse of wings: 16 mm. Panama.

Line 2 from below, insert after *Nodozana xanthomela*:

Nodozana albula Dyar (66 h). White, the forewing irrorated with yellowish, with a faded dark spot *albula*. behind the cell and a similar though black oblong submedian spot. Hindwing and abdomen light grey, abdomen with a white anal tuft. Expanse of wings: 11 mm. Panama. It looks externally like *Saozana leucota* Hmps. (*Odozana*, 341).

P. 256, line 24 from above, insert before *Metalobosia*:

35 a. Gattung: **Eugraphosia** *Hmps.*

Proboscis developed, palpi erect as far as the vertex. Forewing short and broad with a rounded apex, the upper median branch is forked with the two lower radials, the upper radial arises from the upper cell-angle; the middle subcostal branch is absent, the upper arises separately from the cell. On the hindwing the lowest radial branch is absent, the middle one comes above the centre from the cross-vein, the upper one is forked with the subcostal. The ♂ beneath shows a round, glandular swelling before the centre of the costal margin of the hindwing. Only 1 species:

rubrizonca.

E. rubrizonca *Hmps.* Anterior body and forewing white, in the basal half at the costal margin 2 brown dots, an oblique, brownish, faded transverse line is present only below the cell, a postmedian orange-brownish band is in the upper half oblique and narrower, in the lower broad and extending straight to the hind-margin; behind it a faded blackish line reaching neither the costal margin nor the hind-margin. Hindwing white, costal and hind-margins tinted brown. Expanse of wings: 16 mm. Peru (Rio Ucayali).

P. 257, line 16 from below, insert before *Illice*:

38 a. Gattung: **Jorgensenia** *Schs.*

Male antennae long-combed, female antennae serrate, palpi obliquely rising beyond the vertex. Hind tibiae with 2 pairs of short spurs. Forewing with a straight costal margin, the two lower radial branches on a short footstalk, the upper arises from the upper cell-angle; the three lower subcostal branches are forked, the 4th arises separately from the cell, and the uppermost anastomoses with the costal vein. On the hindwing the median branches arise forked from the cell-angle, the lowest radial is absent, the middle radial from above the lower cell-angle, the uppermost anastomoses with the subcostal vein. Only 1 species:

cunegunda.

J. cunegunda *Schs.* (66 h). Body and wings above black with a dull green reflection. Expanse of wings: 32 mm. Argentina.

Line 16 from below, add to *Illice*:

In this genus particularly North American authors have wrought assiduously, and many modifications have become necessary. For the species exhibiting the hindwing strongly lobate at the anal angle and with hairy clothing as well as a hair-lock at the anal angle of the forewing beneath the generic name: *Ozodania* Dyar has been established. Owing to the oldest determination of types by GROTE (1854), *Illice* would have to be substituted by the name *Cisthene* Wkr. with the typical species *subjecta*.

P. 258, line 21 from above, insert after *schwarziorum*:

subrufa.

Illice subrufa *B. & McD.* (66 h) (p. 259 line 22 from above) in correspondence with the structure described as *Ozodania*, is on the head and thorax light ochreous, on the abdomen pink. The forewing is greyish-brown, more or less dusted with ochreous, at the hind-margin near the base a light yellowish spot, not connected with a triangular one close before the anal angle, the latter, however, may be connected or not with a smaller costal-marginal spot by a fine yellowish line; at the edges of the light spots the brownish ground-colour is darkest. Hindwing deep pink with a smoky-grey apical spot. Expanse of wings: 13 to 16 mm. Texas. This may also be the Mexican form of *schwarziorum* with a pink under surface which in typical *schwarziorum* from Arizona is drab except the median band.

tenuifascia.

I. tenuifascia *Harv.* is to be eliminated from among the forms of *unifascia* (line 30 from above); the species has quite different genitals and, owing to a hair-tuft on the wing, it belongs to *Ozodania*. It is larger than *unifascia*, with a much narrower median band which is neither very broad at the costal and hind-margins. Texas, North Carolina.

Line 25 from above:

ruptifascia. **I. unifascia** probably only retains yet the forms: *kentuckiensis* Dyar with a very broad median band. — **ruptifascia** *B. & McD.*, which name would have to be substituted for f. *mexicana* Drt., is the form with a separated costal-marginal and hind-marginal spot; the yellow tints are in this form lighter and the pink colour of the hindwing is paler, more flesh-coloured. Described as a race from Texas.

perrosea.

I. perrosea Dyar (line 21 from below) is a distinct species with a different genital organ; a race of it is probably *angelus* Dyar (line 15 from below), since it exhibits the same type of the valval structure.

barnesi.

I. barnesi Dyar (66 h) (line 24 from below) is likewise a distinct species and not a form of *unifascia*; by the genital organ it is allied to *perrosea*, but it differs also from this species. *barnesi* occurs in 2 different colourings: the type with pink hindwings, and more rarely with yellow hindwings: = f. **flavula** *B. & McD.* (= *flava* Drt., ab. 6. *Hmps.*).

I. picta B. & McD. (66 h) is another species approximating *barnesi* by same structure of the genital *picta*. organ and being very much like *angelus* (33 a) in the exterior. Thorax quite yellow, the forewing with a broad yellow band along the hind-margin, connected with a yellow postmedian transverse band which is centrally very narrow. Hindwing pink with a smoke-grey apical spot extending narrowedly to the centre of the distal margin. By traces of hairs at the anal angle it approximates *Ozodania*. The species is much larger than *unifascia* (33 a) with which it is probably often confounded. Texas.

Line 7 from below, after *Illice abala* insert:

I. albizona Hmps. Head and thorax light greyish-brown, collar ochreous, abdomen crimson-hued *albizona*. pink, under surface of a yellowish white. Forewing light greyish-brown, with a straight yellowish-white median band bordered by slightly undulate lines. Hindwing crimson with a blackish-brown marginal band narrowing down analwards. Expanse of wings: 18 mm. Peru (Rio Ucayali).

P. 259, line 11 from above, after *Illice subrubra* insert:

I. bonitensis Schs. (66 i). Anterior body and forewing sand-coloured grey, neck and base of collar *bonitensis*. flesh-coloured like the abdomen and the hindwing, the latter with a broad grey margin narrowing down analwards. Expanse of wings: 13 mm. Brazil (Province of Pernambuco).

Line 19 from below:

I. packardii Grt. is presumably not a form of *subjecta*, but a distinct species which may approximate the following *conjuncta*, though at present nothing positive is known.

I. conjuncta B. & McD. (66 i) is allied to *subjecta* (33 b), but the spots are lighter and the whole *conjuncta*. area between the submedian fold and hind-margin is filled up by the white band. Head and thorax whitish, base of collar pink like the abdomen. Forewing dark smoke-grey with a white costal-marginal spot behind the centre and a broad white hind-marginal band expanding analwards into a large spot. Expanse of wings: 15 mm. Texas.

I. bellicula Dyar (66 i) is likewise allied to *subjecta* (33 b), the wings are narrower, the markings narrower *bellicula*. and softer, the pink colour much redder. Forewing grey with a pink spot in the distal third of the costal margin and one at the anal angle, the latter connected with the base along the hind-margin by a yellowish-white stripe. Hindwing pink with a large grey apical spot. Expanse of wings: 14 mm. Described from Florida.

P. 260, line 11 from below, after *Illice lycomorphodes* insert:

I. lincea Schs. (66 i) is a larger species with an orange head and thorax, and a reddish abdomen. *lincea*. Forewing orange, the basal third of the costal margin black with a black basal spot and one antemedian and postmedian costal-marginal spot each, behind the latter the black colour is continued round the apex on to the distal margin along the fringes which are distally white; in front of this a white area not reaching to the anal angle; another black spot is in the centre of the hind-margin and a shortened subterminal line before the apex. Hindwing orange-pink with a black apical spot. Expanse of wings: 18 mm. Guatemala.

Line 1 from below, after *triplagiata* insert:

I. leuconotum Dyar (66 i). Head and thorax white, abdomen above crimson. Forewing grey, irrorated *leuconotum*. with white so that the grey ground-colour merely borders on the spots: 2 oblong ones at the hind-margin, which are almost united and together extend almost from the base to the anal angle, and a semi-circular one at the distal third of the costal margin. Hindwing crimson with a minute grey apical spot. Expanse of wings: 10 mm. Panama.

I. flavizonata Dogn. Head and thorax black, collar and prothorax yellow like the base of the palpi, *flavizonata*. abdomen above red, beneath yellowish. Forewing black, traversed by 2 straight, obliquely extending, light yellow bands, the subbasal one of which does not reach to the costal margin, whilst the other one runs from the centre of the costal margin almost to the proximal angle. Hindwing red with a black marginal band which narrows down analwards. Expanse of wings: 14 mm. Colombia (Pacho).

P. 261, line 15 from above, to *liberomacula* add:

A form occurring more frequently than the type and deviating by a white stripe from the base along the hind-margin to the white postmedian spot has been called: **basijuncta** B. & McD.; it flies with the type *basijuncta*. in California.

P. 261, line 6 from below:

For *I. ruficollis* Schs. DYAR established the genus: **Paraprepia**, because the hindwing lacks the middle radial branch. HAMPSON placed *deceptans* Dyar as a synonym to it, for which, however, DYAR established the genus *Parillicz*, because the palpi are not erect, but only rise obliquely; *deceptans* is reported to differ besides from *ruficollis* in the orange posterior vertical part and collar. From Brazil.

To *Paraprepia* add yet:

fuscilingua.

Par. fuscilingua Dyar (66 i). Head and palpi bluish-grey like the thorax and abdomen, collar crimson. Proboscis dark brown. Forewing slate-coloured greyish-blue, in the proximal third darkened. Hindwing slate-coloured black. Expanse of wings: 15 mm. Panama.

P. 264, line 10 from below, before *Odozana* insert:

45a. Genus: **Palaeozana** Dyar.

Very closely allied to the Indian genus *Pachycerosia* (Vol. X, p. 188) from which it only differs in the costal margin not being convex. Proboscis well developed, palpi slender, erect; on the forewing the two lower radial branches rise from the same place, the uppermost from the upper cell-angle; the two upper subcostal branches rise separately from the cell; on the hindwing the two lower radial branches anastomose and are forked with the upper median branch, and the uppermost radial is also forked with the subcostal.

mida.

P. mida Dyar (66 i). Dark slate-coloured grey, the collar crimson. Forewing slate-coloured black, hindwing crimson with a uniformly broad black margin which is beneath set with rough orange scales. Abdomen crimson, the very large anal tuft in the centre orange. Expanse of wings: 15 mm. Panama.

P. 265, line 12 from below:

For *Odozana leucota* Hmps. a separate genus was established:

46a. Genus: **Saozana** Dyar.

Distinguished from *Odozana* by the separate uppermost subcostal branch of the forewing not anastomosing with the costal, and by the uppermost radial branch of the hindwing anastomosing with the subcostal vein; ♂ hindwing anally very much widened with a glandular knot above the lower median branch. Type: *S. leucota* Hmps. (341).

P. 267, line 13 from above, after *Th. dremma* insert:

theodula.

Thyone theodula Schs. (66 i). Anterior body orange, abdomen pink. Forewing orange with a black, metallic blue-scaled subbasal spot on the median and 3 (subcostal, median and submedian) black, blue-scaled longitudinal lines from before the centre to the distal margin, the uppermost and the median ones expanding distally, the submedian line thickened at both its ends. Hindwing grey. Expanse of wings: 18 mm. Guatemala.

P. 268, line 20 from above, after *Afrida flavifera* insert:

purulha.

Afrida purulha Schs. (66 i). Forewing white, in the basal third scantily covered with black scales, the central area thickly strewn with brown, edged by vertical black lines; the marginal third scantily strewn except an area between a fine black postmedian line and the vertical line which are united on the lower median branch. Hindwing greyish-white with a less distinct light brown median line. Expanse of wings: 16 mm. Guatemala.

P. 269, line 4 from above: to *Afrida ydatodes* add as synonym: *parva* B. & McD.

exegens.

A. exegens Dyar (66 k). Forewing grey with a broad white band behind the base with an irregular margin; a distal, very irregular band is composed of a long costal-marginal spot which is united with a round spot, then it filiformly extends to an anal spot, the white areas on both sides being bordered by black spots. Hindwing white with 2 grey undulate lines. Expanse of wings: 20 mm. Mexico.

Line 17 from above, after *A. coagulata* insert:

hemicycla.

Afrida hemicycla Hmps. has silvery white forewings with a black antemedian spot below the cell from which 2 fine lines extend towards the hind-margin, a black median streak and behind it 2 costal-marginal spots; behind the upper cell-angle with a black semi-circle the concavity of which shows towards the hind-margin; marginal area broadly red-brown, proximally defined by blackish. Hindwing white, towards the margin brownish-red. Expanse of wings. 14 mm. Colombia.

P. 271, line 9 from below, after *Josiodes celena* insert:

angustilinea.

Josiodes angustilinea Dogn. The black abdomen is in the ♂ only in the first half sublaterally striped ochreous. All the 4 wings are purple black, the forewing traversed by a rectilinear ochreous band of 1 mm width, which crosses the cell-end and taperingly ends at the anal angle. Expanse of wings: 29 mm. Amazons (Tapajoz).

P. 273, line 15 from above, after *Cisthene lunaris* insert:

monon.

Cisthene monon Dyar (66 k) differs from *lunaris* in the absence of the yellow subcostal patch. Body above yellow, beneath grey. Forewing slate-coloured grey with a narrow yellow median band and a uniformly

bent subterminal band which in the centre runs close at the margin, and recedes farther at the apex. Hindwing in the disc broadly yellow, with a small grey basal spot and dark grey marginal half. Expanse of wings: 27 mm. Venezuela (Merida).

Line 18 from above, to *Cisthene menea*:

C. arida *Skinn.* is to be cancelled from the synonyms and becomes a distinct species. The abdomen *arida*. is quite yellow, the hindwing in the basal half. The median band of the forewing is narrow, the subterminal band before the anal angle rounded, terminating as a spot. From Arizona.

After it insert:

C. chorion *Dyar* (66 k) is at once discernible from *arida* by the abdomen beneath being grey. *chorion*. Forewing slate-coloured black with a moderately broad orange-yellow median band and a rather broad subterminal band which is shortened at the anal angle. Expanse of wings: 33 mm. Mexico (Guadalajara). It may be a form of *arida*.

C. loccea *Schs.* (66 k) is closely allied to *menea* (35 i). Body of a deep yellow with black legs. Forewing *loccea*. brownish-black, median band and subterminal band narrow, the median one almost vertical, scarcely widened at the costal and hind margins, the subterminal one the broadest at the costal margin, very much nearing each other below the distal margin. Hindwing of a deep yellow, with a black marginal band of about $2\frac{1}{2}$ mm width. Expanse of wings: 27 mm. Guatemala.

Line 21 from below, after *Cisthene praxis* insert:

C. tehuacana *Dyar* (66 k) differs from the following *cypris* (35 i) in the almost quite black hindwing *tehuacana*. with but a small yellow costal spot. Forewing slate-coloured greyish-black, with a narrow yellow median band and a short crescentiform subterminal band. Head and thorax yellow, abdomen black except the base and the apex of anus. Expanse of wings: 24 mm. Mexico, Tehuacan (Puebla).

Line 17 from below, after *Cisthene uncinata* insert:

C. ducei *Schs.* (66 k) is bluish-black on the body and wings, whilst the vertex, collar and some hairs *ducei*. on the metathorax as well as the segmental indentations on the abdomen are orange; the median line on the forewing is 2 mm broad, straightly extending from the costal margin to the hind-margin; the subterminal band is still narrower and ends pointedly at the anal angle. Hindwing with a broad orange transverse band in the basal half from the costal margin to the hind-margin. Expanse of wings: 35 mm. Colombia.

Line 1 from below, after *Cisthene triplaga* insert:

C. abdulla *Dyar* (39 l) is monotonously black, on the wings a slight slate-coloured reflection, with a *abdulla*. yellow basal spot from the subcosta to the median, the hindwing with a small yellow costal stripe in the basal half. Expanse of wings: 26 mm. Mexico (Cuernavaca). Probably this insect coincides with *Cyanarctia basiplaga* = *Hypomolis lithosiaphila*.

P. 274, line 12 from above, after *Gnamptonychia orsola* insert:

Gnamptonychia ventralis *B. & Linds.* Forewing greenish black, in the ♀ greyer, hindwing dull brownish- *ventralis*. black. Anterior body likewise greenish black, the head, antennal base, palpi, collar, hips, femora, hind tibiae, and the underside of the thorax and ventrum of a bright orange. Expanse of wings: 38 to 45 mm. Arizona. This species is certainly very closely allied to *G. orsola* (32 i).

After this add:

62 a. Genus: **Grucia** *Dyar*.

Allied to *Gnamptonychia*, but without an accessory cell on the forewing which shows the two lower radial branches forked; the uppermost subcostal branch unites at the end with the costal vein. But one species:

G. monacheicauda *Dyar* (66 k) is unicoloured dark slaty-grey on the body and wings, the anal tuft *monachei-* *cauda*. is ochreous. Expanse of wings: 37 mm. Mexico (State of Hidalgo).

P. 275, line 25 from above, before *Pronola* insert:

66 a. Genus: **Vulmara** *Schs.*

To be compared with the Indian genus *Halone* (Vol. X, p. 186). Proboscis developed; the slender palpi erect, not reaching to the vertex. Forewing narrow with a straight costal margin, the upper median branch rises from before the lower cell-angle which sends forth the two lower radial branches, the uppermost rising from the upper cell-angle; the 3 lowest subcostal branches are forked, the two upper ones separate. Hindwing similar as in *Pronola*, but the middle radial rises directly from the lower cell-angle, the upper one is forked with the subcostal.

V. drostana *Schs.* (66 k) is quite monotonously blackish-brown, only on the forewing with a slight *drostana*. purple tinge. Expanse of wings: 18 mm. Guatemala.

66b. Genus: **Pachasura** Dogn.

Allied to the preceding genus. ♂ antennae shortly serrate with ciliary tufts. The forewing lacks the accessory cell. Veins as in *Vulmara*, but on the forewing the uppermost radial branch rises somewhat below the upper cell-angle. Hindwing also as in *Vulmara*, but the stalks of the forked veins are much longer, in the upper median and lower radial branch almost to the distal margin. But one species.

stellata. * **P. stellata** Dogn. Body above orange, with some bluish-black spots, ventrum bluish-black, anal tuft white, legs spotted black and white. Wings orange, forewing apically lighter yellowish, with 5 large bluish-black spots, a smaller subbasal one below the cell, 2 antemedian spots and 2 on the cross-vein and below it, and apically with 3 more minute strigiform spots. Hindwing with a large discal spot and a submedian stripe. Expanse of wings: 24 mm. Colombia (Pacho).

Line 9 from below, before *Eugonosia* insert:

67a. Genus: **Nudur** Dyar.

Veins as in *Pronola*, but the uppermost radial branch of the forewing rises from the upper cell-angle; on the hindwing the middle radial rises from the centre of the cross-vein. Palpi porrect. But one species:

fractivittarum. **N. fractivittarum** Dyar (66 k). Forewing ochreous, from the costal base a straight dark slate-coloured grey longitudinal band rises, extending to the centre of the distal margin; a short band is at the base of the hind-margin, another band at the anal angle, two similar ones are obliquely at the costal margin at the proximal and distal thirds, all these markings are bordered with red. Hindwing pink with a small dark apical spot. Expanse of wings: 18 mm. Mexico (Misantla).

P. 278, line 17 from below, after *Eudoliche major* insert:

osvalda. **Eudoliche osvalda** Schs. (66 k). Palpi and head white, body and forewing sand-coloured grey, the costal-marginal area white, not distinctly defined. Hindwing white. The wings are longer and narrower than in typical *Eudoliche*, and on the forewing the uppermost subcostal branch anastomoses with the costal. Expanse of wings: 24 mm. Cuba.

P. 279, line 28 from above, after *Macroptila laniata* insert:

rotundata. **Macroptila rotundata** Dogn. has lustrous white wings, the hindwing with a slight iridescence, the head and thorax slightly tinted grey, the scent-scales light ochreous. Forewing beneath in the lower half of the cell clad with long hair, towards the anal angle with shorter hair turned towards the apex, the costa roughly sealed, the costal margin of the hindwing likewise set with rough ochreous scent-scales. Expanse of wings: 25 mm. Panama, Colombia.

androconiata. **M. androconiata** Dogn. is the most closely allied to *crinada* (36 i) and differs from it in the smaller size with shorter and squatter forewings. The colour is a somewhat purer white; forewing beneath beside the long cellular hairs with an oval androconium from the centre of the lower median branch to the centre of the uppermost radial branch. Colombia (Quindiu Pass, Cauca Valley).

P. 281, line 7 from below, after *Agylla nivea* insert:

niphostibes. **Agylla niphostibes** Dyar (66 l) is very closely allied to *nivea* (37 c) and may be only a form of it, distinguished by the head being in front dark grey with a white vertex, and ochreous palps with black ends. Expanse of wings: 40 to 46 mm. Panama, Guiana.

arthona. **A. arthona** Schs. (66 l) is likewise very closely allied to *nivea* (37 c). Antennae brown, frons black, vertex white, between the antennae orange like the palps, neck and legs, only the middle tarsi are in front black. Thorax white, collar grey, abdomen ochreous-grey, at the end and below yellow. Wings silvery white, the costal margin orange. Hindwing thinly scaled, whitish grey. Expanse of wings: 35 mm. Guatemala.

P. 283, line 8 from above, after *Agylla barbula* insert:

cryptosema. **A. cryptosema** Hmps. Head and thorax grey, tinted red-brown, abdomen greyish-white, beneath tinted yellow, the anal tuft beneath red-brown. Forewing silvery white, below the hind-marginal vein red-brown, the costal margin towards the base set with short brown hair. Beneath tinted red-brown, hindwing with yellow hair-locks along the cellular fold, and with dark brown androconia. Expanse of wings: 36 mm. Colombia.

Line 11 from above, after *Agylla trichosema* insert:

bioptera. **A. bioptera** Dyar (66 l). Body grey with a black anal tuft, white frons and yellow palps with a black terminal joint. Forewing silvery white, along the hind-margin dark grey. Beneath the forewing is grey, at the hind-margin darker, in the cell and behind it with a broad ochreous area. The ♀ is beneath white, only at the anal angle somewhat grey. Expanse of wings: 20 to 22 mm. Panama.

Line 26 from above, after *meteura* insert:

A. tygriusa Schs. (66 l). Anterior body mouse-coloured grey, a dot on the frons and the edges of the collar except behind are white like the abdomen which exhibits a reddish-yellow anal tuft. Forewing broad with a pointed apex and a slightly roundish hind-margin. Costal-marginal half yellowish-white, hind-marginal half sand-coloured grey. Hindwing longer than forewing, white. Forewing beneath light yellow, the distal margin obliquely from the apex to the centre of the hind-margin set with brownish-black scent-scales. Expanse of wings: 32 mm. Ecuador.

P. 287, line 3 from below, after *Metareva endoscota* insert:

Metareva paulina Dogn. Wings of a brilliant white lustre. Forewing beneath below the cell with long fine hair. Expanse of wings: 28 mm. Amazons (Olivença).

M. susumuca Dogn. Anterior body grey, abdomen more whitish, beneath light yellow. Forewing glaringly white, at the hind-margin below the submedian fold tinted grey with a slight grey nebulous stripe along the median in the distal half of the cell. Beneath the forewing is brownish-grey with a yellowish tint. Hindwing white, at the costal margin and apex tinted grey. Expanse of wings: 38 mm. Colombia.

P. 290, line 24 from below, after *Progona xanthura* insert:

Progona ignata Schs. (66 l). Body brown, collar reddish-yellow like the anal end. Forewing light sand-coloured grey, along the costal margin with a white line. Expanse of wings: 13 mm. Brazil (Sao Paulo).

P. rioma Schs. (66 l). Body and forewing deep greyish-brown, hindwing more blackish. Expanse of wings: 20 mm. Mexico (Vera Cruz).

P. madeira Dogn. Body and wings dull blackish-grey, at the costal margin in the centre yellow; legs above black, beneath and at the tarsi yellowish. Expanse of wings: 20 mm. Amazons (Rio Madeira).

P. venata Schs. (66 l). Anterior body dark grey, palpi, vertex, and collar dark yellow, abdomen above blackish-brown, beneath yellow. Forewing brown, costal margin orange, the veins finely yellowish. Hindwing black with grey fringes. Expanse of wings: 25 mm. Paraguay.

Line 2 from below: the author of *casta* is SANBORN, not PACKARD.

P. 291, line 1 above:

Crambidia cephalica G. & R. is a distinct species.

After this insert:

Crambidia myrlosea Dyar (66 l). Head white, thorax grey; forewing dark grey with a broad white costal-marginal area, somewhat lighter veins, especially towards the costal margin. Hindwing dark grey. Expanse of wings: 22 mm. From Texas, taken in June and October.

C. cinnica Schs. (66 l). Body and forewing of the colour of raw silk, anal hairing lighter reddish-yellow. On the forewing the veins are lighter reddish-yellow. Hindwing darker smoke-coloured grey with whitish ends of the fringes. Expanse of wings: 23 mm. Mexico (Tampico).

P. 292, line 11 from above, after *Disoidemata quadriplaga* insert:

Disoidemata nicephora Schs. (67 a). Body reddish-yellow, collar and wings white, the forewing at the costal margin, in the distal-marginal interspaces, at the base of the hind-margin, and below the cell-end dusted with reddish-yellow, with 2 faded transverse lines and a small dark median spot. Expanse of wings: 15 mm. Guatemala.

D. conspersata Dogn. is white on its body and wings, but the palpi are ochreous; base of costal margin blackened, with 2 faded, oblique costal-marginal patches composed of red-brown atoms before and in the centre, and with one subterminal and small distal-marginal blackish-brown spots. Expanse of wings: 14 mm. Amazons (Rio Xingu).

Micrarctiinae.

P. 295, line 9 from above. *Eubaphe fragilis* Streck. (38 c), the type of which was examined, belongs to *immaculata* Reak. (38 a) (as forms of one species). What is usually presumed to be *fragilis*, however, is an insect with much shorter palpi and a Colorado-form of *costata* Stretch which, owing to the lighter colour of the wings, has been denominated **pallipennis** B. & McD. pallipennis.

Line 14 from above: *Eubaphe laeta* Guér., according to BARNES and McDUNNOUGH, has a northern and a southern race; the typical form described from the south must remain called *laeta*, whereas **treatii** Grt. *treatii*. (= *rubropicta* Pack.) is the name of the northern form (described from Massachusetts).

P. 295, line 8 from below insert:

cyana. **Eubaphe cyana** Dgn. has brown forewings and in the hindwing no yellow, but the whole basal half dark blue. Thus it resembles the exterior of *Stenucha dolens* (43 a), an Arctiid that has been described by the most various names. *E. cyana*, however, is easily discernible from it by the ♂ (the ♀ is unknown) exhibiting a white stripe through the cell on the hindwing. Colombia.

P. 296, line 10 from above, after *Virbia sanguicollis* insert:

orola. **Virbia orola** Dyar is likewise black on the head and body, with a red collar; forewing brown; on the hindwing the yellow spot reaches to the costa; somewhat smaller, otherwise like *sanguicollis* (38 d). Panama.

fluminea. **Virbia fluminea** Schs. from Costa Rica. Like *orola*, but the spot on the hindwing is pale sulphur-coloured.

P. 296, line 17 from above, after *ovata* insert:

rotundata. **Virbia rotundata** Schs., from Castro in the Brazilian State of Paraná, exactly resembles the ♀ of *ovata* (38 c), but the subapical spot on the hindwing is paler yellow and circular.

P. 297, line 15 to 17 from above:

rosenbergi. **Virbia rosenbergi.** This paragraph being repeated by mistake must be eliminated. In typical specimens of *rosenbergi* the black marginal band of the hindwing is strongly widened at the proximal angle, though it does not extend quite so far as in our figure. HAMPSON separates such specimens in which the black band is more prolonged towards the base as **V. phalangia** (= *minuta* Drc. nec *Fldr.*). — As many forms of *Virbia* (*medarda*, *minuta* etc.) are constantly confounded, we suspect them not to be all distinct species.

P. 298, line 12 from above:

Heliactinidia bimaculata Drc., according to HAMPSON, is identical with *Euchlaenidia transcisa* (38 g), the latter name having the priority. — Instead of *bimaculata* insert here:

tornensis. **Heliactinidia tornensis** Prt. (66 m) is almost exactly like *chiguinda* (38 f), but the black marginal band of the hindwing is proximally more irregularly defined and does not despatch before the hind-margin a black ray into the base. Colombia.

Line 20 from above, after *H. flavivena* insert: (66 a).

Line 23 from above, after *H. sitia* insert: (66 a).

Line 20 from below:

tripuncta. Here we might most easily insert a species that was described as *Darna tripunctata* and was thus far placed to the Hypsid genus *Crocomela*, where, however, it does not belong to. Cf. Proc. Zool. Soc. Lond. 1885, pl. 32, fig. 16. This is joined by (*Darna*) **splendens** Drc. (67 c) from Costa Rica. Cf. p. 454, Note, as well as *grandis.* (*Darna*) **grandis** Drc. Similar to the preceding, the yellow costal stripe of the hindwing extends almost to the apex, and a yellow streak from the base to the centre of the wing.

Line 19 from below, after *nigrilinea* insert:

dispar. **H. dispar** Warr. (66 m). Much smaller, otherwise similar to *Eub. rosenbergi* (38 d), but the forewing with yellow veins, the hindwing at the apex broader, but in the radiary ray narrower black; Tucuman. — It was described as *Brachyglene*.

P. 300, line 22 from above, after *H. vestalis* insert: (= *leontei* ab. 3 *Hmps.*).

Line 25 from below: for *H. lumbonigera* read: *lumbonigra*.

Line 16 from below:

daphoena. After (= *pura* Btlr. insert: = *butleri* Dyar. — Another form is ab. **daphoena** Dyar, where the forewing is also above suffused with red or striped along the veins.

nova. Line 4 from below, after „narrowed“ insert: — ab. **nova** Sm., in contrast with *venusta* has light yellow transverse bands.

P. 301 line 14 from above, to *Kodiosoma tricolor* add:

otero. **Kodiosoma otero** Barnes (67 c) is larger, the forewing more uniformly brown with a light transverse stripe behind the centre; from Arizona; it may be a distinct species.

Line 23 from below, after the genus *Kodiosoma* insert:

12a. Genus: **Lafajana** Dgn.

Almost exactly like *Kodiosoma*, but the pectinations in the basal part of the antennae are not so conspicuously shortened as in *Kodiosoma*. One species from Loja is known:

L. cupra Dgn. Body blackish-brown, marked yellow and orange. Wings blackish-brown, in the discal *cupra*. part hyaline; shape and size as in *Kodiosoma otero* (67 c); the legs with a blue reflection.

Line 7 from below:

To the genus *Laora* HAMPSON places yet the species *vivida* Rothsch. (41 h) and *ockendensi* Rothsch. (41 g) listed by us as *Palustra*; cf. p. 324.

P. 303, line 5 from below:

Apantesis elongata Stretch, according to HAMPSON, is not the form *sulphurica* Neum., but the yellow-winged form of *A. blakei*.

P. 304, line 26 from above:

Apantesis figurata with yellow hindwings was named: **pretiosa** Nixon.

pretiosa.

P. 305, line 27 from below:

After *quadrantotata* insert as another synonym to *A. placentia* (= *sociata* B. & Dy.), and after *placentia* insert as one more species:

Apantesis bicolor Hmps. (67 c) from the Bahamas has the forewing quite spotless blackish-brown, and *bicolor*. the hindwing is more fuscous, almost without spots, but the dorsum of the abdomen is broadly black.

Spilosominae.

P. 307, line 18 from below:

Spilosoma kasloa Dyar, according to HAMPSON, is not a distinct species, but a synonym of *Sp. rubra* (39 c).

P. 308, line 14 from above:

In the genus *Maenas* we must eliminate *underwoodi*, the species described as „*Diacrisia*“ *underwoodi* is *Prumala underwoodi* (44 h) p. 345.

Line 16 from above:

(*Maenas*) *ockendeni*, according to recent researches, belongs to *Hypomolis*.

Line 21 from above:

After *Maenas viridis* insert: (66 m).

P. 309, line 22 from below:

For (*Estigmene*) **acraea** read: **E. acraea** Drury (= *acraea auct.*).

acraea.

P. 310, line 4 from above:

After *pudens* add: **Euchaetias cressida** Dyar (40 a) is somewhat similar to *egle*, but larger; from Mexico. *cressida*.

Line 17 from above: to *psara* add: (66 m).

Line 21 from below:

Euchaetias gigantea is presumably only a form of *expressa* (39 g) in which the centre of the abdomen is more intensely dotted; the same is the case with *rhadia* Dyar.

Line 14 from below:

After *castella* insert: (66 m). — The form **Euchaetias griseopunctata** Barnes has the forewings strewn *griseopunctata*. with grey.

To the genus *Euchaetias* we may add another imago described as (*Pericallia*) **pannycha** Dyar (66 m), *pannycha*. shaped like an *E. spraguei* (39 h), but quite blackish-brown. The veins are somewhat lighter, the body and hindwing with a blue reflection; from Mexico, discovered by ROBERTO MÜLLER.

P. 311, after line 7 from above insert:

The following species were yet placed to the genus *Pygarctia*:

Pygarctia grossbecki Davis. Wings as in *spraguei* (39 h), but the head, collar, and abdomen are *grossbecki*. yolk-coloured; from Florida.

- neomexicana*. **P. neomexicana** Barnes (66 m) resembles *expressa* (36 g), but the anterior body is marked whitish-red, and the abdominal part of the hindwing is red as in *perlevis* (39 g). Texas.
- pterostigma*. **P. pterostigma** Dyar (66 m) is similar to *epagoga* (39 f), but smaller, the forewing with a light cell-end spot, and the centre of the hindwing resembling a light spot. Mexico, discovered by ROB. MÜLLER.
- poliochroa*. **P. poliochroa** Hmps. is almost like *murina* (39 g), but the hindwing is of a dingy white, with a narrow darker apical border. Arizona. — Moreover, *murina* is said to be also more correctly placed to *Pygarctia* than to *Euchaetias*, and *albistrigata* B. & McD. probably belongs to them.
- Line 7 from above, to *oslari* Rothsch. insert: (67 d); hindwings pink.
- lorula*. **Pygarctia lorula** Dyar (67 d) from Texas is white, feebly dark-veined, with a purple red hind-head and abdomen.
- flavidorsalis*. **P. flavidorsalis** B. & McD. is like *lorula*, but the frons and abdomen are yellow, as in *alba* (39 f); Texas.
- Line 9 from below:
- After *Hypomolis metarhoda* insert: (67 d); the ♀ recalls *Chlor. rufolivacea* (39 l).
- P. 312, line 1 from above:
- To *Hyp. rothschildi* add: (67 d).
- Line 14 from above:
- After *H. evippus* insert:
- amabilis*. **Hypomolis amabilis** Schs. (67 d) is similar to *H. (Chlor.) rufoviridis* (39 i), but in the forewing there are instead of the commata only dots above the hind-margin and below the costal margin. From Novo Friburgo in South Brazil, discovered by JULIUS ARP.
- Line 21 from above:
- Chlor. thoracica* Rothsch. is not identical with *Chl. rufoviridis*, but it has more yellowish-green forewings, and the hindwings are paler; according to HAMPSON, the species belongs to the preceding genus (*Hypomolis*).
- Line 26 from below insert:
- viridis*. **Chloroda viridis** Drc. is like *rufoviridis* (39 i), but the hindwing is yellow, only in the basal part dusted with red. Peru. — It may be only a ♂-form of *rufoviridis*.
- metamelaena*. **Chl. metamelaena** Dgn. (67 d) is similar to *viridis*, the marginal half of the hindwing is black; from Mt. Tolima in Colombia. Found by A. H. FASSL.
- P. 313, line 4 from above, after *Turuptiana tenebra* insert:
- panoezys*. **Turuptiana panoezys** Dyar (67 e) approximates *tenebra* (39 i), but the black spots on the forewing are still more intensified and enlarged as wedges, but the hindwings are white. Guerrero (Mexico).
- Line 12 from above, after *obscura* insert as synonym: (= *steinbaehi* Rothsch.).
- Line 27 from above:
- To *Turuptiana sanguinea* add: (67 e).
- Line 9 from below, after *Tur. dissimilis* insert:
- fuscescens*. **Turuptiana fuscescens** Rothsch. has the size and shape of *obscura* (39 k), but all the wings are thinly scaled in a dingy earth-coloured grey, the forewing with a yellow costal stripe. Peru.
- P. 315, line 6 from below, after *Ecpanth. atra* insert:
- amulaensis*. **Ecp. amulaensis** Drc. (67 f, g) is similar to the preceding, but the white colour in the forewing more abundant, the hindwing all white, only at the distal margin feebly spotted, abdomen brown. Mexico. — In
- amula*. ab. **amula** Strd. (= ab. 1 Hmps.) the hindwing is black, and the white of the forewing reduced, so that it is very much like *Ecp. atra* (40 c).
- P. 316, line 10 from above, after *E. suffusa* add as synonym: (= *semiclara* Stretch.).
- Line 19 from above, to *E. testacea* add: (67 f).
- Line 22 from above, after *E. testacea* insert:
- obsolescens*. **Ecpantheria obsolescens** Hmps. is similar to *E. testacea* (67 f), but less intensely darkened by brown, more tinted pale yellow, the ♂ hindwing with a longer anal apex. Peru.
- Line 24 from above, after *E. oblecta* insert: (67 e).
- P. 317, line 7 from above, after *E. euripides* insert: (67 e).
- Line 8 from below, to *E. dognini* add: (67 f).

P. 318, line 15 from above, to *Ecpanth. cretacea* add: (67 f).

Line 9 from below, after *Ecpanth. alpha* insert:

Ecpantheria perplexa Schs. resembles *alpha* (40 i), but all the markings are fainter, browner, the costal spots smaller; in the hindwing the abdominal stripe is faded; abdomen brown, lacking the blue lustre, with a yellow dorsal transverse spot. Costa Rica, collected by W. SCHAUS. *perplexa*.

P. 319, line 21 from above, the sentence: „only ♂♂ seem to be known hitherto“ is to be replaced by:

The species is now often stated to occur in Jamaica; food-plants of the larvae: Orange, Vanilla, Ipomoea, Banana, Panicum. — The fact that *eridanus* was produced from the same deposit of eggs proves that it must be regarded as a form of *icasia*. — Egg globular, at the place where it is fastened it is flattened down, with a finely reticulated surface; in the beginning greenish, then steel-coloured grey, with a slight mother-of-pearl shine. Larva in the early stage yellowish, centrally more brownish, with long black hair. Adult larva black, dark-haired; head Indian-red. Its metamorphosis in a web yields a mahagoni-brown pupa of 22 mm (♀) length. It is greatly infested by an Empusa and the Ichneumonid *Eremotylus angulatus* Hooker.

P. 320, line 22 from below, after *Caridartia albicancellata* insert:

Caridartia tenebrosa Dgn. Size and shape similar to that of *albicancellata* (42 b), but both wings in the basal parts less marked in a pale colour, at the distal margin a very highly arched cucullate line. The species also differs considerably in the structure from *albicancellata*, so that the genus *Acyelania* Dgn. has been established for it: Frons with a protuberance, antennae with ciliary bundles; both forewing and hindwing differently veined; still the two species exhibit an alliance. *tenebrosa* was found in Misiones (Argentina). *tenebrosa*.

P. 320, line 14 from below, before *Paracles* insert:

Chlanidophora culleni Brèthes differs from *patagiata* in its larger frontal proboscis; on the forewing the white postmedian area is broader, the black marginal area narrower, the dentate line more distinct. Mendoza in Argentina. *culleni*.

P. 321, line 12 from above, to *Mallocephala deserticola* add: — Larva very variegated with a light brown head, the skin finely watered in a darker colour, on each segment small tufts of dense ochreous hair, out of which single, longer, darker hair protrude. Before each hair-tuft a blackish transverse band, all of which are traversed by a broad, yellowish-white dorsal line and 2 similar subdorsal lines. At the anterior and posterior ends the hairs are somewhat longer but do not form pencils. On low plants; it pupates about Christmas time and yields the imago in January and February.

P. 321, line 26 from above, after *Mallocephala magna* insert:

Mallocephala peruensis Dgn. resembles *magna* (41 d), but the abdomen and the hindwing at the apex and hind-margin are soot-coloured brown. Cuzco (Peru). *peruensis*.

P. 321, line 23 from below, insert after *deserticola* (41 b): „of which it seems to be merely a greyer form, as well as **bogotensis** Dgn. from Bogotá an earth-brown form“. *bogotensis*.

P. 321, line 8 from below, add to *vulpina* Hbn.:

Of the ♂ of this species the ♂ described as *A. felderi*-♂ is only a smaller form; *felderi*-♀ = *nitida* Jones-♀.

P. 321, line 3 from below, to *Antarctia lehmanni* add: (67 g).

P. 322, line 6 from above, insert:

— **cajetani** Rothsch. has a more dark red-brown ground-colour of the forewing, the hindwing is lighter, towards the margin shaded with a dark red; from Montevideo. *cajetani*.

P. 322, line 7 from above, to *Ant. vulpecula* add: (67 g).

Line 20 from above, after *A. fervida* insert:

Antarctia quadrata Rothsch. is very similar to *fervida* (41 c), but the body and wings are dark soot-brown. Sapucay (Paraguay). *quadrata*.

Line 25 from above:

A. venata Schs. is the ♂ of *surgens* Wkr. The figure of *surgens*-♂ on pl. 41 h represents a much-flown specimen (perhaps of *pallidivena*?). — After *surgens* insert:

A. flavescens Schs. (67 i) is uni-coloured dull white, with slightly darker veins. South Brazil. *flavescens*.

P. 322, line 21 from below, to *Ant. gigantea* add: (68 h).

P. 323, line 1 from above, to *A. thursbyi* add: (67 g).

P. 323, line 9 from above: *multifarior* differs from *fusca*, and is not synonymous. Of *multifarior* the ♂ has whitish hindwings but narrowly edged with a dark colour, and the ♀ has a thick black dot in the centre of the cell of the forewing, and a dark stripe before the marginal area.

Line 18 from above, after *marmorata* insert:

tolimensis. **Ant. tolimensis** Dgn., from Colombia (San Antonio), resembles *marmorata* (41 f), but instead of the dark spots there is in the forewing a dark postmedian stripe.

Line 25 from above, to *reversa* add: (67 g).

Line 23 from below, to *pectinalis* add: (67 g).

Line 18 from below, after *cnothocampoides* insert:

uniformis. **Antarctia uniformis** Jones is similar to *vivida*, the forewing with a distinct cell-end streak, hindwing more uniformly yellow, not darkened at the margin; Castro (Paraná).

P. 325, line 1 from above: *juruana* (♂) and *Antarctia klagesi* (♀), according to HAMPSON, the two sexes are of one and the same species; the name *juruana* has the priority.

Phaegopterinae.

P. 327, line 2 from below, to *flavinigra* add: (67 h).

Line 1 from below, after *Cyanarctia flavinigra* insert:

percurrens. **Cyanarctia percurrens** Warr. is smaller, the orange band of the forewing equally broad; it resembles some *Diopitidae*, such as *Josiadena* Bsd. (71 g), and also some ♀♀ of *Aricoris*, *Lymnas* etc. Peru.

basiplaga. **Cyan. basiplaga** Fldr. (= *lithosiaphila* Dyar) (39 l. as *Cisthene abdulla*). Black, basal half of forewing orange; from Mexico. Cf. p. 467, under *abdulla*. — **carpintera** Schs. from Costa Rica is the same, the margin of the orange area of the forewing slightly curved.

P. 328, line 15 from below, after *Diospage semimarginata* add: (67 h).

P. 329, line 16 from above, after *Belemniastis troetschi* insert:

eucyane. **Belemniastis eucyane** Fldr., from the Amazons, rather exactly resembles *Napata banghuasi* (21 d), but the median oblique band of the forewing is below more pointed, the red spot on the hindwing larger, the anterior body with small white dots.

Line 22 from below, to *Metaxanthia vespiformis* add: (= *auranticauda* Klag.).

aureiventris. — **aureiventris** Rothsch. from Costa Rica is almost exactly like *vespiformis*, but the apical parts of both wings are more darkened. — **atribasis** Rothsch. has only the 2 first abdominal rings black, otherwise the whole abdomen is orange; Ecuador.

P. 330, line 20 from above, after *metaxantha* insert:

binotata. In **Glaucostola binotata** Schs. the forewing is like in *metaxantha*, but the hindwing has in the ♂ but little black at the apex, whilst in the ♀ the black marginal band extends to the posterior angle; Guiana; likewise similar is **maroniensis** Joic., also from Guiana (St. Jean de Maroni), in the cell of the forewing a faded grey streak and similar ones between the veins of the distal-marginal half; in the hindwing the costal area is lighter yellowish, the marginal band towards the apex duller.

P. 331, line 14 from above, insert:

HAMPSON has recently placed to the genus *Baritius* the *Loxozona acuminata* Wkr. of p. 143.

peculiaris. Line 15 from below: for **B. peculiaris** read: **B. hampsoni** Dgn. (= *peenliaris* Rothsch.) (67 h).

Line 19 from above, after *B. pyrrhopyga* insert:

palmeri. **Baritius palmeri** Rothsch. from West Colombia is quite similar to *pyrrhopyga*, but the abdomen is without red, only the last segment narrowly honey-coloured.

P. 332, line 7 from above, after *Baritius eleutheroideis* add: (67 i).

Line 13 from above, after *Baritius affinis* add: (67 k).

Line 3 from below, after *S. russa* add: (67 i).

P. 333, line 2 from above, at the end of *Syntarctia* insert:

Syntarctia uniformis Rothsch. (67 i) is honey-coloured with diaphanous white hindwings, not dissimilar *uniformis*. to certain *Halisidota* of the group of *H. flavescens* (59 i) and for that reason described as *Halisidota*; from Guiana.

Line 3 from above: To *Tricypha* a lepidopteron is placed which was described as *Elysius* by ROTHSCILD:

Tr. pseudotricypha Rothsch.; somewhat like *Tric. imperialis* (42 i), but the head is whitish, the transverse shade *pseudotricypha*. of the forewing is differently placed, encircling the cell-end like a ring; from Guiana.

Line 18 from above, at the end of *Tricypha* insert:

Tric. ochrea Hmps. (67 k) is not dissimilar to a *Bituryx minuta* (55 e), but in the disc of the forewing *ochrea*. there are several black punctiform spots. South Brazil.

Tric. mathani Rothsch. is quite similar to *ochrea* (67 k), but instead of yellow it is of a dull reddish grey, *mathani*. and the dark dots have shaded off into dull small spots. Colombia.

Tricypha proxima Grt. (67 k) is larger than the preceding, of a dull sooty black with a yellow abdomen. *proxima*. From Cuba.

HAMPSON besides inserts his *Atyphopsis obscura* (= *Bituryx hoffmannsi* Rothsch.) (21 b) in the genus *Tricypha*; cf. p. 138.

Line 18 from below, to *Hypocrisias gemella* add: (67 i).

Line 13 from below, after *Hypocr. gemella* insert:

Hypocrisias velivolans Dyar. Forewing straw-coloured, rather densely strewn with a dark brown, *velivolans*. so that a basal and a discal heap of spots are indistinctly visible, whilst 2 distal rows are more distinct. Hindwing shaded with dark brown, particularly along the hind-margin, the veins bordered with a light tinge. The wings are broad as in *punctata* (42 i); but the spots are coloured like the ground, not whitish. It is the most similar to *gemella* Schs., though the latter is decidedly tan-coloured and shows the two distal rows of spots more bent, irregular, and the rows more separated. Mexico City, found by ROBERTO MÜLLER in June.

Line 1 from below, add yet to the genus *Hypocrisias*:

Hypocrisias bombycina Rothsch. Pale yellowish-red; abdomen above yellowish-grey, at the base a *bombycina*. rosy tinge. Forewing very light yellowish-red, with traces of a dull postmedian shade being inwardly bent below vein 4, and of a subterminal shade which in the centre is distally bent. Hindwing semi-transparent, with a yellowish tinge. Expanse of wings: 46 mm. Peru.

P. 334, line 1 from above, add:

To the genus *Tessellarctia*, according to HAMPSON, belongs also *Tessell. klagesi* Rothsch. (53 i) described as an *Ammalo*. Cf. p. 385.

Line 20 from below: after *Ochr. marina* add: (67 i).

P. 335, line 12 from below, to the genus *Carathis* add:

Carathis melamera Dogn. is almost exactly as *Aemilia rubriplaga* (43 c), but the light spot in the centre *melamera*. of the forewing exists only in its costal and hindmarginal parts, and the hindwing is at the apex broadly yellow. São Paulo (Brazil).

Car. tabaconas Joic. is much smaller, chocolate-brown, the base of forewing is yellow mixed with *tabaconas*. orange; in the centre of the cell a pale yellow round spot, and a similar one with an orange border at the cell-end. Between veins 6 and 8 a light spot with 2 dark punctiform spots in it, before the distal margin small yellowish spots. Hindwing whitish hyaline; at the hind-margin slightly haired rosy. Peru.

Line 1 from below, add to the genus *Neozatrephes*:

N. schausi Rothsch., described as *Baritius* and listed by us on p. 332 as *Bar. sch.*, is placed here by *schausi*. HAMPSON.

P. 336, line 17 from above, to *Dialeucias violascens* add: (67 i).

Line 20 from below, after *Hyperthaema sanguineata* insert:

Hyperthaema sororita Schs. is allied to *haemacta* (43 c), larger, below the proximal, white-centred *sororita*. small spot there is another smaller one which is sometimes confluent with it. Guatemala.

Hyperthaema excuintla Schs. Likewise from Guatemala, smaller than *sororita*, the forewing browner, *excuintla*. the small spots almost extinct, the hindwing black, at the hind-margin somewhat rosily haired.

Line 6 from below, add to the genus *Hyperthaema*:

Hyperthaema perflammans Hmps. is almost like *sanguineata* (43 c), but of a more glaring red, the *perflammans*. forewing more distinctly dark-veined, the two white spots larger; Ecuador, Peru.

Hyperthaema reducta Joic. is just as large as *perflammans*, the forewing more purple red, the white *reducta*. of the centre of the hindwing behind the cell-end expanded into a spot. In the ♀ the distal white spot may also be absent. Colombia.

P. 337, line 6 from above, for *Ardanikla* read: *Ardonipsa*.

P. 338, line 12 from above, for *spracosiae* read: *syracosiae*.

Line 20 from above, to *Aemilia* add:

HAMPSON lists yet in this genus *affinis* Rothsch. (42 k) described as *Carathis*, and besides there has recently been described:

carmen. **Aemilia carmen** Schs. 35 mm. Forewing diaphanous whitish-grey, costal margin and hind-margin whiter with dark brown transverse markings, near the base a line, before the centre a band flawed in the cell. A broad costal stripe in the centre, and a square spot at the hind-margin. The veins are partly marked dark. Hindwing diaphanous whitish-grey. Guatemala.

P. 341, line 18 from below: for *Joisey* read *Joicey*.

Line 10 from below, to the genus *Melese* add:

sotrema. **Melese sotrema** Schs., from Guatemala, has a brown head and thorax, intermixed with reddish hairs, posteriorly shaded with grey; abdomen pink. Forewing reddish-brown, between veins 5 and 6 a minute light hyaline spot. Hindwing diaphanous whitish, bordered with pink. Forewing beneath with a black longitudinal groove below the cell. Expanse of wings: 37—42 mm.

P. 342, line 4 from below, to the genus *Bertholdia* add:

flavilucens. **Bertholdia flavilucens** Schs. Head and thorax mouse-coloured, with yellow markings, abdomen above purple pink. Forewing lilae-grey irrorated with black, in the cell and behind the hyaline reflection with a rosy tinge. Fringes slightly speckled. At the base as far as the centre of the wing above the cell a greyish streak; the reflecting spot with few small vein-dots, between 7 and 8 slightly sinuate, from 7 to 6 straight, from 6 to 3 thrice distally bent, then parallel to vein 3 and slightly inverted to vein 5. Above the submedian there is a minute spot encircled by black. Hindwing white, in the hind-marginal area with a pink hue. Expanse of wings: ♂ 44, ♀ 55 mm.

P. 344, line 4 from below, to the genus *Robinsonia* add:

mossi. **Robinsonia mossi** Rothsch., from Pará, is white, the wings diaphanous, forewing with a mouse-coloured apical fifth and costa, and white veins. Palpi, frons, and vertex yellow. Expanse of wings: 40 mm.

P. 349, line 1 from above, insert:

Automolis luteola Rothsch. is placed as synonym to *Idalus xanthia*.

Line 5 from above: for *flavobrunnea* read *flavibrunnea*.

Line 12 from above, after *Idalus flavoplaga* insert:

flavithorax. **Idalus flavithorax** Joic. resembles *flavoplaga*, but the abdomen above is yellow except the 3 last segments; ground-colour of forewing more tinted reddish; expanse somewhat larger. South Brazil.

P. 351, line 15 from above, to the genus *Amaxia* add:

tierna. **Amaxia tierna** Schs. has about the size of *consistens* (45 e); forewing yellow, at the base of the costal an interrupted purple stripe; before the centre steel-grey costal streaks, similar ones in and below the cell; the lowest streak is followed below vein 2 by a round spot connected with a yellow spot by a grey circular line. Beyond the centre a series of grey internerval spots, similar ones at the margin. Hindwing pink with a whitish costal margin and partly semi-transparent streaks; beneath the hindwing is violettish-pink, the round central spot is purple. Guatemala.

carinosa. **Amaxia carinosa** Schs. is smaller than *tierna*, the violettish-brown basal part is intermixed with yellow spots, before the margin a series of large purple spots narrowly edged with dark brown and only separated by purple vein-streaks. Hindwing pink, at the costal margin white, a marginal part shaded with black. Guatemala.

P. 355, line 9 from below, after *Paranerita polyxenus* insert as a synonym: (= *garleppi* Rothsch.).

P. 356, line 22 from above, after *Paranerita peruviana* insert:

irma. **Paranerita irma** Schs. Size and colouring similar to *peruviana* Rothsch. (46 a), but the yellow marginal spots are smaller and differently shaped, all are bordered with purple, the lower margin of the larger yellow costal spot is rounded in the centre of the forewing; a larger yellow spot near the apex. Hindwing yellow with slight pink hairing. Guatemala.

P. 359, line 5 from above, to *repanda* add: Also from Venezuela.

P. 360, line 20 from below, to the genus *Neritos* add:

discobola. **Neritos discobola** Hmps. is very similar to *repanda* (46 d), but the apical circular spot is much farther remote from the violettish-brown basal half of the forewing, the border of the yellow colour and the basal violet colour being irregular. Somewhat larger than *repanda*.

Neritos atta Schs., according to the description which does not specify the under surface, seems to *atta*, resemble *sardinapalus* (46 f), exhibiting, like the latter and most of the *Neritos*, a purple-violet basal half and apical disc in a yellow ground, though considerably smaller; expanse only 24 mm; from Guatemala.

Neritos cucufas Schs. is about the size of *ockendeni* (46 f), but differently marked; ground-colour *cucufas*, tan-brown, with maize-coloured spots: a large one from the centre of the costa, being slightly strangulated at the subcostal, then regularly rounded, as far as below the cell to the submedian; a small spot at the apex, another one at the distal margin. Hindwing tan-coloured. From Tumatumari in British Guiana.

Neritos cybar Schs., from Tucuman in Argentina, is considerably smaller than *cucufas*. Ground- *cybar*, colour of forewing cinnamon-brown, the yellow spots tan-coloured, bordered with red, in the central third of the costa a large, maize-coloured spot; hindwing cream-coloured.

P. 361, line 18 from above, for *tramoia* read *hamoia*.

P. 362, line 12 from above, to the genus *Parevia* add:

Parevia vulmaria Schs. has the size of *P. parnelli* (46 k), the forewing is violettish-brown, with yellow *vulmaria*, markings, but the hindwing light coralline, the costal margin and fringes dark yellow. Rio de Janeiro.

Parevia gurma Schs. is one of the smallest species of the genus, not larger than *methaemia* (46 k). *gurma*. Forewing with yellow spots contrasting with the ground-colour by their dark brown and dark borderings. Hindwing at the base and hind-margin pink, the distal margin broadly black. From Guatemala.

Line 6 from below: for *Schallotomis* read: *Schalotomis*.

P. 363, lines 7 to 3 from below:

The paragraph on *Antaxia abdominalis* H.-Schäff. is to be cancelled; cf. the footnote on p. 370.

P. 367, line 22 from above, after *Automolis nabdalsa* insert:

Automolis postradiata Schs. Size of *Eupseudosoma involuta* (50 a). Wings orange, hindwing with *postradiata*, some black veins and a black radiary spot before the hind-margin. Colombia.

P. 375, line 12 from below: for *leucopera* read *leucopera*.

P. 376, line 20 from above: for *pandiona* Rothsch. read: *pandiona* Cr.

Line 9 from below, at the end of the genus *Automolis* add:

Automolis asteroides Schs., from French Guiana, is rather a small species (expanse of wings: 30 mm) *asteroides*, with a whitish-yellow thorax and a brown, laterally purple-spotted abdomen. Forewing white, darkened with brownish; forewing with white dots at the base; the brown basal part of the forewing with light streaks, the distal part of the forewing in its costal half very pale yellow with brown veins. Hindwing white, darkened with brownish.

P. 378, line 18 from below, for *bicolorata* Rothsch. read: *bicolorata* Drc.

P. 382, line 23 from above, to the genus *Phaeomolis* add:

Phaeomolis ochreogaster Joic. Head, thorax, and abdomen white, above except the base of abdomen *ochreogaster*, slightly tinged ochreous; palpi tinged brown, chest and legs white. Forewing uni-coloured silvery white. 40 mm. Sapucay (Paraguay).

P. 384, line 29 from above, to *Ammalo* add:

Ammalo eglenensis Clem. is incorrectly listed here, according to examinations by BARNES and MC DUNNOUGH, as a consequence of this form having been mixed up with *inopinatus* Edw. Its correct position would be at *Pygarcia* (p. 310).

Line 20 from below, for *Amm. aravaca* read: *aravaca*.

Line 1 from below, after *Ammola constellata* insert:

Ammalo ramsdeni Schs. was recently described from Cuba. It has the size of *eglenensis* (53 g). Forewing *ramsdeni*, brownish-yellow, light yellow and black, with very bright and varied markings, so that the insect resembles more an *Eucereum* (pl. 24 and 25) from the family of the *Syntomidae* than an *Arctiid*. Hindwing brown, a spot in the cell and another below it are semi-transparent.

P. 386, line 20 from above: for (*Elysium*) *midiofascia* read: *mediofasciata*.

Line 23 from below, after *Elysium magnifica* insert:

Elysium macasia Schs. is a large species approximating *cingulata* (54 a) and *magnifica* (54 a), but the *macasia*, colouring and marking are almost as in *Mazaeras conferta* (53 h) of which it has also the size. Ecuador.

ruffin. **Elysium ruffin** Schs. is somewhat like *sebrus* (54 b), though smaller, the forewing more brightly coloured orange, the antemedian band strangulated in the submedian fold where it is broad in *sebrus*. Hindwing white suffused with flesh-colour. From Petropolis (Brazil).

P. 387, line 5 from above, after *pyrosticta* insert:

gladisia. **Elysium gladysia** Schs. from Guatemala has a light ground-colour with ruddle-red markings, similar to those of *E. pyrosticta* (53 i), though the species is much larger, as large as *E. conjuncta* (54 c).

P. 390, line 24 from above, after *Pel. pallida* insert:

nabor. **Pelochyta nabor** Schs. is smaller than *pallida* (55 b), the forewing wood-coloured brown with rust-coloured markings; an oblique band from the base of the costa, a transverse band before and behind the centre, at the cell-end and directly behind it a blackish-brown spot. Hindwing white. Peru.

P. 391, line 9 from above, after *Agoraea longicornis* insert:

santaria. **Agoraea santaria** Schs. resembles *longicornis* (55 d), but it has a browner tinge, with much less intensely marked veins, and the hindwings are also more scantily scaled. Expanse: 35 mm. Guatemala.

rulla. **Agoraea rulla** Schs. is similar to *santaria*, smaller, the wings more brownish-grey with somewhat more lilac reflection, the disc of the hindwing opalescent. Likewise from Guatemala.

P. 394, line 19 from above, to *Ischnocampa rosenbergi* add:

rosenbergi. **I. rosenbergi** (= *nitens* Schs.). — The form **roseitincta** Schs. has a broader black dorsum of the abdomen, *roseitincta.* so that the yellow lateral spots are greatly reduced. In the hindwing the hyaline disc beneath is discoloured light pink which shows through above. Costa Rica.

P. 399, line 20 from below, after *Opharus chorima* add: (= *catarhinae* Rothsch.).

P. 403, line 4 from below, to *Halisidota annulosa* add:

Larva with a rounded head which is broad, lustrous, middle suture and V-spot whitish. Body light yellowish, without spots; hair dingy white, in dense straddling tufts. Two fine black pencils on each side of the 4th segment, a single pencil on ring 12, and some few black subdorsal hairs on ring 13 which exhibits a black angular spot also above. Misantla (Mexico).

P. 404, line 27 from above, for *endalobota* read: *eudolobata*.

P. 406, line 14 from above, after *Halisidota coniota* insert:

agatha. **Halisidota agatha** Schs. Size of *longa* (58 a). Antennae with long, light brown pectinations. Forewing blackish-brown, costal margin and fringes tan-coloured, hindwing light tan-coloured, towards the margin very brownish; at the transverse vein a dark line. Abdomen above blackish-brown. Bolivia.

P. 408, line 25 from above, after *H. cedon* insert:

valentina. **Halisidota valentina** Schs. Size and shape of *cedon* (58 f), but behind the centre a row of ochreous spots, the postmedian spot between veins 5 and 6 larger, with a dark nebulous stripe to the apex; above the discocellular an ochreous tan-coloured streak at the costa. From French Guiana.

P. 410, line 2 from above, before *H. tanomo* insert:

orooca. **Halisidota orooca** Schs. is similar to *lineata* (58 i), somewhat smaller, the black scaling of the honey-coloured forewing groups round the cross-vein forming rather dense nebulous spots; the dark median longitudinal line terminates behind the cell-end, and on the submedian there is likewise a blackish longitudinal line, like in the form *rosetta* (58 h). From Tucuman in Argentina.

dinora. **Halisidota dinora** Schs., likewise from Tucuman, is much larger than *orooca* (expanse 44 mm), the forewing white, tinted with tan-colour, the markings blackish-brown, at the base an orange spot. The veins are also blackish-brown; from the centre a double row of partly extinct rings; the median ringlets are larger at the costal margin and smaller towards the hind-margin. Hindwing white, before, in and behind the centre as well as at the distal margin dark lines; the veins are also dark.

ephoem. **Halisidota ephoem** Schs. Size of *rosetta* (58 h). Ground-colour tan-coloured, the veins cinnamon-brown like the transverse markings. Through the cell extends a fine dark line, at the costal margin minute black spots, along the submedian there extend longitudinal lines to the postmedian line; below the subcosta two curved lines in the cell. Hindwing white, thinly scaled. Bolivia.

P. 412, line 7 from above, for (*Halisidota*) *harrisi* Pack. read: *harrisi* Walsh.

P. 420, line 3 from above, after *Amastus alsa* insert:

vandregisili. **Amastus vandregisili** Schs. is as large as *pseudocellaris* (48 b) which it approximates according to its author, but the abdomen above is more orange-red; on the forewing the postmedian transverse nebulous stripe and the dark marginal band leave a narrow line of the ground-colour between them. From Ecuador.

Pericopinae.

P. 446, line 3 from below:

As *Are mummia* Cr. (46 e), by mistake, an Agaristid has been inserted here, which is described in Vol. 7 (p. 10) and figured there on plate 1 g in the male sex. This paragraph must therefore be eliminated here.

Alphabetical List

with reference to the original descriptions of the forms of the American *Arctiidae*.

* signifies that the form is also figured at the place cited.

- abadesa* Croc. *Dgn.* Ann. Soc. Ent. Belg. 44, p. 214.
abala Ill. *Schs.* Proc. Un. St. Nat. Mus. 29, p. 200.
abdalsan Autom. *Schs.* Proc. Un. St. Nat. Mus. 57, p. 116.
abdominalis Antax. *H.-Schäff.* Außereur. Schmett. *
abdominalis Ecp. *Wkr.* List. Lep. Het. Br. Mus. 31, p. 300.
abdominalis Ner. *Rothsch.* Ann. Mag. Nat. Hist. (8) 4, p. 228.
abdominalis Pyg. *Grt.* Canad. Entomolog. 3, p. 124.
abdulla Cisth. *Dyar* Ins. Ins. Menstr. 5, p. 10.
aberrans Eupseud. *Schs.* Proc. Un. St. Nat. Mus. 29, p. 211.
abnormis Clem. *Schs.* Proc. Un. St. Nat. Mus. 29, p. 205.
abrosa Agyll. *Schs.* Ann. Mag. Nat. Hist. (8) 7, p. 360.
abseissa Jos. *Hbn.* Smlg. Exot. Schmett. 1. *
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- pega* Agk. *Dgn.* Ann. Soc. Ent. Belg. 38, p. 128.
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5. Family: Dioptidae.

This family containing about 500 lepidopteral forms has gone through many and continual changes with respect to its systematic insertion as well as to its composition. (For further particulars see p. 501.) Even to-day the synopsis, having been founded on the following statements, cannot be regarded as being final and unalterable. PACKARD who, though not felicitously, founded his systematic observations upon the pupae *), reminds us of the congruity of neurations between the Dioptid *Phryganidia* and Geometrid genera, such as *Melanchroia*, which, by the larvae, have been proved to be genuine *Geometrae* (DEWITZ). The Dioptid pupa exhibits such a striking resemblance to that of *Cleora* that PACKARD is induced to insert the *Dioptidae* in his pedigree **) between the *Cylopodidae* and the genuine *Geometridae*. The greatest confusion in trying to insert the *Dioptidae* was created by their wrong composition, since entirely heterogeneous elements were coupled together in quite an unnatural union.

As may easily be gathered from the introductory words on p. 501, the mimicry chiefly caused this confusion, because even expert specialists confounded mimetic resemblance with phyletic resemblance. Nowadays we are fully aware in what complete way mimicry is able to conceal real relations and to put forth specious ones. This fact is particularly evidenced by the study of the living insect which, on being observed in its surroundings, by its behaviour reveals its true relationship to similarly coloured lepidopteral allies. The *Dioptidae*, as is stated below, are frequently diurnal insects, partly swarming in the sunshine (*Dioptis*), partly being very easy to rouse, and flying very skilfully and safely in the day-time (*Josia*, *Phaeochlaena*), but sometimes also coming to the lantern in the night. The flight of the single species is entirely different and no less subject to the mimetic influence than the colouring of the insect is. The *Dioptis areolata* which does not copy any certain model, exhibits a whirling, swaying flight, like the unprotected day-fliers *Orgyia antiqua* or *Drepana cultraria* (and like nearly all the unprotected *Heterocera* flying in the sunshine have), which makes it extremely difficult to capture them with the net in the air, for instance a *Bupalus piniarius* or *Lymantria dispar*-♂; in contrast with them, the *Scea auriflamma*, many *Myonia* and the variegated *Getta* exhibit the straight flight of their models, which are protected as *Pericopinae* or *Arctianae* by a very odoriferous oil ***) and have a rather rectilinear flight, such as the *Arctiidae* of all regions flying in the day-time, the *Coscinia*, *Utetheisa*, *Rhyparia*, *Callimorpha* etc., which partly fly onwards in an entirely straight line, partly only slightly flutter in their flight. Those Dioptids, copying protected butterflies, fly exactly according to their models, as for instance *Dioptis phaedima* (70 c), which exactly copies the Danaid *Hypoleria egla* or *aureliana* (vol. V, pl. 41 a). In *Josia ligula* and *ligata* reproducing together with the Erycinid *Mesenopsis* the colouring of numerous *Arctiidae* the resemblance in flying is so strikingly deceptive that, according to A. H. FASSL's statement, the Erycinid and Dioptid are not at all discernible when flying, and in settling down only by the Erycinid flying off more timidly than the Dioptid.

The position of the *Dioptidae* has been rendered more intelligible by obtaining better — though still very scanty — knowledge about some of their larvae. The ventral feet on the middle segments have proved the independency of the group from the Geometrid tribe (which, however, is contested by PACKARD, who does not attach great weight to this fact *). Meanwhile, however, the larva of *Phaeochlaena gyon* has been made known by MABILDE, and has resulted in showing an unmistakable resemblance with the larvae of certain *Notodontidae*, as already the larva of *Phryganidia californica* by its bareness and its anal protuberance reminds us of the *Notodontid* genus *Pheosia*.

The original appearance of the imagines of *Dioptidae* can the less be guessed nowadays as the uncommonly vast mimicry assimilating the species with the most heterogeneous models has scarcely left any traces of the original type. The principal groups from which the models are taken, are mentioned on p. 501, and it seems that their frequently very contrary colourings in some Dioptids have necessitated a rather incisive dyeing-

*) Journ. New York Entomol. Soc. 1895, p. 30.

**) American Naturalist 1895, p. 803.

***) The scent of these models is somewhat like that of the *Zygæna*, thus similar to that produced by triturated or crushed *Coccinella*.

and presumably also transformatory process. It may be that the markings and colourings that are to-day yet exhibited in the polytypical genera *Polypoetes* and *Tithraustes* represent the original appearance of the family the original types of which may besides have been of a rather small size; at least about 80 per cent. of all the species known have an average expanse of only 3 to 4 cm; but very few species (*Phaeochlaena integra* and *Phanoptis cyanomelas*) exceed this by attaining about 6 cm expanse.

Most of the *Dioptidae*, particularly the species belonging to the genera *Tithraustes*, *Polypoetes*, *Scotura*, *Dioptis*, *Euchontha*, *Stenoplastis* etc., owing to their insignificant exterior, could not rivet any particular attention with the enormous legion of average collectors, the less so since they are generally met with at the habitats of the most beautiful and imposing lepidoptera of the globe. Most of the species were — not only by laymen — valued as small Geometrid species, and only the more conspicuously variegated *Myonia* and *Josia* are found to have been taken more consideration of in older works, and even in the old trading catalogues there are mostly only forms mentioned which are allied to the latter. The fact that PROUT, who wrote the catalogue mentioned below was the first monographer on this difficult and mimetically confused family evidently shows how much it was neglected. Besides, however, some *Dioptidae* are also in the habit of flying about 2 to 3 m above the ground and of escaping up into the air on being pursued, as in Europe the *Drepana cultraria*, so that it may often be very tiresome to pursue them in disadvantageous districts; and furthermore, those species flying in the daytime most exceptionally come to the lantern. In some, such as many *Dioptis* (*pallene*, *incerta*, *cyma*, *illerdina*, *egla* etc.), the mimetic resemblance with the models from the families of the *Danaidae*, *Syntomidae* etc. swarming in large numbers at their habitats is so striking that even experts have great difficulty in discovering the imitators. Among the very numerous species wearing for instance the colours of *Josia ena Bsd.*, and among which there are *Erycinidae*, *Arctiidae*, *Syntomidae*, *Geometridae*, and numerous microlepidoptera, we find but very few of the *Josia* themselves, and it is easily understood that only by intensely and carefully collecting them they may be brought in in numbers. The *Josia* here frequently play the same part among the *Heterocera*, as for instance the genus *Napcogenes* does among the *Rhopalocera*, where likewise the immense frequency of the models often diverts our attention from the imitator.

Yellow bands on a jet-black ground is the predominant colouring of the mimetic genera; but since presumably all the *Dioptidae* are good flyers — partly even never resting and indefatigable flyers — their marking is not so subtle as we have noticed in many less intensely flying families, such as *Erycinidae*, *Ithomiinae*, or *Heliconiinae*. Specimens of *Monocreagra pheloides*, for instance, captured at the same clearing of a forest, may differ from each other so much that the white subapical spot of the forewing may attain treble the size and quite a different shape from what it usually has; it may be snow-white or also light hyaline, band-shaped or oviform, coherent or divided; the hyaline areas may be distinctly bordered or also die away at their borders, and the size of specimens from the same district may vary so much that they may be much larger than the figure (70 d) or also half its size. The same variability is found in the *Dioptis restricta* (69 l), and among a great many specimens of *D. arcolata* all of which I collected at the same habitat and season near Santos there are not even two exhibiting the same size of their hyaline areas.

The sexes of the *Dioptidae*, as a rule, do not exhibit any difference of the exterior, but in a number of species the ♂♂ are distinguished by scent-organs which may sometimes most conspicuously alter the shape of the wings. For instance in the ♂ of *Sagaris rejecta* (71 i) the anal margins of the hindwing are doubled up into a fold in which there is a layer of hairs 1 to 2 mm long, which are whitish at the upper edge of the fold and black at the margin of the wing. In *Sagaris dilatata*-♂ (71 k) there are on the sides of the 4th to 6th abdominal rings dense brushes of coal-black hair, and in the ♂ of *Polyptychia fasciculosa* (cf. the figure of *ceron* 71 k) we notice a still more complicated organ which even gave rise to the denomination of this strange species: on the thickened hind tibiae there are long white tufts of fine, slightly bent, silky hairs. The hind-margin of the hindwing exhibits a similar yellowish lock of coarser hairs, and besides the hindwing shows below the lower wall of the cell a deep skinny depression from the ground of which an extensible pencil sticks out. Under the microscope all these hairs prove to be circular fine bristles without sharp points or barbs, so that they are actually to be regarded as scent-organs and not protective organs.

All these facts prove the *Dioptidae* not to be related to the preceding *Arctiidae*, but rather to belong to one group with the hereafter following families of the *Drepanidae* or also the *Notodontidae* from which they show forth by the altering effects of mimicry in a similar way as the *Ithomiinae* from their relations of the *Danais*, *Hestia*, and *Euploea*. But before the family is definitely ranged, we have left it for practical reasons at the place where it is used to be looked for in the catalogues thus far existing, and we merely refer here to its presumptive position in the system.

Dioptidae.

There is probably no family that opposed such great difficulties to the specialists of former times, as the *Dioptidae* did. Their exterior very easily led to mistake them for others, and it is therefore not to be wondered at that the members of this group of lepidoptera were listed in the most diverse families. Some of them have been described as Arctiids, others as Geometrids, and others again in Syntomidid genera. Some species were even placed to the Psychids, such as *Phryganidia*. Later on the Dioptids were comprised with the Geometrids of the allies of *Cyllopoda* in the Cyllopodids. It was only in 1918, when PROUT (Novit. Zoolog. 25, p. 395 seq.) undertook a thorough revision, in which a table for ascertaining the genera was given and all the species were catalogued; we have, on the whole, followed PROUT's revision in the present work.

If we regard the various forms of the *Dioptidae*, we find resemblances to the most diverse families. *Phaeochlaena* and *Myonia*, by their blackish-yellow species, recall *Cyllopoda*; *Myonia cingulina* exhibits a striking resemblance with the Syntomidid *Microgiton submacula* Wkr. (36 f), while other species of the genera resemble Pericopids and Heliconiids. *Myonia basivitta* resembles the Arctiid *Euryptidia basivitta* (36 f); the lustrous blue species with hyaline areas are like corresponding Syntomidids (*Agyrta* and others), *Tithraustes* and *Polypoetes* look like small Geometrids, *Phanoptis* is hardly discernible from the Geometrid *Locha*; the species of *Diopsis* so much resemble the *Ithomiinae* that BATES was led to his theory of mimicry; the same design of marking and colouring is also exhibited by the Pericopine genus *Hyahurga*; *Scea* has images among the *Pyrallidae* and *Pericopinae*, and *Sagaris* among the *Agaristidae*. The species of different genera also resemble each other, as for instance species of *Myonia* appear in the exterior of *Josia*-species.

All the *Dioptidae* are neotropical except the Californian *Phryganidia californica*. A great part of the species, at least those with bright colours, seem to fly in the daytime. A striking fact is the prevalence of the blackish-yellow colourings. As to the larvae, little has become known; that of *Phaeochlaena gyon* F. was described more minutely. It lives on *Aristolochia lactea* and is slender, with an oblique, cordiform head, light yellow, with three red dorsal stripes and a red spot on the last segment. Four pair of normal ventral feet are present, the hind feet are, as in the larvae of our pussmoth (*Harpyia vinula*), transformed into two projecting anal appendages. The pupa is spun together between two leaves or in an inverted leaf; it is reddish-grey with darker spots. The structure of the larva evinces that the *Dioptidae* have nothing to do with the *Geometridae*, but are to be placed to the allies of the *Notodontidae* or *Drepanidae*.

As the members of the family are often extremely similar to the representatives of other families, some principal differences are to be pointed out here. All the *Dioptidae* lack the analis (vein 1 c) in both wings, by which mark they can be separated from similar *Pyrallidae*; in the latter, moreover, mostly the subcosta (vein 8) of the hindwing is fused with the anterior edge of the cell. The 2nd median vein is situated midway between the 3rd and 1st median veins, or nearer to the 1st. In similar *Pericopidae*, *Syntomidae* etc. the 2nd median vein is nearer to the 3rd. Most of the forms, however, resemble *Geometridae*; but in the latter there is at the base of the abdomen a large, laterally open tympanal organ which lacks the *Dioptidae*; in the latter, moreover, the subcosta as far as the base is almost parallel to the anterior edge of the cell in the hindwing, whilst in the *Geometrids* it makes yet very close at the base a large bend which is anteriorly convex. The hind tibiae always have two pair of spurs, the tongue and frenulum are well developed.

1. Genus: **Phaeochlaena** Hbn. (*Campylona* Mschlr., *Neolaurona* Drc., *Clastognatha* Fldr.).

In the forewing the 2nd radial vein rises from the cell; the 1st cubital vein likewise rises from the cell; in the hindwing the 1st cubital vein and the 3rd median vein rise separately. The species are all marked black and yellow or brown.

Ph. gyon F. (68 a). Wings dark brown, basal area indistinct, a discal band more distinct and the veins partly yellow in the forewing, a subapical spot yellow or white. Hindwing with a yellow central area. — In the typical *gyon* F. (= *tendinosa* Hbn., *remota* Wkr., *obtecta* Mschlr.) the discal band is rather distinct, the subapical spot white. — The form **ochrophanes** Prt. has broader yellow markings, the discal band terminates posteriorly in a clear yellow spot. — In **dorsistriga** Strd. there is in the forewing but 1 subapical spot and a broad light stripe on the analis. Guiana, Colombia, Amazonas, Peru, Mexico, Honduras. — In **lampira** Prt. only the costal-marginal spot of the discal band is distinct and rounded off; the subapical spot is yellow. South Brazil, Paraguay, Uruguay, a similarly coloured specimen also from Honduras. — **fucata** Prt. is on the hindwing above and on both wings beneath orange instead of yellow; Rio Uruguaya, Brazil.

Ph. solilucis Bth. (68 a). Yellow, in the forewing the costa as far as the centre, the hind-margin, and a transverse band as well as the apical part are black, the latter with a yellow subapical spot. Hindwing yellow, distal margin and apex black. — In **subintrusa** Warr. the black discal band extends into the following yellow transverse band; — in **perintrusa** Prt. the latter is divided into two yellow spots, in **contingens** Warr. (= *aurata* Warr.) the posterior margin of the forewing is yellow, otherwise like *solilucis*. Panama, Brazil, Peru; at the latter patria *contingens* seems to predominate.

- bicolor*. **Ph. bicolor** *Mschlr.* (= *costidentata* *Dgn.*) (68 a). Hindwing as in the preceding, in the forewing the black discal band is absent, the broad black costa projects in its place only with a tooth. Hind-margin yellow. Guiana.
- amazonica*. **Ph. amazonica** *Drc.* (= *brunnea* *Warr.*) (68 b). Forewing blackish-brown, with a pale yellow triangular basal spot and a similar large subapical spot, hindwing deeper yellow, costa and distal margin bordered with black. Amazonas, Venezuela.
- hazara*. **Ph. hazara** *Btlr.* (68 b) varies in the marking and colouring, being red-brown and yellow in the forewing, the distal margin and hind-margin and a narrow part of the costa being black, as well as broad streaks on the analis and radius in the cells 2 and 3, and an anteriorly open horse-shoe at the end of the discoidal cell. Hindwing blackish-brown with a more or less extended light longitudinal stripe behind the discal cell. —
- heliconides*. The form **heliconides** *Prt.* has an entirely black apical area without a light subapical band. Brazil, Peru. The model of the species is *Stalachtis calliope* *L.* (vol. V, pl. 143 b); it otherwise makes entirely the impression of a *Pericopsis* (*Chetone*) and has originally also been described as such.
- integra*. **Ph. integra** *Fldr.* (68 a). Red-brown, distal margin on both wings broad, costa of forewing narrowly black. Costa of hindwing and a discal band of forewing pale yellow, fringes at the apex of forewing white. Brazil.

2. Genus: **Myonia** *Wkr.*

Distinguished from the preceding genus by the 1st cubital vein in the hindwing rising with the 3rd median from the same place or forked; if this is not the case, at least the antennae of the ♂ are only ciliated.

1. Hindwing chiefly yellow or white, wings nowhere hyaline (*Dialephtis* *Fldr.*).

- salvini*. **M. salvini** *Fldr.* (68 b). Yellow, with blackish-brown margins of the wings (except the hind-margin of the hindwing). Subcosta of forewing yellow. Guatemala; Colombia.
- semimarginata*. **M. semimarginata** *Dgn.* Like *salvini*, but the hind-margin of the forewing is not black, the black distal-marginal band of the hindwing is broader. Colombia.
- bicurvala*. **M. bicurvata** *Bastelb.* (68 b) is like *salvini*, the costal margin of the forewing is straighter, the black distal margins of both wings broader, that of the forewing extending to the cell. Peru, Colombia.
- josia*. **M. josia** *Fldr.* (68 b). Forewing blackish-brown, with a yellow large basal spot behind the cell, and a yellow transverse band not reaching to the hind-margin. Hindwing yellow, distal margin and hind-margin black as well as a basal stripe in the cell and one behind it. Costal margin yellow. Brazil.
- macropoecila*. **M. macropoecila** *sp. n.* (68 c). Size and hindwing as in *josia*, but the hind-margin narrower black. In the forewing the yellow basal triangle fills up a large part of the cell, the discal spot is very broad (5 mm). Peru. ♀-type from the Chanchamayo in the Berlin Museum.
- pyraloides*. **M. pyraloides** *Wkr.* (68 c) is like *josia*, mostly larger, in the hindwing the hind-margin is broader and the costal margin coherently black, only the extreme costa yellow as far as the subcostal cell. — In the form
- tongioplaga*. **longioplaga** *Warr.* the postdiscal band of the forewing is not broad at the costal margin either, but rounded off. Colombia, Brazil.
- dominula*. **M. dominula** *Warr.* resembles the preceding. The hind-margin of the forewing finely yellow, in the hindwing the hind-margin and fringes are yellow; in the anal part a stripe of black scales. The yellow centre is beneath twice as broad as above. — Expanse of wings: 35 mm. Argentina, Uruguay.
- alea*. **M. alea** *Drc.* Forewing pale yellow; apex, distal margin and hind-margin broad black, a black costal streak from the base to about $\frac{1}{2}$ of the wing. Hindwing yellow, with a black marginal band at the costal margin, apex and distal margin as far as the tornus. Expanse 31 mm. Ecuador.
- priverna*. **M. priverna** *Cr.* (♂ = *privigna* *Hbn.*) (68 b). Forewing brown, veins at the base (particularly in Brazilian specimens) paler, a whitish-yellow postdiscal band from the costa to the 2nd cubital vein; in the ♂ it is mostly straighter and more robust, in the ♀ thinner, more bent, posteriorly very narrow. Hindwing yellow with a black distal margin, in the ♀ often also a stripe below the costal margin and sometimes even the hind-margin blackish. Beneath in the forewing a yellow spot at the hind-margin, which may reach in front to the radius and distally to $\frac{4}{5}$ of the analis. — In the form **fulva** *Warr.* the blackish-brown markings are stated to be merely brown on both wings, in the forewing the whitish band above only extends to vein 5, beneath to 3, it puts forth a pointed tooth proximally at the cross-vein. Guiana, Brazil.
- quadriguttata*. **M. quadriguttata** *sp. n.* (68 b) has a habitus similar to the *Polypoetes*. Forewing black, veins red-brown, a large yellow spot distally to the transverse vein, some yellowish dusting behind the cell. Beneath the yellow spot is broader, almost reaching the costal margin, a yellow hindmarginal spot behind the centre of the cell. Hindwing black with a yellow discal spot which is continued to the hind-margin in yellow dusting, beneath yellow, distal margin and basal spot in the cell black. Peru. ♂ type from Moxos in the Berlin Museum.
- quadricolor*. **M. quadricolor** *Wkr.* (68 c). Forewing brown, with light vein-streaks at the base and a club-shaped light basal stripe on the axillaris, a light postdiscal transverse band which is posteriorly shortened and yellow at the costal margin. Hindwing yellow, edged with black. Expanse 27 mm. Amazons.

M. regis *sp. n.* (68 c). Body yellowish-brown, in some places blackish, particularly two abdominal *regis*. lateral stripes which are posteriorly fused on the dorsum, under surface whitish-yellow. Basal half of forewing lighter yellow, apical half and costal margin and hind-margin narrowly black. Costa, subcosta, and anterior edge of the cell along the same spot yellow. In the apical half a more orange-yellow spot, the hindwing darker yellow, apex and distal margin black, the latter angular at the 2nd median. Behind the cell a black basal spot. Sometimes the yellow colour is uniform in all the spots. Peru, Rio Pachitea, and Puerto San Matro (♂-type) in the Berlin Museum.

M. celata *Warr.* resembles *priverna* (68 b), the discal band in the forewing is merely a small spot situate *celata*. farther proximad. All the veins in the forewing pale, beneath the yellow colouring more extensive; only the apex, distal margin and hind-margin, and a wedge-shaped costal spot filling up also $\frac{3}{4}$ of the cell remain black. The expansion of the yellow discal spot also shows through above. Hindwing yellow, apex and distal margin black, the base also a little dusted with black. — Whilst in the normal form the costal spot of the forewing above is small, occupying only the space between the veins 10 and 11, it is larger and broader in f. **unimacula** *Warr.* and may extend to the posterior end of the cross-vein. Peru, Bolivia, Upper Amazons. *unimacula*.

M. biplagiata *Warr.* Forewing brown, veins yellow, with 2 orange-yellow spots, one beyond the cross- *biplagiata*. vein below the costal margin extending to vein 4, the second behind the cell, extending beyond vein 2 and posteriorly to the axillaris. Hindwing orange-yellow, with a narrow black border, at the costal margin and distal margin as far as the tornus. Forewing beneath with the yellow spot extended behind the cell to the base. Expanse 38 mm. Bolivia. — In **peruviana** *Dgn.* (68 c) the contours of the basal spot extend from the base along *peruviana*. the cubitus to the origin of vein 3, from there across the vein 2 and the fold as far as about 2 mm above the hindmargin, thus filling up the greatest part of the anal area. Peru. Expanse of the ♂: 32 to 34 mm.

M. graba *Drc.* (68 c) is similar to *biplagiata*, the yellow spot behind the cell in the forewing beneath *graba*. not extended to the base, above sometimes reaching to the hind-margin. Hindwing with a broad black border (width $\frac{1}{3}$ of the wing), base black, sometimes beneath connected with the marginal band. Peru, Upper Amazons, Ecuador. — In the form **primula** *Dgn.* the spot behind the cell is prolonged to the hind-margin. *primula*.

M. papula *Dgn.* Forewing chestnut-brown, costal margin as far as $\frac{2}{3}$ finely yellow, veins paler; a *papula*. yellow flattened spot in the posterior centre of the cell, another one distally to the cross-vein, being larger in the female, whilst the first disappears. Hindwing yellow with a distal margin of about $2\frac{1}{2}$ mm, but narrower on the 2nd median. In the ♀ on the hind-margin, analis and in the cell a short black basal ray, in the ♂ only traces of it. Forewing beneath blacker, spots more yellow, the postdiscal spot enlarged, with a large yellow basal spot. Hindwing without basal streaks beneath. Expanse 35 mm. Amazons.

M. ederi *Prt.* approximates *graba* (68 c), the yellow markings are lighter and more extensive, the distal *ederi*. margin of the forewing is less slanting. The spot below the cell in the forewing begins near the base and extends much farther towards the margin, so that it is almost fused with that behind the cell, being only separated from it by a dark line along the 3rd median. The black margin of the hindwing of an average width of 3 mm, as in *graba*. Expanse ♂ 37 mm. South East Colombia.

M. projecta *Warr.* resembles *ederi*, the markings in the forewing are whitish-yellow, in the hindwing *projecta*. darker yellow. Expanse: ♀ 44 mm. Rio Madeira.

M. augusta *Warr.* Forewing blackish-brown, with a golden yellow discal band being broadest in the *augusta*. centre, posteriorly narrowed, and terminating at about $\frac{2}{3}$ of the analis. Veins lighter, except near the discal band. Hindwing golden yellow, with a broad black distal-marginal band, the broadest at the apex and tornus. Beneath the costal margin of the forewing is yellow as far as the centre, fringes at the apex white; in the hindwing at the apex a yellow spot in the black distal margin, a basal black streak below the costal margin, the abdomen above with a yellow dorsal line. Expanse 35 mm. Rio Madeira.

M. cuneiplaga *Prt.* differs from *augusta* in the abdominal dorsal line being broken up into spots, the *cuneiplaga*. distal band of the forewing being more slanting, directed towards the tornus, almost equally wide; hindwing above only with a reduced, streak-shaped central area, the greatest width of which is $2\frac{1}{2}$ mm, beneath broader yellow, no yellow spot at the apex, fringes quite uni-coloured. Surinam.

M. prouti *sp. n.* (68 d) is similar to the two preceding, the dorsal line of the abdomen broken up into *prouti*. spots, forewing as in *augusta*, but the costal margin beneath not yellow, hindwing similar to *augusta*, but without the yellow apical spot, costal margin black, the broadest at the base, connected with the black distal margin, fringes at the apex of the forewing white. Body blackish-brown, the 1st and 2nd palpal joints, sides of thorax in front, inner edge of patagia, and lateral stripes of abdomen yellow, abdomen beneath whitish. Expanse 36 mm. ♀ type from Bahia in the Berlin Museum.

M. cingulina *Drc.* Forewing blackish-brown, veins reddish-yellow, behind the cell a whitish-yellow *cingulina*. spot, the centre of which is situate proximally to the origin of the 2nd cubitus; distally to the cross-vein an equally coloured smaller spot. Beneath the veins are not yellow, the proximal spot as above, not extending on the median to the base, the distal spot being much larger. Hindwing lighter whitish-yellow, the margin 3 to 4 mm broad black, the anal margin, base, and costal margin basally narrow black. Beneath the

light markings are more extensive, costa and base yellow, only a basal streak on the anterior edge of the cell is black; — in *semimaculata* Warr. (68 c) the distal spot is absent. Peru. — In *cingulina aurantica* Drc. (68 c) also the proximal spot of the forewing is entirely absent, whereas on the under surface it is distinct, extending at the posterior edge of the cell to the base. — Whilst the typical form also lacks the distal spot, the transitory form *spumata* Warr. exhibits behind the cross-vein and on the analis some small heaps of white scales; — in *albifrons* Warr. there is a distinct whitish-yellow spot at the cross-vein. Bolivia, one specimen also from Callanga (Peru).

steno-ran-
tha. **M. stenoxantha** sp. n. (68 d) differs from all the forms of *cingulina* in the base and costal margin of the hindwing being broader black, whereby the yellow transverse band becomes much narrower (3 mm broad); its edges are parallel, not divergent as in the preceding. In the forewing the proximal yellow spot is smaller than in *semimaculata* (68 c), more distally placed; its centre is situate below the origin of the 2nd cubitus. The distal spot is very large, sharply defined, larger than the proximal spot; under surface as in *semimaculata*. Huayabamba, Peru. ♂ type in the Berlin Museum.

inaria. **M. inaria** Drc. (= *maria* Dgn.) entirely resembles *cingulina*, but the proximal spot of the forewing above is extended to the base. Ecuador.

mimica. **M. mimica** sp. n. (68 d) entirely corresponds with *Josia oribia* (71 b), but the abdomen is black, with a yellow dorsal line and yellow lateral lines, beneath whitish. GARLEPP captured the only ♀ with a series of *J. oribia* on the Rio Songo, Bolivia. Type in the Berlin Museum.

tapajoza. **M. tapajoza** Dgn. Forewing brownish-black, with paler veins, an oblong, slanting median spot is yellowish, not reaching the costal margin, its distal edge crossing the cell and the 2nd cubitus before its centre, being rounded off above the axillaris; the inner margin touches the posterior margin of the cell at the rise of the 2nd cubitus and extends from there straight to the costal margin; largest width of the spot $2\frac{1}{2}$ mm. Hindwing black with a yellow transverse band from before the centre of the costal margin to that of the hindmargin, the outer side of which does not cross the transverse vein; its largest width is $3\frac{1}{2}$ mm; beneath it is extended to the base, and at the costal margin it extends to the apex, which is beneath with a round yellowish-white spot. Expanse 28 mm. Amazons.

2. Wings more thinly scaled, mostly with hyaline areas. (*Erbessa* Wkr., *Phelloe* Wkr., *Pseuderbessa* Btlr.).

citrina. **M. citrina** Drc. (= *conjuncta* Dgn.) (68 d). Wings blackish-brown; reddish-yellow are on the forewing the costal margin almost to $\frac{1}{2}$, a broad discal band, a longitudinal streak on the analis, in the hindwing the central area as far as the hind-margin, and an apical spot. A subapical band and some submarginal spots below it dull whitish. Amazons.

ovia. **M. ovia** Drc. is like the preceding, but all the markings are dull whitish. It may be only a form of *citrina*. Amazons.

capena. **M. capena** Drc. (68 d) is like the preceding, but all the markings are whitish, the discal bands hyaline. It is not the ♂ of the preceding, as had been presumed; in the Berlin Museum there are also ♀♀ of the species. Amazons, Ecuador, South East Peru.

pales. **M. pales** Drc. (68 d) is black, with a hyaline basal spot, shortened discal band and subapical band in the forewing, a similar central area as far as the hind-margin in the hindwing, at the base behind the analis in the forewing with a blue reflection. Ecuador, Bolivia.

glaucaspis. **M. glaucaspis** Wkr. (68 e) is black, the base of the forewing, and the hindwing with a blue lustre, the veins of the forewing basally whitish, in the disc a large hyaline spot, in the hindwing a whitish hyaline central spot which is sometimes darkened by grey and very narrow. Fringes at the apex of the forewing and a spot at the apex of the hindwing beneath white. Amazons, Colombia.

umbrifera. **M. umbrifera** Wkr. (= *decorata* Wkr., *munda* Wkr.) (68 e). Blackish-brown, base of forewing and greatest part of hindwing suffused with blue, an oblong discal spot in the forewing and a central spot of the hindwing hyaline, the latter of different extension, sometimes ending before the base. Beneath the apex of the forewing white as above, hindwing with a broader white apex only beneath. Amazons, Guiana. — **cassandra** Drc. is somewhat larger, with more glaring colours. Colombia, Bolivia, Ecuador.

sobria. **M. sobria** Wkr. (68 e). Abdomen with a lighter dorsal line, base of forewing with whitish veins, but not lustrous blue, a whitish-hyaline discal spot in the forewing, a similar central spot in the hindwing, fringes at the apex of the forewing only beneath, a spot at the apex of the hindwing likewise beneath, white. The black areas of the hindwing above of a blue iridescence. Brazil, Ecuador.

corvica. **M. corvica** Dgn. Like *sobria* (68 e), but the hindwing above without any blue lustre, beneath without a white apical spot. Expanse 34 mm. Bolivia.

M. semiplaga Warr. is distinguished from the 3 preceding species by the absence of the white apical spot on the hindwing beneath. The central area of the hindwing terminates behind on the median. Colombia. — In **pleni-plaga** Prt. the hyaline central area is extended yet behind the median in the hindwing. Bolivia.

M. avara Drc. Like *sobria* (68 e) with a white abdominal line and white apex of the hindwing beneath, instead of the discal spot there is a discal band in the forewing, which, however, does not reach to the costal margin. Expanse 38 mm. Ecuador.

M. conigera Prt. Hindwing beneath without a white apex, forewing with a white discal band as in *avara* on the hind-margin, but more proximally, shorter, being broadest behind, not traversing the cell. East Peru.

3. Wings with a dark ground-colour, without hyaline areas (*Myonia*).

M. lindigii Fldr. (68 e). Patagia uni-coloured. Wings blackish-brown, forewing with an orange discal band, hindwing with an intense blue lustre, with an orange costal spot before the apex. Panama, Colombia.

M. leechi Prt. Patagia with a yellow stripe. Smaller and with narrower wings than *lindigii*, the yellow band of the forewing much broader, not reaching to the axillaris. Hindwing without a yellow apical spot, the blue lustre only present in the anal part. Amazons.

M. decolorata sp. n. (68 f) approximates *lindigii*, but the hindwing is without any blue lustre, the yellow markings are of a deeper orange-yellow, the discal band of the forewing is broader, at the costal margin widened, the apical spot of the hindwing larger, otherwise entirely corresponding with *lindigii*, also in its size. Brazil, Leopoldina. ♀-type in the Berlin Museum. (In the habitus the species looks like very large *Brachyglene caenea* Drury.) To this species probably belongs another ♀ from Panama, being somewhat smaller, with quite whitish markings, but otherwise corresponding with the type.

M. euryzona Prt. Forewing similar to *leechi*, basal half black, principal veins of a thicker yellow, a yellow central band of 4 to 5 mm width from the costa to close in front of the tornus, apical half black. Hindwing black, suffused with blue (except at the distal margin), a narrow whitish costal stripe which grows broader and yellow towards the apex and expands in an apical spot. Forewing beneath with a whitish basal streak in the cell, before it some orange scales, the yellow band broader. Hindwing beneath not blue, but with a distally widened white stripe behind the cell and the 3rd median, another shorter and thinner one behind it. Expanse 32 mm. Bolivia.

M. depravata sp. n. (68 f) is similar to *decolorata* (68 f), smaller, the band of the forewing yellowish-white, steeper, not broader at the costal margin, narrower at the hindmargin; apical spot of hindwing likewise whitish, smaller; half of 3rd palpal joint yellow, and a yellow stripe on the patagia. Abdomen blackish-brown, with a yellow lateral line, beneath narrowly dirty white, at the end yellow. Length of forewing 12 (♂) and 16 (♀) mm. ♂♀-types from the Orinoco in the Berlin Museum. — Whilst in the nomenclatural race the white band is 2 mm broad at most and tapers off posteriorly, it is in the Bolivian race **amplificata** subsp. nov. 3 mm broad and posteriorly hardly narrower. ♀-type in the Berlin Museum. — In **flavifascia** subsp. nov. the light markings are yellow, the band posteriorly not narrower, the apical spot of the hindwing larger. Peru. ♀-type from Yurimaguas in the Berlin Museum.

M. saga sp. n. (68 f) resembles *depravata*, the apical spot of the hindwing is absent, replaced by a narrow costal-marginal streak. Palpi black, frons, stripe on the patagia and a dorsal line across the thorax and abdomen whitish, abdomen beneath broader white. Distal margin of forewing less convex than in *depravata*. Venezuela. ♀-type from Puerto Cabello in the Berlin Museum.

M. labana Drc. (68 f). Blackish-brown, veins of forewing scarcely lighter, forewing with a uniform white transverse band, hindwing only with a narrow yellow streak at the costal margin before the apex, beneath with a large yellow apical spot. Ecuador, Brazil.

M. aequivoca Warr. (68 f) resembles *labana*, but lacks the yellow apical spot of the hindwing and the blue lustre. Expanse 39 mm. Venezuela, British Guiana.

M. ursula sp. n. (68 f). Blackish-brown, abdomen beneath and on the sides whitish, forewing with a yellow transverse band, hindwing uni-coloured, above with a slight blue reflection. Brazil. Forewing somewhat narrower than in *aequivoca*, the band of the forewing begins a little more distally and is quite straight, in *aequivoca* somewhat distally convex.

M. desmotrichoides sp. n. (68 f). In the habitus very similar to the Syntomid genus *Desmotricha* (pl. 23 c); frons white, head, collar, stripe on patagia, middle line on thorax, lateral lines and a dorsal spot at the posterior edge of the 3rd segment on the abdomen yellow, ventrum whitish. Wings long and narrow. Forewing in the basal half with pale yellow veins, in the centre with a yellow transverse band as far as the axillaris and white apical fringe. Hindwing with a narrow yellow costal-marginal stripe and a yellow oblong

postcellular spot. Hindwing beneath with more extensive yellow markings and a yellow apical spot. Length of forewing 12 mm. Amazons. ♂-type from Massauary in the Berlin Museum.

subalba. **M. subalba** *sp. n.* (68 d) is very closely allied to *M. labana* (68 f), in the hindwing beneath a large, white central spot from the centre of the cell to the hind-margin, a white basal streak on the cubitus of the forewing and on the costa of the hindwing. Amazons. ♂-type from Pebas in the Berlin Museum.

mitys. **M. mitys** *Drc.* Forewing black, veins yellowish, with a yellow transverse band beyond the centre. Hindwing black, with a yellow spot at the cell-end, beneath with a yellow apical spot. (Was not before me). Expanse 38 mm. Amazons.

seducta. **M. seducta** *Prt.* Thorax and anterior part of abdomen with a whitish dorsal stripe, forewing with a shorter discal band which does not reach the 2nd cubitus here and is of a yellowish-white colour. Hindwing beside the yellowish-white central spot with an oblong spot near the hind-margin. Hindwing beneath only black in abasal streak and the distal margin, otherwise light yellowish. Expanse: 30 mm. (♂). Venezuela.

maera. **M. maera** *Schs.* (68 g) resembles the 3 following species, larger, the transverse band of the forewing more oblique, terminating in the tornus, uniformly broad almost to the costal margin. The yellow central area of the hindwing more extensive, base scarcely black. Brazil.

evippe. **M. evippe** *Wkr.* (68 g). Blackish-brown, veins in the forewing yellowish, forewing with a yellow discal spot which does not extend posteriorly beyond the 2nd cubitus. Hindwing blackish-brown with a yellow transverse band which is narrower at the hindmargin and the distal edge of which is angular. Amazons, Ecuador. Venezuela.

evippoides. **M. evippoides** *sp. n.* (68 g) is like the preceding, the discal spot of the forewing broader, posteriorly extending to the analis, the band of the hindwing broader, hardly narrower at the hindmargin. Colombia. ♂-type in the Berlin Museum.

assimilis. **M. assimilis** *nom. nov.* (= *pyraloides* *Wkr.* 1856 nec 1854) (68 g). Forewing without yellowish veins, fringes at the apex white, discal spot in the ♂ as in *evippe*, in the ♀ extending as a band across the analis, the distal edge of which traverses the cross-vein. Wings beneath at the base with a hyaline hue, hindwing beneath without the apical spot of *evippe*. Amazons.

imitatrix. **M. imitatrix** *Warr.* is reported to resemble *assimilis* (68 g), but with uni-coloured fringes. It may belong to a different genus? Rio Madeira.

basivitta. **M. basivitta** *Prt.* (68 g) is very much like the *Pericopina* *Scearctia figulina* *Btlr.* (65 i). Blackish-brown, forewing yellow with a black costal margin, apical third, hindmargin, and basal streak on the analis. Hindwing blackish-brown. Brazil. — Not to be mistaken for the very similarly coloured *Euryptidia basivitta* *Wkr.* (36 f).

3. Genus: **Dolophrosyne** *Prt.*

In the forewing the 2nd radial rises from the cell, the 1st cubitus is forked in both wings. But one species:

mirax. **D. mirax** *Prt.* Body blackish, wings hyaline blackish grey, the veins of the forewing somewhat yellowish-brown, hindwing at the base still more thinly scaled. Expanse 24 mm. East Peru.

4. Genus: **Tolimicola** *Prt.*

In the forewing the 2nd radial is forked with the 3rd to 5th, rising before the 5th, the 3rd radial branching off beyond the 5th, the 1st cubitus not forked, nor is it in the hindwing, rising far away from the 3rd median. Forewing not hyaline.

consanguinea. **T. consanguinea** *Dgn.* (= *fassli* *Prt.*). ♀ forewing above uni-coloured dark brown, with yellow dots on the veins and a subterminal line of yellow crescents. Hindwing blackish, feebly diaphanous. Body dark brown, base of tegula with a yellow spot, abdomen beneath somewhat paler. In the ♂ traces of whitish crescents in an antemedian and a postmedian line. Subterminal crescents white instead of yellow, distally to them yellow vein-spots and then marginal spots. Hindwing beneath with yellow marginal spots. Expanse about 45 mm. Colombia.

nubilata. **T. nubilata** *Dgn.* Wings cloudy light grey, diaphanous, forewing in the anterior basal half dusted darker, the same along the costal margin. Darker is also a median and a subterminal transverse band. Hindwing uni-coloured. Colombia, at an altitude of 3800 m. in September.

5. Genus: **Cacolyces** *Warr.*

Distinguished from the preceding genus by the 1st cubitus nearing the 3rd median. But one species:

plagifera. **C. plagifera** *Wkr.* (68 h). Forewing with two yellowish-white spots, one on the centre of the costal margin, the other at the tornus, apex at the end white, otherwise the ground-colour is blackish-brown. Hindwing coloured the same, with a broad yellowish-white discal stripe which does not reach the apex. Amazons, Venezuela.

6. Genus: **Xenorma** *Prt.*

In the forewing the 2nd radial is forked, and rises before the 5th, the 3rd radial beyond the 5th. 1st cubitus separate, in the hindwing forked.

X. cytheris *Drc.* (68 h). Forewing black, at the base with 2 yellow longitudinal stripes, a light yellow *cytheris*. discal spot and a similar subapical spot. Hindwing lighter yellow, with a black distal margin, hind-margin, and base. Tegulae and palpi yellow. Expanse about 30 mm. Mexico to Panama. — In **australis** *Prt.* (68 h) *australis*. from Brazil the central spot of the forewing is reduced, whilst in the form **deleta** *Prt.* it is entirely absent; the *deleta*. latter also occurs in Venezuela.

X. ovata *Dgn.* Similar to *cytheris* *Drc.* (68 h), but the forewing above lacks the subapical spot; palpi *ovata*. and tegulae black, not yellow as in *cytheris*. Colombia.

X. pictifrons *Warr.* (68 h). Forewing similar to *cytheris*, all the veins broadly sulphur-coloured. *pictifrons*. Hindwing whitish, with a broad black distal margin which is narrowly continued at the costal margin as far as the base. Beneath the veins are very pale, a whitish stripe from the base at the costal margin and on the cubitus, increased to a large spot at the cell-end. In the hindwing the costal margin is also white. Expanse 30 mm. South East Peru.

X. grandimacula *sp. n.* (68 h) differs from *cytheris* in the forewing showing all the veins broadly *grandimacula*. yellow and in the absence of the yellow basal streaks, the discal spot being roundish as in *reducta*. Lower base with 2 hardly lighter vein-streaks, otherwise the veins are of the same colour. Hindwing yellow, distal margin broad black, base dusted with blackish. ♀ type from the Rio Songo in the Berlin Museum.

X. biorbiculata *Warr.* (68 h). Forewing similar to *pictifrons*, veins yellowish with a hyaline white *biorbiculata*. subapical spot which is crossed by 2 dark veins. Hindwing with a broad black costal margin and marginal band, the latter being half the width of the wing, base blackish; in contrast with the preceding species, the white area of the hindwing shows dark veins. Expanse: ♂ 28, ♀ 35 mm. Amazonas.

X. plataea *Drc.* (68 h). Blackish-brown forewings with a white triangular spot near the base on the *plataea*. hind-margin and an orange marginal spot between the 1st and 3rd median veins, hindwing white with a broad black distal margin and narrow hind-margin. Bolivia, Ecuador.

X. exturbata *sp. n.* Similar to *biorbiculata* (68 h), the yellow discal spot being situate farther in *exturbata*. front, half in the cell and half behind it, all the markings are pale yellow, in the hindwing the axillaris and cubitus are blackish in the yellow discal area. Expanse 32 mm. Guatemala. ♀ type in the Berlin Museum.

X. reducta *sp. n.* (68 h, i). Forewing as in *exturbata*, in the hindwing the abdominal margin is broadly *reducta*. black, so that only a yellow discal spot is left. Beneath as the preceding, below the costa a black basal streak. ♂♀ types from Bahia in the Berlin Museum. Distinguished from *cytheris* by the discal spot of the forewing being roundish and the yellow basal stripes being absent.

7. Genus: **Oricia** *Wkr.*

In the forewing the 2nd radial is forked and rises before the 5th, the 3rd beyond the 5th. 1st cubitus in the forewing separate, in the hindwing often forked. Palpi very long.

O. truncata *Wkr.* (68 i). Body ochreous, abdomen above on the last segments with 2 posteriorly *truncata*. united black stripes. Forewing light grey, with a yellow, dark grey edged wedge from the base, beneath yellow with a grey marginal band proximally edged with dark grey, being broadest at the apex and not reaching to the tornus. Mexico to Guatemala.

O. domina *Schs.* (68 i). Abdomen on the last segments dusted with black, the yellow wedge in the *domina*. ♀ bordered by the cubitus (in ♀-specimens of *truncata* lying before me it extends beyond it), but distally extending farther beyond the cell, its distal margin not straight but distally convex. Expanse 34 mm. Costa Rica.

O. homalochroa *Fldr.* (♂ = *damalis* *Schs.*) (68 i). ♀ body and wings yellow, forewing with an olive- *homalochroa*. black, broad distal margin showing light yellow veins, whilst in the hindwing the distal margin is narrower, black and indented. The ♂ is similar, but the abdomen shows a black dorsal line on the 3rd segment and black dots on the following segments, separated by white segmental bands. Wings as in the ♀, the black distal margin of the hindwing beneath also parted by light lines. Expanse 38 mm. Costa Rica, Guatemala.

O. prolifera *Wkr.* (= *bifacies* *Wkr.*, *nerias* *Fldr.*) (68 i). Forewing with a black, white-dotted basal *prolifera*. area, an orange transverse band and black apical half with 2 white spots in it, hindwing orange, apex broadly, distal margin narrowly black. Amazons.

phryganeata. **O. phryganeata** Warr. (68 h). It is doubtful whether this species and the following *venata* belong to this genus. Forewing dark olive-coloured. Veins finely whitish, a white pear-shaped spot on the analis, beyond the cross-vein a small white spot, bending inwardly towards the centre of the costa, a submarginal row of white internerval spots. Hindwing white, with a black distal margin which is broadest at the apex and narrows down towards the tornus. Costal margin narrowly black. Beneath the pear-shaped spot is roundish, which may also occur above in aberrative specimens. Expanse 36 to 42 mm. Peru.

venata. **O. venata** Btlr. Forewing blackish-brown, veins whitish, cross-vein broad white, three dentate, blackish-brown transverse lines, the first through the cell, the other beyond it, the most distal one bordered by a row of whitish, dentate submarginal spots; hindwing grey, at the apex more brown, with a blackish marginal line. Body smoky brown, abdomen grey; forewing beneath greyish-brown, costal margin whitish. Expanse 23 to 30 mm. Brazil: Espiritu Santo.

8. Genus: **Cleptophasia** Prt.

In the veins similar to the preceding genus. The 1st cubitus separate or on a short fork. Palpi moderately long.

scissa. **C. scissa** Warr. (68 i). Forewing olive-brown, with yellowish veins, a triangular yellow spot at the costa extends to the analis. Hindwing yellow, apex and hind-margin broad, distal margin between the 2nd cubitus and 3rd median narrowly black, the outermost hind-margin and fringes on it above narrowly, beneath broader yellow. On the forewing beneath the yellow spot, which tapers off posteriorly above, is almost uniformly broad yellow. Amazons.

9. Genus: **Scoturopsis** gen. nov.

Antennae of ♂ with ciliary tufts. In the forewing the 2nd radial rises with the 3rd to 5th from the same place or on a fork, the 3rd radial rising before the 5th, the 4th sometimes fused with the 5th, the 1st median very far remote from the radial fork, the cross-vein not angular at the 2nd median, the 3rd median and 1st cubitus forked. The cell is in both wings longer than half the wing, distally angular at the 2nd median; in the hindwing the radial ramus and 1st median, and the 3rd median and 1st cubitus are forked. In *Xenomigia* the ♂ antennae are combed, the 1st median of the forewing rises close at the radial ramus. Type of the genus: *Sc. basilinea*.

1. Fifth radial present.

basilinea. **Sc. basilinea** sp. n. (68 k). Forewing brown, veins hardly lighter; costal margin as far as the cell darkened by blackish, a yellowish wood-coloured line from the base on the analis to below the rise of the 2nd cubitus. Hindwing brownish black. Beneath all the wings are blackish-brown, a light spot behind the cross-vein, on the hindwing very indistinct. ♂ type from the Rio Tanampaya (Bolivia) in the Berlin Museum.

seitzi. **Sc. seitzi** sp. n. (68 k). 4th and 5th radial veins present in the forewing. Wings brown, forewing with a large milky-white trapezoid spot on the cross-vein, extending into the cell. ♂ type from Bolivia in the Coll. A. SEITZ.

2. Fifth radial fused.

extensa. **Sc. extensa** sp. n. Like the preceding, somewhat larger, the basal streak of the forewing broader, almost reaching anteriorly to the cell. Hindwing greyer, rather diaphanous, except at the margin. Bolivia, ♂ type from S. Antonio in the Berlin Museum.

uniformis. **Sc. uniformis** sp. n. Wings uni-coloured grey, somewhat diaphanous. Expanse 19 mm. Bolivia, ♂ type from S. Antonio in the Berlin Museum.

elongata. **Sc. elongata** sp. n. Forewing very narrow, head rather hairy, wings diaphanous grey, forewing somewhat darker. Peru, 2 ♂♂ from Vilcanota in the Berlin Museum.

10. Genus: **Xenomigia** Warr.

Distinguished from all the preceding genera by the 3rd radial of the forewing rising before the 5th, the cell being normal, the 1st cubitus separate or forked, the wings densely scaled. The genus occurs in several species only in Colombia, one species also in Bolivia.

veninotata. **X. veninotata** Warr. Forewing olive-ochreous, veins paler, markings blackish. Base of cubital branches and 3rd median thickly yellowish-white; a clouded black spot at the base of the costal margin, a short, bent, sometimes dentate stripe at $\frac{2}{5}$, a slanting spot in the centre of the cell, a similar one on the hind-margin at $\frac{2}{3}$, followed by a yellowish-white dot. A blackish dentate stripe extends from $\frac{1}{3}$ of the costal margin, below the centre inwardly bent, touching the pale bases of the cubital branches and terminating in a large clouded spot

on $\frac{1}{2}$ of the hind-margin. A submarginal black dentate shadow, distal to it an irregular yellowish-white band, basally projecting above the 2nd cubital and 3rd median and interrupting the black shadow, distally bordered by another black shadow which is parted by the veins. Hindwing olive-grey, somewhat diaphanous towards the base. Expanse 37 mm. Colombia.

X. concinna Dgn. Forewing brownish-black, veins yellow, the following spots white: a basal one at the base behind the cell, two paler ones in the cell, two behind the cell, between the rise of the 2nd cubitus, analis and axillaris, a postdiscal one divided by the veins, a postmedian line of white internerval spots, the apices of which show distally, and a subterminal similar line, the apices showing proximally; of the latter line the spots between the analis and 3rd median are situate farther proximally. Marginal line white and yellow. Hindwing diaphanous white, apex and fringes pale grey. Expanse 34 mm. Colombia.

X. villiopsis sp. n. In the habitus similar to *Polypoetes villia* Drc. (69 d), but in the forewing the 3rd radial rises far before the 5th, the 1st cubitus is forked. Forewing blackish olive-brown, veins loamy-yellow, the following spots are whitish: one at the base of the cell, a double spot behind it, before the rise of the 2nd cubitus, divided by the analis, a distally open crescent distally to the cross-vein, some crescents the apices of which show towards the base, before the margin between the veins 1 a to 7. Forewing beneath uni-coloured, only the crossvein-spot white. Hindwing hyaline white, costal margin narrowly, distal margin and hind-margin broadly pale black, at the hind-margin almost as far as the cell. Expanse 30 mm. Colombia. ♂ type from the Cauca Valley in the Berlin Museum.

X. sordida Dgn. Forewing greyish-brown, a broad median band and the distal margin darker, veins yellowish, the spots are white. One near the base above the analis, two small ones in the centre above and below the analis, a narrow one distally to the cross-vein, some subterminal dots between the veins 1 to 5. Hindwing pale greyish hyaline, a median shadow and the margins somewhat darker. Fringes brown, intermixed with lighter vein-dots, particularly beneath. Forewing beneath without markings, but the markings above diaphanous. Expanse 35 mm. Colombia, Tolima.

X. pallinervis Fldr. Forewing olive-coloured grey, the veins lighter. A white basal spot behind the cell, two white spots between the rise of the 2nd cubitus, analis and axillaris, a similar one behind the cross-vein, a submarginal row of white internerval spots the apices of which show proximally. Hindwing greyish-hyaline, apex and distal margin broadly blackish. Expanse about 38 mm. Colombia.

X. villiodes Prt. Similar to *pallinervis*, but the white markings are different. An indistinct pale spot near the base of the cell, a slanting whitish streak from the centre of the axillaris to the cubitus far before the rise of the 2nd cubital branch, a white spot beyond the cross-vein, and the white submarginal line of crescents. Hindwing dingy white as far as the cross-vein, sometimes also beyond it, all the margins black, the costal margin narrow, the distal margin proximad dentately projecting. Expanse 41 to 45 mm. Colombia. Distinguished from *X. villiopsis* by the spot at the base of the cell being indistinct here, the spot above and below the analis being slanting, beginning far before the rise of the 2nd cubitus (in *villiopsis* directly before it), the white area of the hindwing not or hardly extending beyond the cell, in *villiopsis* far beyond it.

11. Genus: **Pseudoricia** Prt.

In the forewing likewise the 3rd radial rising before the 5th; the cell is remarkably short.

Ps. sibyllae Drc. Forewing yellow, costal margin narrowly, distal margin very broadly black, being broadest at the costa and ending narrowly at the tornus. Hindwing yellow, distal margin black. All the veins blackish. Expanse of wings: 28 mm. Ecuador.

12. Genus: **Zunacetha** Wkr.

Forewing: 2nd radial forked, rising before the 5th and 3rd and 4th, discoidal cell shorter than half the wing. The 1st cubitus rises with the 3rd median from the same place or on a short fork; wings narrow. palpi rather long.

Z. bugabensis Drc. (68 i). Forewing white, the marginal half with black vein-streaks, basally to them two black transverse lines on the hind-margin, converging a great deal towards the costal margin, but not touching it. Hindwing diaphanous white, costal margin and distal margin broadly, hind-margin narrowly black. Panama, Colombia. — In the Peruvian race **albibasis** Wam. the whole distal part of the forewing is ash-grey instead of white, so that the dark veins are hardly conspicuous, the apex being almost olive-coloured.

Z. annulata Guér. (= *bipartita* Wkr., *nervosa* Fldr.) (68 k). Forewing as in *bugabensis*, but the distal one of the two black transverse lines extends to the costal margin, the proximal one is prolonged and reverted towards the base, so that a large ring is formed, which may be open on the hind-margin. Costal margin as far as the 2nd transverse line and a spot at the cell-end ochreous. Hindwing white, only the apex and distal margin greyish, often all white. From Mexico to Colombia, Venezuela, and Guiana.

13. Genus: **Scotura** Wkr. (*Cymopsis* Fldr.).

In the forewing the 2nd radial is forked, in running order the 2nd, 5th, 3rd, and 5th radials; the 1st cubitus is at least in the ♂ forked, the discoidal cell $\frac{1}{2}$ of the wing at most, the 2nd median nearer to the 1st or midway between the 1st and 3rd, antennae of ♂ combed. Palpi short.

- transversa*. **Sc. transversa** Warr. (68 k). Blackish-brown forewings with partly lighter veins and a broad yellow transverse band which continues also on the blackish-brown hindwing in a yellow costal-marginal spot before the apex. Beneath the markings are broader and lighter. Guiana.
- contracta*. **Sc. contracta** Dgn. is like *transversa*, but the hindwing is black, only beneath with yellow traces at the cross-vein and in the cell. Expanse 26 mm. Upper Amazon River.
- auriceps*. **Sc. auriceps** Btlr. (68 k). Forewing brown, with lighter veins, a white transverse band, hindwing black with a slight greyish-blue tinge. Head as in *contracta* yellow. Amazons.
- longipalpata*. **Sc. longipalpata** Dgn. Palpi 3 times as long as the head. Forewing black, veins lighter, with a yellow transverse band which ends already on the analis. Hindwing black, in the hindmarginal half with a blue lustre, four fifths of costal margin white. Beneath the band of the forewing traverses the analis, hindwing with a white costal margin and abdominal half. 30 mm. Amazons.
- atelozona*. **Sc. atelozona** Prt. (68 l) is similar to *auriceps* (68 h). The white band of the forewing is narrower, on both sides pointed, reaching neither the costal margin nor the analis. Hindwing with a white central spot. Upper Amazon River.
- ovisigna*. **Sc. ovisigna** Prt. is similar to *Cleptophasia scissa* Warr. (68 i), the spot on the forewing basally to the centre of the wing, oval, extending from the subcosta to the 2nd cubitus. The black margin of the hindwing is less angular at the 3rd median and extends rather straight to the 1st cubitus. Hindmargin feebly dusted with orange. Colombia.
- signata*. **Sc. signata** sp. n. Quite similar to the following, but the hindwing with a narrow whitish central area, similar to that of some races of *nervosa*, but the veins in the forewing not lighter. ♂ type from Thomar (Rio Negro) in the Berlin Museum.
- flavicapilla*. **Sc. flavicapilla** Hbn. (= *pyraloides* Wkr., *uniformis* Mschlr.). Head ochreous, wings uni-coloured brownish-grey, hindwing with a slight steel-blue tinge. Guiana, Venezuela, Amazons.
- soror*. **Sc. soror** sp. n. altogether resembles *flavicapilla*, it is somewhat more elongate, more diaphanous, the head quite uni-coloured grey. Upper Amazon River, ♀ type from S. Paulo da Olivenca (Upper Amazon).
- discolor*. **Sc. discolor** Warr. (68 l) is similar to *soror*, but the forewing with three dark dentate transverse lines. Brazil.
- nigricaput*. **Sc. nigricaput** Dgn. Like the preceding. Forewing quite pale black, hindwing the same, somewhat lighter (It may be that *soror* is merely a light form of this species). Upper Amazon River.
- venata*. **Sc. venata** Btlr. Forewing greyish-brown, veins white, hindwing white, costal margin grey, distal margin broadly blackish-brown, the hind-margin remains white; head orange. Expanse about 30 mm. Amazons.
- nervosa*. **Sc. nervosa** Schs. Forewing grey, veins whitish, hindwing diaphanous white with a black costal margin, distal margin and hind-margin showing a slight steel-blue lustre. Head ochreous. Venezuela. —
- nigrata*. In **nigrata** Warr. from Guiana in the ♂ the white area of the hindwing is covered with blackish hair, in the ♀
- intermedia*. the cross-vein is black; — **intermedia** Warr. resembles the nomenclatural race, but the white central spot of
- leucophleps*. the hindwing does not reach the base. Surinam. — In **leucophleps** Warr. (68 l) the central spot of the hindwing
- retracta*. is tapering and ends right before the distal margin. Central America. — **retracta** subsp. n., from Colombia, has a central area in the hindwing, that is quite retracted and hardly extends distally beyond the cell (♂ type
- distincta*. in the Berlin Museum). — In **distincta** subsp. n., from the Upper Amazon River, the otherwise indistinct border of the central area in the hindwing is distinctly prominent, the central area itself shorter. — In the Peruvian
- peruviana*. race **peruviana** subsp. n. (68 l) the area is distally not tapering, but uniformly broad, with a slight projection at the fork of media and cubitus. (♀ type from Huayabamba in the Berlin Museum). Peru, Bolivia.
- vestigiata*. **Sc. vestigiata** Prt. differs from the otherwise similar *nervosa* in the following marks: palpi less glaringly orange, cell of ♂ forewing shorter, followed on the upper surface by an indistinctly defined whitish spot between the median branches, on the hindwing the posterior margin is narrower black. Expanse 32 to 34 mm. Ecuador.
- longigutta*. **Sc. longigutta** Warr. (68 l). Forewing blackish-brown, veins paler grey, hindwing brownish-black, with a long guttiform white central spot enclosing the distal half of the cell; its distal edge extends from the bifurcation of veins 6 and 7 to the bifurcation of 3 and 4, the lower edge parallel to the upper one along the 2nd cubitus, at the ends rounded off. Forewing beneath with a small white spot distally to the cell, in the hindwing beneath the white spot is broader, pear-shaped, extending narrow to the base, hind-margin pale grey. Head and palpi deep orange. Expanse 30 mm. Upper Amazon River.

Sc. fulviceps *Fldr.* (= *caresa Drc.*) (68 l). Head and palpi orange, wings blackish-brown, forewing *fulviceps*. with 3 white spots, hindwing with a white central area. — In **quadripuncta** *Warr.* on the forewing the spot *quadripuncta*. distally to the cell is divided into two. Amazons, Ecuador. — In **abstracta** *Prt.* the two proximal spots of the *abstracta*. forewing are absent, only the distal one being present; in the hindwing the veins and central spot are partly black. British Guiana, also from Manaos.

Sc. distinguenda *Prt.* is larger than *fulviceps*, expanse 35 to 36 mm, and dark brown instead of black. *distinguenda*. Spots as in *fulviceps*. In the hindwing a hyaline white spot round the posterior half of the cross-vein, otherwise blackish-brown, beneath extended to the base. Upper Amazon River.

Sc. fusciceps *Warr.* Forewing black, veins paler, a whitish spot on the bifurcation of the 3rd median *fusciceps*. and 1st cubitus. Hindwing black, with a whitish central spot from the base to $\frac{3}{4}$ of the wing; posterior edge of cell, 2nd cubitus and bifurcation of 3rd median and 1st cubitus black. Beneath paler black, the light areas more extensive and with a bluish tinge. Head and thorax black (thereby distinguished from *abstracta*). — In **obstructa** *Warr.* the white spot on the forewing above is absent, the white area of the hindwing is broader, *obstructa*. occupying the whole cell. Expanse 30 mm. Upper Amazon River.

Sc. delineata *Dgn.* Palpi black with yellow base, frons and antennae black, antennae basally yellow; *delineata*. vertex black, partly yellow, body otherwise grey. Forewing whitish-grey with black transverse lines: one basally from the costal margin to the analis; a broader one before the centre, slantingly directly distally as far as the cubitus, then narrowing down again proximally to the hind-margin; a postmedian one being straight and parallel to the margin as far as the 1st cubitus, behind it very much distally bent; a broader subterminal one, connected at the apex with the blackish distal margin. Hindwing above and both wings beneath pale blackish-grey. In the ♂ these markings are more indistinct. Expanse 26 to 30 mm. Upper Amazon River.

14. Gattung: **Tithraustes** *Drc.*

Forewing: the 2nd radial forked before the 5th before the 3rd and 4th radials, the 3rd median and 1st cubitus forked, discoidal cell $\frac{1}{2}$ of the wing or a little less, femora not densely haired, antennae in the ♂ combed, wings thinly scaled.

T. chloris *Drc.* (69 a). Forewing black, a hyaline basal streak to the cell-end, beyond the centre *chloris*. of the wing two hyaline bands, neither of which reaches the margin of the wing. Hindwing whitish hyaline, apex, distal margin and hind-margin broad black, beneath the hind-margin is broad whitish-grey. Body black, abdomen beneath white. Ecuador, Bolivia.

T. subalbata *Dgn.* (69 a). Forewing black with a whitish-hyaline basal line, a transverse band of *subalbata*. 4 similar spots, in the direction of the tornus, and 3 small subapical spots which are almost parallel to the discal spots. Hindwing black, about two thirds of costal margin white, a whitish central area covered with minute black hairs, of the same colour is the hind-margin. Forewing beneath with white costal margin and veins at the base, hindwing beneath quite bluish-white; only the cross-vein black, the last third of the costal margin, the apex and distal margin as far as the analis the same. Expanse 24 mm. Bolivia. It may be only a form of the preceding.

T. salvini *Fldr.* (= *noctiluces Btlr.*) (69 a). Forewing black with two whitish basal streaks, 2 discal *salvini*. spots and 1 submarginal spot below the apex. Hindwing black with a whitish, distally expanded central area. Tegulae ochreous. Panama, Costa Rica.

T. eteocles *Drc.* Forewing dark brown, clouded with black, and on the distal margin below the apex *eteocles*. shaded with white, veins pale brown, a large round white spot at the cell-end, a small one close at the tornus, a narrow hyaline basal streak almost to the centre. Hindwing black with a broad hyaline central area. Body dark, tegulae orange. Expanse 37 mm. Guatemala, Nicaragua.

T. butes *Drc.* (= *basalis Warr.*). Forewing black with a whitish basal streak as far as the centre, *butes*. a whitish-hyaline transverse band from the costa to the tornus which it does not reach. Hindwing black with a hyaline central spot. Tegulae orange. Expanse 32 mm. Guatemala, Honduras.

T. longipennis *Schs.* (69 b). Large species with narrow wings. Forewing black with a hyaline basal *longipennis*. streak as far as before the 2nd cubitus, a similar spot distally to the cross-vein, another one before the tornus, a similar submarginal spot below the apex. Hindwing blackish-brown, a basal streak behind the cell, and a spot distally to the cross-vein hyaline. Tegulae orange. Panama, Costa Rica.

T. seminigrata *Warr.* (69 a). Forewing greyish-brown, a broad basal streak as far as the centre of *seminigrata*. the wing, a spot behind the cross-vein, and three submarginal spots whitish-hyaline, one of which is between the 1st and 2nd cubitus, the others on the 2nd and 1st medians. Hindwing whitish hyaline, costa, distal margin and hind-margin, veins and cross-vein black. Expanse 34 mm. Panama and Costa Rica.

- quinquepunctata*. **T. quinquepunctata** Warr. resembles the preceding, the basal stripe of the forewing is shorter, ending below the rise of the 2nd cubitus, the hindmost submarginal spot on the 2nd cubitus. In the hindwing the hind-margin is black, narrower than in *seminigrata*, distal margin broader black. Expanse 40 mm. Panama.
- moerens*. **T. moerens** Warr. Forewing black, basal area hyaline with black veins, a large oblong white spot behind the cell, a small one at the tornus. Two small white spots before the apex beyond the cell. Hindwing with a broad black distal margin and veins, a white spot beyond the cell, and a smaller one below it, beneath
- condensata*. with a whitish basal streak in the cell and in the anal area. — In the form **condensata** Warr. (69 a) the wing is more suffused with blackish, all the white spots are smaller. — Expanse 35 to 37 mm. Ecuador, Colombia.
- haemon*. **T. haemon** Drc. (69 a) is quite similar to *seminigrata*, browner, the submarginal spot on the 1st median is absent. Panama.
- deiphon*. **T. deiphon** Drc. (69 b). Forewing blackish-brown, base somewhat hyaline, a whitish spot behind the cross-vein, a smaller submarginal one on the 2nd median and 2nd cubitus (the latter may be absent). Hindwing hyaline white, apex broad, distal margin and hind-margin black, distal margin deeply indented at the 1st cubitus. Panama.
- esernius*. **T. esernius** Drc. Forewing dark brown, base, a round spot at the cell-end, three small streaks at the apex, and a spot at the tornus hyaline. Hindwing white, apex and distal margin black. Expanse 25 to 30 mm. Costa Rica.
- albinigra*. **T. albinigra** Warr. Forewing at the base as far as $\frac{2}{5}$ white, but veins black, particularly the analis; the distal part black with a large white cell-end-spot, a smaller white spot between the cubital branches and 2 submarginal spots below the apex. Hindwing white, distal margin and hind-margin as well as apex broad black. Expanse 26 mm. Panama.
- pyrifer*. **T. pyrifer** Dgn. Forewing black, veins lighter; at the base a white spot which is anteriorly concave, the distal part of which reaches the centre of the cell, from where it extends slantingly to the posterior margin of the cell, and then rather straight to the hind-margin a little behind the centre. Hindwing in the basal half white, the distal half being black, the white spot distally projecting at the 3rd median. Expanse 23 mm. Colombia.
- caliginosa*. **T. caliginosa** Dgn. Similar to *pyrifer*, but the white basal spot extends farther in front, in the distal end situate right below the costal margin; forewing beneath with a white subterminal spot on the 2nd median. Expanse 25 mm. Ecuador.
- inaequiplaga*. **T. inaequiplaga** Dgn. Forewing black with a postcellular oval hyaline spot and a small subterminal spot between the 2nd and 1st median. Hindwing black with a large white spot which does not reach the base, following the analis posteriorly and being more extensive on the 3rd median; the anterior edge of the spot reaches the base of the costa. Expanse 25 mm. Colombia.
- suffumosa*. **T. suffumosa** Dgn. (69 b). Forewing similar to the preceding, the spot behind the cell indistinctly defined, no subterminal spot. Hindwing black with a white central spot which is distally bordered by the cell, but it crosses it posteriorly and extends to the abdominal margin. Expanse 26 mm. Argentina.
- fulvipalpis*. **T. fulvipalpis** Dgn. Forewing black, veins dusted with yellow, except the branches from the 2nd cubitus to the 1st median, a small oblong white spot behind the cell, extending from the 2nd cubitus to the 1st median, veins beneath not yellow. Hindwing black, basal half white as far as the hind-margin. Palpi below yellow. Expanse 24 to 26 mm. Colombia.
- mirma*. **T. mirma** Drc. (= *semilugens* Warr., *dryas* Dgn.) (69 b). Forewing black, veins partly reddish-brown, basal third white, from the direction of the costal margin at the extreme base more or less blackish, the white area with a distally directed tooth at the 2nd cubitus. At the apex 2 hyaline subapical spots. Hindwing whitish, apex broadly, distal margin and tornus more narrowly bordered with black. Bolivia.
- coniades*. **T. coniades** Drc. Forewing blackish-brown with a triangular white spot on the base of the hind-margin, not reaching the costal margin. Hindwing white, only the apex broadly black. Expanse 26 mm. Ecuador.
- aliena*. **T. aliena** Dgn. (69 b). Forewing blackish-brown, veins somewhat yellowish, on the hind-margin a white spot the apex of which is in front at the subcosta, and an orange subapical spot. Hindwing white, distal margin broadly black, hind-margin dusted with blackish. Bolivia, Pern.
- latialbata*. **T. latialbata** Prt. is very similar to *erymas*, palpi whitish, not orange. Distal margin of forewing more abrupt, the veins more intensely orange, the white band broader ($3\frac{1}{2}$ to 4 mm). Hindwing at the hind-margin broader black, the irroration extending to the cell. Expanse 27 mm. Ecuador.
- nervosa*. **T. nervosa** Edw., according to the description, entirely corresponds with *latialbata*. Colour of palpi yellow, towards the tips blackish. The white spot of the forewing is broader than in *erymas*. Mexico.
- erymas*. **T. erymas** Drc. Forewing brown, veins at the base whitish, with a white discal spot, anteriorly extending to the costal margin, posteriorly to the analis and there often expanded; before the apex an orange spot. Hindwing white, apex broadly, distal margin more narrowly black. Hind-margin dusted with blackish, not extending to the analis. — In the form **albifera** Warr. (69 b) the white spot of the forewing is not parallel-margined as in the nomenclatural form, but posteriorly expanded like a club. Panama, Costa Rica. — In

undulata *subsp. n.* the white spot is at the costal margin itself broader, then somewhat narrower and likewise *undulata*, posteriorly club-shaped, the proximal border of the black border at the distal margin of the hindwing is undulate. Brazil, ♀-type from Blumenau in the Berlin Museum.

T. bialbifera *Warr.* (69 c). Forewing blackish-brown, veins yellow; a broad white band extends from *bialbifera*, the costal margin before the centre to the analis shortly before the tornus, a yellow subterminal spot on the 2nd median. In the ♂ the band is shorter and narrower, strangulated on the anterior edge of the cell, and the subterminal spot is hardly visible. Hindwing white, hind-margin broadly, distal margin more narrowly black, in the centre still more narrowed. Beneath the hind-margin is white. Expanse 30 mm. Ecuador.

T. cistrinoides *Dgn.* Forewing blackish-brown, veins yellowish; a white discal spot extends from the *cistrinoides*, costa to the tornus and terminates already before the analis; a subapical spot is likewise white. Greatest part of hindwing white, black are only the apical region as far as below the 2nd median, the distal margin from the 1st cubitus to the tornus, and the feebly irrorated hind-margin. Expanse 26 mm. Colombia.

T. creon *Drc.* Forewing brown, veins yellowish, a discal band as in *erymas*, but centrally strangu- *creon*, lated so that 2 spots are formed. Subapical spot absent. Hindwing white, apex broadly black, the black border towards the tornus entirely narrowed down. Expanse 28 mm. Costa Rica.

T. halesius *Drc.* Forewing pale brown, clouded with a darker shade, veins pale yellow, a yellow- *halesius*, ish-white spot at the cell-end, which often lacks the ♀. Hindwing white, in the ♂ the apex is white, in the ♀ the whole distal margin. Expanse 28 to 30 mm. Costa Rica.

T. crypsispila *Warr.* (69 c). Forewing blackish-brown, veins finely yellow, an indistinct pale spot *crypsispila*, distally to the cross-vein. Hindwing white with a broad black apex and distal margin, in the centre of the latter narrower. Hind-margin dusted with blackish. Expanse 33 mm. Panama.

T. cistrina *Drc.* Forewing brown, veins and a subapical spot yellow, a white transverse band from *cistrina*, about the centre of the costa; hindwing white, at the apex and distal margin broadly black. Expanse 38 mm. Ecuador.

T. cleator *Drc.* Forewing as in *cistrina*, hindwing black. Expanse 32 mm. Ecuador. *cleator*.

T. nator *Drc.* Forewing brown with yellow veins and a yellowish subapical spot; a yellowish-white *nator*, zigzag-band from the centre of the costa to the hind-margin. Hindwing brownish-white, with a broad dark brown border, the hind-margin broadly dusted with brown. Expanse 45 mm. Colombia.

T. albitumida *Dgn.* Forewing blackish-brown, veins yellow almost as far as the distal margin, a *albitumida*, transverse band beginning below the centre of the costa, proximally bordered by the cross-vein, terminating on the 2nd cubitus or right behind it; a likewise white subterminal spot on the 2nd median, two white longitudinal streaks near the base in and behind the cell. Hindwing brown with a white central triangle the apex of which is situate between the two cubital branches near the distal margin, the hind-margin being sometimes white. Veins black, distally ending in yellow dots which may also be absent. Veins beneath white, hindwing more extensively white. 34 to 38 mm. Ecuador, Colombia, Peru. A variable species.

T. augustimacula *Dgn.* Forewing brown with yellow veins, a white spot behind the cell between *augusti-* the 3rd and 1st median, a similar streak near the base above the analis. Hindwing greyish-brown, with a *macula*, white cellular spot extending to about $\frac{2}{3}$ of the wing, beneath another white spot near the base behind the cell. Expanse 44 mm. Colombia.

T. thanatos *sp. n.* (69 c). Basal half of forewing white, but the base blackish-grey, distal half blackish- *thanatos*, grey with partly sulphur-coloured veins and an orange subapical spot. Hindwing white with a black distal margin and a slightly blackish-dusted hind-margin. ♂ type from Cuzco in the Coll. SEITZ. Expanse only 22 mm.

T. demades *Drc.* Forewing pale brown, veins lighter with 3 indistinct, darker blackish transverse *demades*, bands and 3 dingy white streaks near the apex. Hindwing pale brown, somewhat hyaline at the base. Expanse 32 to 38 mm. Guatemala, Panama. — This species differs from *nigri-fascia* *Her.* in the transverse bands being blackish instead of brown, the discal band projects at the cross-vein towards the base, whilst in *nigri-fascia* it extends uniformly.

T. albilinea *Schs.* Forewing dark brown, veins brownish-yellow, with a white median stripe which is *albilinea*, bent inwards at the 2nd cubitus and angular behind the analis. Before the distal margin a greyish-brown shadow. Hindwing thinly smoky-brownish, veins finely yellow, a yellow space below the cell from the base to before the centre. Expanse 39 mm. Costa Rica.

T. maxima *Drc.* (69 c). Forewing brown, with a pale brownish transverse line across the cross-vein *maxima*, from the costal margin to the analis and a similar subterminal zigzag line. Veins light brown. Hindwing brownish-grey, turning hyaline towards the base. — The form *fumosa* *Warr.* is dark olive-coloured, a yellow spot *fumosa*, being indistinct in the nomenclatural form at the base of the cell of the forewing, the centrally situated transverse line is absent. Panama.

- nigrifascia*. **T. nigrifascia** *sp. n.* (67 k). Forewing somewhat similar to *P. villia* *Drc.* (69 d), the 1st median distantly separated from the radial fork. Forewing brown; base, a transverse band before and one behind the cross-vein dark brown like the distal margin. Veins lighter yellowish-brown. Cross-vein scarcely hyaline, 3 thin white submarginal spots between the 5th radial and 3rd median. Hindwing thinly blackish, basally somewhat lighter, hyaline. Beneath the forewing is grey, the discal spot indistinct, the submarginal spots distinctly white. Hindwing as above. Otherwise like *demades*; patria unknown. ♂♀ types in the Berlin Museum (from STAUDINGER & BANG-HAAS).
- phaëton*. **T. phaëton** *Schs.* (69 c). Forewing blackish, veins paler, 1st cubitus to the 4th radius behind the cell whitish, with a white subapical band from the 3rd median to the 4th radius, divided into spots by the veins. Hindwing black, a white basal spot in and before the cell, costal margin narrowly, distal margin more broadly, and hind-margin as far as the cell black. In the ♀ there is only a small white spot beyond the cell of the forewing. The ♂ exhibits on the forewing a stridulation-organ in the shape of a deep groove and has therefore a very short cell. Expanse 34 mm. Costa Rica.
- submaxima*. **T. submaxima** *sp. n.* (69 h). Forewing brown, clouded with blackish, veins yellowish-brown, an indistinct hyaline spot on the cross-vein, and an indistinctly defined yellowish-white subapical band between the 4th radial and 3rd median. Hindwing thinly black, a hyaline spot on both sides of the cross-vein; beneath the forewing shows a white discal and subapical spot, whilst on the hindwing the whitish-hyaline discal spot is extended to the base. Cell of forewing the length of less than half the wing. ♀ type from Chiriqui in the Berlin Museum.
- mexicana*. **T. mexicana** *sp. n.* (69 c). Cell of forewing in the ♂ very much shortened, habitus similar to that of *Pol. draudti* (69 d), but the forewing lacks the traces of the light submarginal band, the white discal spot is situate before the centre, proximally to it blackish irroration, a whitish hyaline subapical spot. Hindwing similar to *draudti*, the black distal margin is broader, the white spot extends to the 2nd cubitus and contains the cross-vein on its proximal side. In the forewing beneath the white subapical spot of the forewing is quite distinct. Mexico. ♂ type from Orizaba in the Coll. DRAUDT.

15. Genus: **Polypoetes** *Drc.*

Separated from the preceding genus by the 1st median rising nearer to the radius than the 2nd median. Wings mostly more densely scaled. As there are transitions to both genera, it would be better to combine these two genera.

- mesitana*. **P. mesitana** *Dgn.* (69 c). Forewing blackish-brown, veins finely yellow, a whitish hyaline spot behind the cell, hindwing blackish with a similar spot which, however, is proximally prolonged and partly fills up the cell, not posteriorly extending beyond it. Beneath at the costal margin and hind-margin of the forewing a bluish-white basal stripe, in the hindwing the white spot extends to the costal margin, the whole hind-margin as far as the cell and distal margin is bluish-white. Colombia.
- etearchus*. **P. etearchus** *Drc.* (= *cethegus* *Schs.*) (61 d) differs from the preceding in the discal spot of the forewing being more indistinct, the base likewise somewhat hyaline, the veins broader yellow; in the hindwing the whitish-hyaline area is posteriorly more extensive, reaching also between the two cubital branches. Forewing beneath not bluish-white, hindwing at the hind-margin as above. Mexico, Guatemala, Panama, Costa Rica.
- approximans*. **P. approximans** *Warr.* (69 d) is an intermediate species between the two preceding ones, the discal spot of the forewing is more indistinctly defined, the hind-margin of the hindwing as in the first species. Beneath the forewing is basally dusted with bluish-white. Hindwing likewise extensively bluish-white as in *mesitana*. Panama.
- satanas*. **P. satanas** *sp. n.* (69 d). Ground-colour and veins as in *mesitana*; but the light discal spot has disappeared and merely shows somewhat through from beneath. Hindwing as in *mesitana*, but the white spot posteriorly traversing the cubitus and 2nd cubitalis. Beneath all the light markings are bluish-white; base of forewing broader white, the black distal margin of the hindwing is narrower than in *mesitana*. Las Jimenez, 2400 ft. ♂ type in the Coll. BASTELBERGER in the Senckenberg Museum at Frankfurt o. M.
- tiznon*. **P. tiznon** *Dgn.* Forewing brownish-black, hindwing with a white central area in the cell. Beneath the forewing shows a bluish-white cellular spot, sometimes also a similar subapical spot, hindwing bluish-white, distal half and hind-margin blackish-brown. Expanse 26 mm. Ecuador.
- draudti*. **P. draudti** *sp. n.* (69 d). Forewing similar to *villia*, but the ground-colour more olive instead of red-brown, veins yellow, no distinct hyaline spot near the base. Hindwing black, much denser than in *villia*, also the base, a decidedly white hyaline spot having the cross-vein in its centre and not traversing the posterior edge of the cell. Beneath in the forewing the veins are only below the apex whitish-grey. Hindwing beneath as above. Size as in *etearchus*. Mexico. ♂♀ types from Misantla in the Coll. DRAUDT.
- eriphus*. **P. eriphus** *Drc.* Forewing brown, veins lighter, a hyaline spot distally to the cross-vein, a straight submarginal band from the 5th radial branch to the tornus. Wings here and there darker clouded. Hindwing greyish hyaline, costal margin, distal margin, and hind-margin broadly black, Guatemala, Panama.

P. villia Drc. (= *longipalpis* Warr.) (69 d) is said to differ from *eriphus* in a hyaline spot being situate *villia*, on the hind-margin near the base. This spot is present in the type, but neither lacks an original specimen of *eriphus* of Druce, because only the wing is damaged there. Both species are therefore probably identical.

P. nubilosa Warr. Forewing greyish-brown, veins finely yellow, a whitish spot at the base of the *nubilosa*, cell, one beyond the cell and a yellow subapical spot. Hindwing white, costal margin narrowly, distal margin broadly black. Beneath the forewing lacks the subapical spot and the yellow veins. Expanse 30 mm. Ecuador.

P. cuatropuntada Dgn. Both wings uni-coloured brown with a yellow spot right behind the cross- *cuatropun-* vein, that of the hindwing being almost twice the size of that of the forewing and of an intenser yellow. *tada*. Beneath as above, but the base is greyish-blue. Expanse 24 mm. Ecuador.

P. deldon Drc. Forewing blackish-brown, veins yellowish, a hyaline spot behind the cross-vein; hind- *delton*, wing blackish, a light spot behind the centre, nearer to the costal margin. Under surface silky white in the hindwing, only the apex brown. Expanse 25 mm. It was bred from dead leaves of the Banana plant. Guatemala.

P. semicoerulea Dgn. Forewing black with 2 white spots, one between the veins 5 and 6, the *semicoeru-* other more distally, between 5 and 4. Under surface basally somewhat lighter whitish. Hindwing black, *lea*, beneath half bluish-white, extending to the hind-margin. Expanse 25 mm. Colombia.

P. luteivena Wkr. (69 d). Forewing blackish-brown with yellow veins, behind the cross-vein an indistinct *luteivena*, greyish-hyaline spot which is beneath larger and, like the base of the wing, yellowish-white. Hindwing black with a white discal spot which does not extend posteriorly beyond the cell, beneath white with a black distal margin not reaching to the tornus and before it being slightly incised. Otherwise entirely like *approximans*, but the hindwing above is more yellowish-white; it may be only a local race. Colombia.

P. subcandidata Dgn. According to the description, the forewing above has no hyaline spot, whilst *subcandida-* the hindwing beneath shows a white round spot between the veins 4 and 6. It may be synonymous with *ta*, *luteivena* or a form of it. Colombia.

P. sublucens Dgn. (69 d). Forewing blackish-brown with yellow veins, hindwing black. Beneath the *sublucens*, forewing is whitish-blue at the base, the hindwing entirely whitish-blue except the distal margin being black as far as the 2nd cubitus, the broadest at the apex. Colombia.

P. nox Drc. (69 e). Forewing black, veins and a subapical spot yellow, hindwing greyish-black, distal *nox*, margin from the apex to the 2nd cubitus jet-black. Beneath the forewing is white at the base and cell-end, the yellow spot as above. Hindwing white, apex broadly black. Expanse 32 mm. Colombia.

P. tenebrosa Warr. (69 e). Forewing dark brown, veins finely yellow, hindwing black. Forewing beneath *tenebrosa*, blackish, base of costal margin and veins on both sides of apex whitish, base of radial branches 3 to 5 forming a spot; hindwing with whitish basal stripes, the longest at the costal margin. Expanse 24 mm. Peru.

P. leucocrypta Dgn. Forewing black with a small hyaline subapical spot, hindwing distally lighter, *leucocrypta*, otherwise also black. Beneath the forewing has a white basal streak, a white round cellular spot and a more distinct subapical spot. Hindwing white, costal margin very narrowly, distal margin very broadly black. Expanse 25 mm. Venezuela.

P. prodromus sp. n. (69 e). Forewing blackish-brown, veins finely yellow, the spot behind the cross- *prodromus*, vein as clear as glass, no subapical spot. Hindwing white, costal margin and hind-margin narrowly, distal margin broadly black, beneath the costal margin and hind-margin are also white. Expanse 22 mm. Bolivia. ♂ type from the Rio Tanampaya in the Berlin Museum.

P. rufipuncta Schs. (69 e). Forewing blackish-brown, veins, particularly basally, finely yellow, a hyaline *rufipuncta*, spot behind the cross-vein, an orange subapical spot; hindwing black, with a hyaline spot behind the cross-vein, proximally continued in a yellow irrorated area as far as the base. Beneath as above, but the forewing with a yellowish-white basal streak, hindwing yellowish-white, distal margin broadly black, at the costal margin and cubitus projecting towards the base. Brazil.

P. intersita sp. n. (69 e) entirely corresponds with *rufipuncta*, except the hindwing above being quite *intersita*, yellow, in it a hyaline spot distally to the cross-vein, the distal margin being broadly, the costal margin and hind-margin narrowly black. Colombia. ♂ type in the Berlin Museum (Nr. 7875).

P. selenia Fldr. (69 f.) Forewing blackish, at the base somewhat lighter; veins yellowish with a dark *selenia*, greyish-hyaline spot behind the cell and an orange subapical spot. Hindwing black with a whitish central area not quite reaching the base, distally extended into three tips and posteriorly extending to the hind-margin. Brazil.

P. obtusa Wkr. (69 e) is entirely like *anipleta* (69 e) and may be only a form of it. The hindwing *obtusa*, has a more uniform white central area without the distal projections, broader, more band-shaped. Brazil.

- exclusa*. **P. exclusa** *sp. n.* (69 e). Forewing blackish-brown, veins and subapical spot yellow, a spot behind the cell dark hyaline; hindwing black, at the base and hind-margin dusted with yellowish, a discal spot is yellow, behind the cross-vein hyaline. Beneath the base of the forewing is yellowish, distal margin black. Colombia. ♂ type in the Berlin Museum.
- aniplata*. **P. aniplata** *Warr.* (69 e) differs from the preceding in the spot behind the cross-vein of the forewing being more clearly transparent and larger, extending to half the distance between the cell and hind-margin. In the hindwing the hind-margin is broad black as far as the cubitus, with traces of white irroration between the veins, otherwise similar to the preceding. Hindwing beneath white, distal margin broadly black with an incision behind the 1st cubitus. Expanse 34 mm. Bolivia.
- clarata*. **P. clarata** *sp. n.* (69 f) is quite similar to *exclusa*, but the hindwing is greenish-white, behind the cell hyaline, the costal margin and distal margin broadly, the hind-margin narrowly black. ♂ type from Cucuta, Venezuela, in the Coll. BASTELBERGER (Senckenberg Museum).
- sirenia*. **P. sirenia** *sp. n.* (69 e). In the forewing the white subapical spot before the end on the 2nd median. Forewing blackish-brown, veins yellow, the whitish-yellow discal spot extends from $\frac{1}{4}$ of the 2nd cubitus almost to the costal margin and is centrally strangulated, a white subbasal spot on the axillaris. Hindwing yellowish-white, apex broadly and distal margin black, hind-margin dusted with blackish. Bolivia. ♂ type from the Rio Songo in the Berlin Museum. Distinguished from *Tithr. albitumida* by the broader black distal margin of the hindwing.
- circumfumata*. **P. circumfumata** *Warr.* (69 f) resembles *obtusa*, but in the hindwing the whole hind-margin as far as the cell is irrorated with blackish, with a white streak in the anal fold. In the forewing the spot behind the cross-vein shows dark irroration. Expanse 20 mm. Venezuela.
- fenestrata*. **P. fenestrata** *sp. n.* (69 f) is like the following, the spot behind the cross-vein is quite hyaline. Bolivia, Peru. ♂♀ types from the Rio Songo in the Berlin Museum.
- haruspex*. **P. haruspex** *Drc.* (69 f). Forewing blackish-brown with yellow veins, the basal third and a spot behind the cross-vein lighter, though not hyaline, but beneath white. Subapical spot orange. Hindwing white, apex and distal margin black. Panama.
- evanescens*. **P. evanescens** *sp. n.* (69 f) is like *haruspex*, the basal area of the forewing is more distinctly defined, beneath and above the light spot at the cross-vein is absent, the margin of the hindwing particularly at the apex is broader black. Bolivia, Peru. ♂♀ types from Coroico and Bueyes in the Berlin Museum.
- nigribasalis*. **P. nigribasalis** *sp. n.* (69 g) entirely resembles *evanescens*, but the hindwing is at the base and costal margin above black. Venezuela. ♂ type from Merida in the Berlin Museum.
- colana*. **P. colana** *Drc.* Forewing blackish-brown, veins and subapical spot yellow. Hindwing white with a black distal margin and grey hind-margin. Forewing beneath as above, but the base is white. Expanse 23 mm. East Peru.
- albiscripta*. **P. albiscripta** *Dgn.* (69 f). Wings black, veins particularly on the forewing finely white; forewing with a white spot behind the cross-vein and a similar subapical spot which is somewhat tinted yellow in the ♀. Hindwing with a white spot which is small in the ♂ and situate outside of the cell, whilst in the ♀ it extends into the cell. Beneath it occupies the whole cell and expands as far as the base and along the hind-margin to the distal margin and on $\frac{2}{3}$ of the costal margin. Expanse 26 mm. Peru.
- integra*. **P. integra** *sp. n.* differs from *albiscripta* (69 f) in the yellow and subapical spot on the forewing, whilst in the hindwing the white irroration below behind the cell only extends to the analis. Peru. ♂ type from Callanga in the Berlin Museum. Expanse 28 mm.
- picaria*. **P. picaria** *Warr.* (69 g). Wings blackish-brown, veins of forewing yellow or white, forewing with a white basal spot in and behind the cell, the latter spot extending to below the rise of the 2nd cubitus, a white discal spot and subapical spot. Hindwing dark hyaline-grey, with a black distal margin and a round white spot distally to the cell. Beneath the costa of the hindwing is narrowly white, the discal spot is prolonged to the base and expands between the cell and axillaris. Peru, Marcapata. — In **cryptophleps** *subsp. n.* the veins are only distally distinct, the white markings of the forewing are less extensive, in the hindwing the white discal spot is also above expanded towards the base which, however, it does not reach, and extends towards the hind-margin as far as the analis. Beneath also the hind-margin and the narrow stripe below the hind-margin are white, in *picaria* black. Peru, Vilcanota. 2 ♂♂ in the Berlin Museum.
- trimacula*. **P. trimacula** *Warr.* (69 g). Forewing brownish-black, veins paler, base white, in the cell hyaline, a short black basal streak on the cubitus and analis. A hyaline spot behind the cross-vein, parted by the dark veins, a white tridentate subapical spot at the radial fork. The veins on a submarginal line broader and paler. Hindwing white, distal margin broadly, costal margin and hind-margin narrowly black. Colombia.
- exclamationis*. **P. exclamationis** *sp. n.* Forewing brown, in the cell black, veins yellow. Behind the cell a white basal streak as far as the 2nd cubitus, partly extending beyond the analis, behind the cross-vein a white oval spot. Hindwing white, costal margin narrowly, distal margin broadly black; the fringe at the hind-margin is also black. Forewing beneath without yellow veins, hindwing with $\frac{2}{3}$ of the costal margin white. Bolivia. ♂ type from Mapiri in the Berlin Museum.

P. bistellata Dgn. (69 g). Forewing blackish-brown, with a white basal streak behind the cell, a *bistellata*, white discal and subapical spot. Hindwing black with a large oblong white cellular spot extending yet beyond the cell. Expanse 28 mm. Argentina.

P. vidua Warr. differs from *bistellata* (69 g) in the veins of the forewing being white or yellow, and *vidua*, the white central spot of the hindwing being much more extensive. Peru.

P. fuliginosa Dgn. (69 g). Wings diaphanous greyish-black, veins of forewing yellow. On the forewing *fuliginosa*, a white spot behind the eubitus, as long as the cell, two small spots distally to the cross-vein; hindwing with 3 similarly situate spots, and the cell partly white; hindwing beneath about two thirds white. Expanse 26 mm. Bolivia, Peru.

P. mara sp. n. (69 g) is similar to *fuliginosa*, in the forewing the veins are darker, black; only the *mara*, white spots behind the cross-vein are present. Hindwing only behind the cross-vein very indistinctly lighter. Forewing beneath as in *fuliginosa* above, hindwing with a thinly whitish-irrorated basal stripe in the cell and a similar one behind the cell as far as $\frac{4}{5}$ of the wing. Expanse 21 mm. Peru. ♂ type from Vilcanota in the Berlin Museum.

P. dynastes sp. n. (69 g). Forewing blackish-brown, veins and a large subapical spot orange, a spot *dynastes*, behind the cross-vein hyaline. Hindwing black with a yellowish-white median band which anteriorly does not extend beyond the 1st median, so that the base, costal margin and distal margin remain broad black. Hindwing beneath yellow, only the distal margin broad black, at the 2nd eubitus proximally projecting. Expanse 34 mm. ♀ type from Novo Friburgo in the Berlin Museum.

16. Genus: **Phryganidia** Pack.

Closely allied to *Polypoetes*, but the cell of the forewing longer, wings more scantily scaled. The only nearctic genus of the family. The larva of *Ph. californica*, by its habitus, resembles a Noetuid larva, it is bare and possesses an enlarged 12 th segment; the anal feet are less chitinous than the ventral feet and divergent.

Ph. californica Pack. (69 h). Wings light grey, veins darker, behind the cross-vein of the forewing, *californica*, often indistinct, three yellowish spots. California.

Ph. naxa Drc. (69 h). Wings less coarsely haired, more elongate, forewing brown, hindwing black, *naxa*, Guatemala.

17. Genus: **Stenoplastis** Fldr. (*Momonipta* Warr.).

In the habitus similar to *Polypoetes* in which, however, the ♂ antennae are distinctly combed, whereas in *Stenoplastis* each antennal joint only has a projection set with hair-pencils.

St. persimilis Dgn. Forewing pale brownish-black, in the basal half in the cell and behind it with *persimilis*, hyaline spots, a hyaline spot distally to the cross-vein, extending from the veins 3 to 11, veins for the greatest part yellowish, beneath only at the margin and at the radial fork. Hindwing white, with a broad black marginal band, but on vein 3 a white indentation, only the fringes black. Expanse 31 mm. Colombia: Tolima.

St. semisocia Dgn. resembles the following, the white area of the hindwing is smaller. Forewing black, *semisocia*, veins yellow; white are a basal cellular spot, another between the posterior edge of the cell and axillaris, an oval one distally to the cross-vein, a subterminal line, most distinctly prominent between the two cubital branches. Hindwing black, cell hyaline white, which colour extends from the cubital fork to the subcosta. Forewing beneath uni-coloured pale black, veins not yellow, no subterminal line. Expanse 25 mm. Colombia.

St. jipiro Dgn. Forewing brown with yellowish veins, a whitish-hyaline spot in the cell, at about *jipiro*, $\frac{1}{3}$ of it, another behind the cross-vein, a third on the axillaris, distally to the cellular spot, anteriorly touching the cubitus, and some submarginal crescents. Hindwing white with a broad black distal margin which is not narrower towards the tornus, but broader on the 2nd eubitus towards the base. Ecuador.

St. pellucida Dgn. (69 h) is like *jipiro*, the markings of the forewing smaller and much more contrast- *pellucida*, ing. Colombia. Very similar to *Polypoetes trimacula* Warr (69 g).

St. empheres Prt. Similar to *pellucida* (69 h), but the cellular spot of the forewing is less distinct *empheres*, and more extensive, a yellowish-white basal spot behind the cell, a yellowish subapical spot is mixed with white, the spot behind the cross-vein is smaller, the distal margin of the hindwing posteriorly narrower. Expanse 30 mm. South East Peru.

St. opaca sp. n. (69 h) corresponds with *empheres* in the black distal-marginal band of the hindwing *opaca*, being much narrower towards the tornus. In the forewing all the light spots are reduced, greyish-hyaline, scarcely distinct. The spot at the hind-margin consists here only of two minute dots before and behind the analis, the spot at the radial fork is orange like the veins, the cellular spot almost extends to the base.

The submarginal hyaline crescents between the 1st median and analis. Beneath the hyaline spots are still more indistinct, veins only in the marginal area, but on both wings yellow. Bolivia, at an altitude of 2000 m. ♂ type from San Jacinto in the Berlin Museum.

- eximia.* **St. eximia** Warr. (69 i) likewise resembles *St. jipiro*. Basal area milky white, bordered by a vertical dark spot from the costal margin to the posterior margin of the cell at about $\frac{1}{3}$, another from the latter to the hind-margin at $\frac{2}{5}$. Base from the costal margin and cell smoky grey, of the same colour a streak on each side of the analis. Before the spot behind the cross-vein on each side of the 1st radius some white scales. Hindwing with a black distal margin only from the costal margin to the 2nd cubitus, then only yet the fringes black (beneath white). In the forewing beneath the base, except the costa, is entirely white. Expanse 34 mm. Peru.
- albicuneata.* **St. albicuneata** Dgn. Forewing black, veins yellow, distally to the cross-vein a large white oval spot somewhat irrorated with blackish, being larger beneath, base beneath broadly white. Hindwing at the border black with a white large spot at the base, leaving the costal margin at $\frac{3}{4}$, and slantingly extending almost to the distal margin at the 3rd median and from there to the tornus. Hind-margin irrorated with blackish. Expanse 24 to 27 mm. Colombia.
- rubribasis.* **St. rubribasis** sp. n. (69 h). Forewing black with a yellowish-red basal spot behind the cell and a hyaline spot distally to the cross-vein. Hindwing black, cell milky white, also somewhat behind it; cross-vein black, a round spot behind it hyaline. Forewing beneath without a red basal-streak, base irrorated with whitish, hindwing milky white, distal half of costal margin, distal margin and cross-vein black. ♂♀ types from the Tanampaya, Bolivia, in the Berlin Museum; also from Callanga, Peru.
- carderi.* **St. carderi** Drc. Forewing black with a white basal streak as far as the centre and a white transverse spot behind the cross-vein. Hindwing white, distal margin as far as the tornus broad black. Expanse 32 mm. Colombia.
- flavibasis.* **St. flavibasis** sp. n. (69 i). Forewing black, veins finely yellow, a club-shaped spot at the base behind the cell and a spot distally to the cross-vein yellow. Hindwing hyaline white, distal margin broadly black, base and hind-margin irrorated with blackish. Beneath in the forewing the basal streak is white, the veins are not yellow, in the hindwing only the distal margin is black. ♂ type from Pozuzo in the Coll. A. SEITZ.
- albiplaga.* **St. albiplaga** Warr. Forewing black with 2 white basal streaks, before and behind the analis, the anterior one being broader, in front bent and at both its ends pointed, a white bent spot distally to the cross-vein. Hindwing white, distal margin broad, in the centre narrower, black; hind-margin broadly irrorated with smoky grey. Expanse 34 mm. Colombia.
- subcoerulea.* **St. subcoerulea** Warr. Forewing brownish-black, a silvery white basal streak behind the cell, distally expanded and rounded off, extending to $\frac{2}{5}$ of the forewing, a hyaline-silvery spot behind the cross-vein. Hindwing with a whitish-hyaline central area, base darkened. Costal margin narrowly, apex and distal margin as far as the 3rd median broadly black, the whole hind-margin as far as the posterior edge of the cell likewise black. The black markings of the costal margin and hind-margin are beneath bluish-white. Expanse 30 mm. Panama. — In *felderi* Prt. (69 i) the veins of the forewing are finely yellow, the white basal streak is absent; in the hindwing the white spot is often smaller. Expanse 33 to 35 mm. Colombia.
- subcaesia.* **St. subcaesia** Prt. (= *subcoerulea* Dgn.). Wings black, forewing with a white, oblong, hyaline spot behind the cross-vein, beneath at the base whitish-blue. Hindwing beneath in the basal half whitish-blue, across the whole cell as far as the tornus. Expanse 28 mm. Colombia.
- subalba.* **St. subalba** Wkr. Forewing brownish-black, veins yellow, beneath the base is white. Hindwing above brownish-black, beneath white, except the apex. Venezuela.
- satyroides.* **St. satyroides** Fldr. (69 i). Forewing brownish-black with a small greyish-hyaline spot behind the cross-vein, below at the base whitish-blue. Hindwing brownish-black, basal half for the greatest part whitish-blue, this colour projecting less distally at the cell, more distally behind it. Colombia.
- aterrima.* **St. aterrima** Dgn. Forewing jet-black, veins finely yellow, 2 small hyaline spots distally to the cross-vein between the veins 3 to 6. Hindwing jet-black, in the cell a white longitudinal stripe, traversing the cell but little, extreme base black; in the ♂ the cell is traversed only behind the cubitus, in the ♀ at the veins 2 and 7. Veins black. Forewing beneath besides with a white basal streak behind the cell. Hindwing beneath with a much expanded white stripe. Expanse 25 (♂) to 28 (♀) mm. Colombia.
- flavinigra.* **St. flavinigra** Dgn. Wings black with a very broad yellow transverse band which is broader on the forewing behind and on the hindwing neither reaches to the distal margin nor to the tornus. Forewing beneath at the base yellowish, hindwing with the yellow band as far the tornus. Expanse 21 to 23 mm. Colombia.
- unifascia.* **St. unifascia** sp. n. Uni-coloured blackish-brown, in the forewing the veins are basally finely yellow, a pale yellow, centrally strangulated, posteriorly club-shaped band extends from $\frac{1}{2}$ of the costa to the tornus, but terminates already on the fold. Beneath this band is broader, uniformly widening hindwards and bent, veins not yellow. Size as in *rubribasis*. Bolivia. ♂ type from Cillutincara (3000 m) in the Berlin Museum.

St. decorata Dgn. Forewing black with a yellow basal stripe as far as $\frac{1}{2}$ of the wing and a similar *decorata*, transverse band from the costal margin to behind the 1st cubitus. Hindwing black with an oblong yellow spot distally to the cell below the costal margin. Forewing beneath at the base bluish-white, the hindwing bluish-white in the basal half and beyond it. Expanse 25 to 29 mm. Colombia.

St. coras Drc. (= *biplaga* Dgn.). Forewing blackish-brown with a broad white basal streak behind *coras*, the cell and a white spot distally to the cross-vein. Hindwing with a white streak in the cell, distally prolonged and expanded across it, but not reaching the distal margin. A narrow and short postcellular streak. Forewing beneath with a white basal streak, otherwise as above, hindwing beneath more extensively white. Expanse 21 to 23 mm. Ecuador. — In **flaviplaga** Dgn. the white markings are yellow, those of the hindwing *flaviplaga*, larger. 20 to 22 mm. Colombia. East Ecuador.

St. aborta Dgn. Forewing pale black, the space behind the cell as far as the rise of the 2nd cubitus, *aborta*, the base of the cell, and a large spot distally to the cross-vein are whitish hyaline. Hindwing hyaline white, with a pale black distal margin, narrowing down towards the tornus, at the hind-margin some black hairs. Expanse 21 to 22 mm. Colombia.

St. grandimacula Dgn. Forewing blackish-brown, veins paler. A white spot slightly irrorated with *grandima-* grey on the outside of the cell, a pale basal streak at the cell, beneath all the markings are more distinctly *cula*, white and larger. Hindwing brown with a white central spot, beneath all white, only a pale stripe at the costal margin and a broader one at the distal margin are black. Expanse 26 to 29 mm. Bolivia.

St. euchonthoides Prt. (69 i). Forewing blackish-brown, veins yellowish, a yellowish-white spot behind the *euchonthoi-* cross-vein strewn with darker scales. Hindwing pale brown, at the base irrorated with a darker colour, margins *des*, blackish-brown, particularly broad the hind-margin. Forewing beneath similar, often yet with a light basal streak, hindwing beneath centrally whitish. The yellowish-white colouring of the hindwing is very variable, often also above very extensive. Bolivia. Peru. — In **lactigera** *subsp. n.* from the Chanchamayo all the mar- *lactigera*, kings are snow-white instead of yellowish-white and very hyaline. ♂ type in the Berlin Museum.

18. Genus: **Euchontha** Wkr.

Distinguished by the cell of the ♂ forewing occupying only $\frac{1}{4}$ of the wing.

E. clareta Dgn. (= *memor* Warr.) (69 i). Forewing brownish-black, veins paler, a broad, slanting, *clareta*, white transverse band from the costal margin to the analis before the tornus, a small white subapical spot parted by the vein. Hindwing greyish-brown, apex darker, costal margin whitish, veins paler. Expanse 30 mm. Peru.

E. commixta Warr. (= *chilion* Drc.) (69 i) is similar to the preceding, forewing at the transverse *commixta*, band only greyish hyaline, hindwing white, base grey, with broad black margins. Beneath in the forewing the median spot extends to the base. Expanse 32 mm. Peru, Bolivia.

E. ciris Drc. (= *ciris* Dgn.). Forewing black, veins black in the otherwise white basal third. A white *ciris*, double spot before the apex and a similar one above the tornus. Hindwing white, distal margin broadly black. Expanse 28 mm. Ecuador.

E. frigida Wkr. (= *sublactigera* Wkr., *albimacula* Warr.) (69 k). Forewing basally white, with blackish- *frigida*, brown veins (except the 2nd median). Apical half blackish-brown with a white subapical transverse band, hind-margin blackish-brown. Hindwing white in the central area a similar subapical spot, otherwise blackish-brown. Colombia, Ecuador. — In **longinervis** Fldr. also the 2nd median in the forewing is broadly blackish- *longinervis*, brown. Guiana, Amazons, Peru.

E. castrona Schs. is like the preceding, hindwing quite blackish-brown, beneath paler grey with dark *castrona*, veins. South East Brazil.

19. Genus: **Ceraeotricha** *gen. nov.*

Antennae of the ♀ only with cilia; in the forewing the 2nd to 5th radials are forked, the 2nd rising before the 5th before the 3rd and 4th. The 1st median nearer to the 2nd than to the radial ramus, the 1st cubitus often nearer to the 3rd median than to the 2nd, in the hindwing the radial ramus and 1st median are forked, the 3rd median and 1st cubitus separated. Posterior angle of cell far produced. Type of the genus: *G. cuneifera* Dgn.

G. cuneifera Dgn. is extremely to *Xenom. pallinervis* Fldr., but the hindwing is uni-coloured quite *cuneifera*, light brownish hyaline, in the forewing the white basal spot is absent, between the cell and axillaris a uniformly white stripe instead of two spots; ground-colour of forewing red-brown, distal margin and hind-margin wood-coloured brown, behind the cell a white slanting stripe proximally extending from the rise of the 2nd cubitus to the axillaris, behind the cross-vein a white, centrally hyaline spot, before the light distal margin a white crescentiform line. Colombia. Described by WEYMER in „Stübels Reise“ on p. 42 No 28 as *Stenoplastis pallinervis* Fldr.

20. Genus: **Phanoptis** Fldr.

In the forewing the 1st cubitus is not forked, nor in the hindwing, where it rises distantly separated from the 3rd median. Wings mostly very hyaline.

cyanomelas. **Ph. cyanomelas** Fldr. (70 d). Forewing as clear as glass, with a black costal margin, distal margin and hind-margin and 2 transverse bands and all the veins being black. Hindwing hyaline, veins, costal margin and distal margin broadly black. All the wings iridescent blue. Costa Rica, Colombia, Ecuador.

taxila. **Ph. taxila** Drc. is similar to the preceding, but with only one transverse band across the forewing. Expanse 45 mm. Colombia.

fatidica. **Ph. fatidica** Dgn. Wings black with a blue lustre, the forewing with a whitish hyaline transverse band distally to the cell from the subcosta to the 1st cubitus. Expanse 39 mm. Peru, Venezuela.

vitrina. **Ph. vitrina** Drc. (70 c). Forewing blackish-brown, with a slight blue reflection, with a hyaline, black-veined triangle at the base between the anterior edge of the cell and the axilaris as far as $\frac{4}{5}$ of the wing, and a hyaline, partly white-scaled discal transverse band and some subapical spots. Hindwing hyaline, costal margin, distal margin and veins black. Panama, Costa Rica.

millorrhabda. **Ph. millorrhabda** Prt. Wings narrower, forewing black with a brownish tinge; a slanting red band of 2 mm width extends from the centre of the costal margin to the 2nd cubitus right before the margin, the 1st radius, radial ramus and 2nd cubitus black, a bent row of 3 hyaline dots between the 5th radial and 3rd median. Hindwing black with a brown tinge. Peru: Chanchamayo. It copies *Actinote erinome* Fldr. (Vol. V. pl. 81 a) and *Eresia castilla* Fldr. (Vol. V. pl. 92 e).

21. Genus: **Authyala** Warr.

Corresponding with *Phanoptis*, but in the forewing the 1st cubitus is very near to the 3rd median.

obliquaria. **Au. obliquaria** Warr. (69 k). Wings hyaline, veins and margins blackish-brown. In the forewing the hind-margin and subcostal stripe as far as the centre are red-brown. The hind-margin is opposite the latter half of the 2nd cubitus broader. From the costa a black band, enclosing the cross-vein with which it terminates posteriorly, and another from $\frac{3}{4}$ of the costal margin to the distal margin at the 3rd median, where it is widened. Peru.

22. Genus: **Monocreagra** Fldr. (*Tanaostyla* Warr.).

In the forewing the 3rd radial branch rises before the 5th, the cell is of normal size, the wings are hyaline. Antennae ciliated, in the ♂ in tufts.

orthyades. **M. orthyades** Drc. (70 d). Wings hyaline, margins and all the veins blackish, particularly broad the cross-vein, 3rd median and 1st cubitus. Colombia, Ecuador.

pheloides. **M. pheloides** Fldr. (= *dilucida* Warr., *conjunctiva* Warr.) (70 d). Like the preceding, the hyaline space behind the cross-vein is white, the veins therein not darker. Expanse: ♀ 40 to 45 mm. Colombia, Bolivia.

unimacula. **M. unimacula** Warr. Like the preceding, perhaps the southern race of it, smaller (♀ 35 to 40 mm), apical third of forewing more extensively black, the white spot smaller. Bolivia, Peru.

disconnexa. **M. disconnexa** Dgn. Forewing whitish hyaline, costal margin narrowly black, a spot in the last third of the cell and the distal margin broadly black, in the latter 3 white spots between the veins 2 to 6, vein 5 remaining white. Hindwing whitish hyaline, apex and distal margin black. Expanse 25 mm. Colombia.

23. Genus: **Isostyla** Prt.

Radial branches as in the preceding genus, 3rd median and 1st cubitus forked. ♂ antennae with long combs.

zetila. **I. zetila** Bsd. (= *nubila* Schs.) (69 k). Greyish-hyaline wings, veins and margins darker, in the forewing a white transverse spot behind the cross-vein as far as the 1st cubitus, the 3rd median therein white, some whitish subapical spots, and in the hindwing indistinct white submarginal spots. Guatemala, Costa Rica.

erycinoides. **I. erycinoides** Fldr. (= *ithomecina* Btlr.) is similar to *zetila*, but the 3rd median in the forewing is also black. Postdiscal spot smaller, 4 submarginal spots in the forewing. Panama, Costa Rica. — **picata** Warr. (69 k) has all the hyaline places of the wings in the ♂ whitish, in the ♀ like in the ♂ and ♀ of the type *purefacta*. **I. purefacta** Prt. the cubitus and the base of its branches in the forewing are white, the hindwing is almost entirely white, with a narrow distal margin. South Ecuador.

I. intersecta Warr. is extremely similar to the preceding, but the postdiscal spot of the forewing is *intersecta*, traversed by dark veins. The dark discal band before the hyaline spot of the forewing is broad, the hyaline areas are whitish, reduced. Ecuador. — In **biquadrata** Prt. the dark discal band is narrower, in front 1, behind *biquadrata*, 3 mm broad at most, the light areas greyish-hyaline. Colombia.

24. Genus: **Paradioptis** *nom. nov.* (= Eudioptis Prt. nec Hbn. 1816).

In the forewing the 2nd radial rises before the 5th before the 3rd and 4th; the 1st cubitus is forked with the 3rd median in the forewing, whilst in the hindwing they are separate.

P. otanes Drc. (69 k). Forewing black, 2 hyaline basal streaks, a spot at the cell-end, one at the tornus *otanes*, and 2 before the apex are whitish-hyaline. Hindwing hyaline, costal margin and distal margin broadly black, like the veins; an oval cell-end spot is white. Expanse 32 mm. East Ecuador.

25. Genus: **Dioptis** Hbn.

Like the preceding, the 1st cubitus rises forked also in the hindwing.

D. candelaria Drc. (= *vacuata* Warr.). Wings hyaline, margins and veins black, in the forewing *candelaria*, a costal hook, enclosing the cross-vein, and a postdiscal band from $\frac{2}{3}$ of the costa to the rise of the 3rd median black, the area behind it whitish-hyaline without black veins; whitish are besides the space behind the cross-vein before the 1st median and two spots in the hyaline area before the tornus, as well as in the hindwing the distal areas of the hyaline area. Panama. — In **nivea** *subsp. n.* (69 k) the white subapical band is twice as *nivea*, broad (4 mm), posteriorly narrower. Colombia. ♂ type from S. Miguel in the Berlin Museum.

D. pellucida Warr. is quite similar to the preceding, but without white spots on the hyaline areas, *pellucida*. Expanse 48 mm. Colombia.

D. symoides Strd. is said to be very similar to the Pericopine *Hyalurga syma* Wkr. (65 e), but differs *symoides*, in the veins and the broader ($3\frac{1}{2}$ mm) white band of the forewing. Probably near *candelaria*. Expanse 31 mm. Costa Rica.

D. phelina Fldr. (= *pandates* Drc., *impleta* Warr.) (69 l) likewise resembles *candelaria*, but the white *phelina*, subapical spot does not reach the costal margin, extending only to the radius; at the tornus only a white spot, all the dark markings being broader; in the hindwing the space between the 3rd median and 1st cubitus is dark. Colombia.

D. areolata Wkr. (69 l). Wings hyaline, the veins and margins black, forewing with 2 broad black *areolata*, transverse bands, veins before the apex also darker. The hyaline spot before the apex is very small. Expanse 32 mm. Brazil.

D. restricta Warr. (? = *melda* Bsd.) (69 l) is similar to *areolata*, larger, 35 to 44 mm, the veins very *restricta*, fine and bands and margins narrower black, the hyaline areas more extensive. The space between the 1st cubitus and 3rd median is hyaline, in *areolata* dark. Brazil.

D. charila Drc. (69 l) is similar to the preceding, the forewing only with a transverse band, which is very *charila*, broad and oblique and touches the anterior margin of the cross-vein. Guiana, Venezuela, Columbia, Ecuador.

D. onega Bts. (69 l). Forewing hyaline, margins and veins black, two transverse bands, which are *onega*, broadly connected between the 2nd and 3rd medians. Subapical spot broad, white, veins not darker. Hindwing white, distal and costal margins black, above indistinct, beneath with a distinct ochreous line in the margin. Veins finely black. BATES found it flying together with *Leucothyris onega*, which it resembles very much. Upper Amazon River.

D. columbiana *sp. n.* is a species between *onega* and *restricta*. From *onega* it is separated on the *columbiana*, hindwing by the narrow distal margin, which is beneath not filled up with orange; from *restricta* it differs in the first transverse band of the forewing being connected with the second by dark irroration between the 2nd and 3rd medians. Expanse 32 mm. The species was captured by STÜBEL and later on denoted as *D. phelina*, but the latter has in the hindwing a dark band at the 1st cubitus, which fills up the bifurcation. Colombia. ♂♀ types from Llanos de S. Martin in the Berlin Museum.

D. pallene Drc. (70 a). Forewing blackish-brown, in the posterior half of the cell and behind it as *pallene*, far as the 2nd cubitus white hyaline, divided dark by the analis, a broad white subapical band and a white spot between the cubital branches. Hindwings hyaline, veins and margins black, distal margin with an orange line. Expanse 38 mm. Ecuador, Peru.

D. stenothyris Prt. is similar to *pallene* (70 a), in the forewing the subapical band is narrower, another *stenothyris*, white dot at the anterior end of the cross-vein, sometimes also two. Rio Madeira, Upper Amazon River.

- dentistriga*. **D. dentistriga** *sp. n.* (70 a) is similar to *stenothyris*, the veins in the subapical band of the forewing are partly black, the yellow marginal stripe of the hindwing only half as broad, distally with some projecting teeth. ♂ type from the Jurimaguas in the Berlin Museum.
- leucothyris*. **D. leucothyris** *Btlr.* is similar to the preceding, the spot behind the cross-vein about as large as that at the tornus. Subapical stripe black-veined. 35 mm. Amazons.
- tessmanni*. **D. tessmanni** *sp. n.* (70 a). The white subapical band of the forewing extends posteriorly curved to the 2nd cubitus, the 1st cubitus is not broadly black. Between the subapical band and the hyaline cellular area scarcely lighter beyond the cross-vein. Hindwing as in the preceding. East Peru, discovered by G. TESSMANN. ♂ type in the Berlin Museum. — In *opaca* *subsp. n.* (70 a) the subapical band is densely creamy-yellow, the orange band of the hindwing is more remote from the margin (1 mm). ♂ type from the Ucayali in the Berlin Museum.
- roraima*. **D. roraima** *Dre.* Forewing behind the cross-vein with a hyaline band parted dark by the veins, and a white subapical stripe, at the tornus an angular orange stripe running anteriorly and proximally. Hindwing as in the preceding. 44 mm. Guiana.
- trillii*. **D. trillii** *Btlr.* (= *fatima* *Mschlr.*) (70 b) is like the preceding, without yellow marking at the tornus of the forewing. Venezuela, Guiana, Amazons.
- angustifascia*. **D. angustifascia** *sp. n.* (70 a). Forewing as in *trillii*, subapical stripe broader, veins therein not black; in the hindwing the orange subapical stripe is only half a mm broad. ♀ type from Iquitos in the Berlin Museum.
- cyma*. **D. cyma** *Hbn.* (70 b). Forewing with 2 or 3 yellow spots below the costal margin, being the beginning of the otherwise white subapical band of which only the posterior part remains white here. Otherwise altogether similar to the preceding. Amazons. It is reported to fly together with the similar *Hypoleria cyma* (Vol. V, pl. 41 a).
- paracyma*. **D. paracyma** *Prt.* is like *cyma*, but in both the bands the veins are not black, except the 3rd median and 1st cubitus and the space between them. Rio Madeira, Surinam.
- aeliana*. **D. aeliana** *Bat.* Forewing black, a longitudinal stripe in and behind the cell, a spot behind the cell and one at the tornus and a subapical stripe are hyaline. Hindwing reddish-brown with a narrow black border and traces of a black discal band. It flies together with the similar *Ithomia aelia* (Vol. V, pl. 37g). Amazons.
- cheledonis*. **D. cheledonis** *Dre.* (70 b). The greater part of the forewing is hyaline, the costal margin and hind-margin are partly ochreous, the distal margin, a hook on the cross-vein and a transverse band behind it are black, the latter at the 1st cubitus broadly connected with the distal margin, which is filled up with ochreous before the apex. Hindwing similar to that of the preceding. Expanse 50 mm. Ecuador.
- proix*. **D. proix** *Prt.* is similar to *cheledonis*, smaller (40 to 43 mm); subapical area of forewing without, hind-margin with but scanty red-brown irroration, the yellowish stripe at the costa is absent. The space between the cross-vein and transverse band is darker, the white subapical band smaller. The spot at the tornus is smaller. Peru.
- incerta*. **D. incerta** *sp. n.* (70 a). Similar to *proix*, but smaller; the hyaline areas less extensive, only in the posterior half of the cell and behind it as far as the axillaris and between the cubital branches. The subternal spot is small, white like the 2 mm broad subapical band. Behind the cross-vein, an indistinct, hyaline post before the 3rd median. *Pallene* (70 a) has a steeper white band, other similar species are without the hyaline space between the cubital branches. Expanse 36 mm. ♂ type from the Rio Pachitea. East Peru (G. TESSMANN).
- uniguttata*. **D. uniguttata** *Warr.* (= *quirites* *Dre.*). Forewing hyaline, costal margin and hind-margin and veins black, at the apex $\frac{2}{5}$ black, containing a white band extending from $\frac{2}{3}$ of the costal margin to the 3rd median; there is a round white spot above the tornus. The anterior half of the cell and the cross-vein are black, behind the latter three hyaline dots the foremost of which is white. Hindwing as in the preceding. Expanse 40 mm. Colombia. Separated from *pallene* (70 a) by the whole space between the 3rd median and 1st cubitus of the forewing being black.
- meon*. **D. meon** *Cr.* (= *beroea* *Mschlr.*). Forewing extensively blackish-brown, hyaline are only a stripe in and behind the cell and a white transverse band behind the cross-vein, which extends from the radius to the 2nd cubitus and is angular at the 3rd median. Hindwing with a broader blackish-brown distal margin. Guiana.
- charon*. **D. charon** *Dre.* Forewing blackish-brown, in and behind the cell hyaline, the cross-vein and 2nd cubitus black, behind it a very narrow light space, then the apical third dark with a white, 3 mm broad transverse band from the costal margin to the 2nd cubitus. Hindwing with black veins and distal margin, containing a red-brown line as in the preceding species. Expanse 38 mm. Bolivia.
- indentata*. **D. indentata** *sp. n.* (70 a) differs from *charon* in the 2nd cubitus of the forewing being not broadly black, the light area behind the cross-vein is as broad as the white band which is here $1\frac{1}{2}$ mm broad at most and proximally dentately bordered at the veins, otherwise like *charon*. Expanse 28 mm. ♂ type in the Berlin Museum from the (?) Amazon River.

D. peregrina *sp. n.* (70 b). Likewise similar to *charon*, 2nd cubitus broadly black, but the subapical *peregrina*, band in the ♂ is more oblique and narrower (1 mm, in the ♀ 2 mm), posteriorly pointed. The two anterior spots behind the cross-vein in the ♂ are whitish. ♂ (type) and ♀ from Ueayali in the Berlin Museum.

D. ileridina *Bts.* (= *herdina* *Wkr.*) (70 b) is separated from the preceding by the hyaline area behind *ileridina*, the cell of the forewing being more or less irrorated with white. The subapical band extends to the cell and is broad. Hindwing similar to those of the preceding, veins for the greatest part white. Amazons. — In **curvifascia** *Prt.* from the Rio Madeira the narrower subapical band is posteriorly very much bent, in **nigrivenis** *subsp. n.* *nigrivenis*, (70 c) the veins in the hindwing are black, the forewing as in *ileridina*. ♂ type from Sarayacu in the Berlin Museum. Ecuador, Bolivia.

D. zarza *Dgn.* (= *vitrifera* *Warr.*, *albifasciata* *Drc.*) (70 c). Forewing black in and behind the cell, *zarza*, distally beyond the 2nd cubitus hyaline, with a white subapical band. Hindwing hyaline with black veins, costal margin and distal margin; without the orange stripe. Ecuador, Peru.

D. egla *Drc.* (70 c). Forewing hyaline, costal margin, hind-margin, a transverse band across the cell *egla*, and apical half blackish-brown like the veins, hyaline spots in some places also whitish. Intense ochreous irroration in the apical half and at the tornus, in the ♀ also at the costal margin and hind-margin. Hindwing hyaline, veins and margins black, distal margin with an orange stripe. — In **phaedima** *Prt.* (70 c) the veins of the hindwing *phaedima*, are white. Ecuador, Amazons.

D. climax *Prt.* differs from *egla* in the orange irroration of the forewing extending at the costal margin *climax*, to the base, being narrower before the apex and only reaching to the 3rd median, forming another spot on the tornus, which despatches projections on the axillaris and 2nd cubitus, the last of which extends to the cell. In the hindwing the black veins and distal margin as well as the orange stripe are broader. Amazons

26. Genus: **Hadesina** *Warr.*

Like *Diopsis*, but the cell in the forewing is shorter, about $\frac{1}{3}$ the length of the wing, cross-vein in the hindwing strongly angular.

H. anomala *Prt.* Forewing white, distal margin broad, hind-margin and veins narrower black. Cross- *anomala*, vein and a stripe behind the fork of the 3rd median broadly black, a slanting black band (2 to 3 mm) from beyond the centre of the costa to the distal margin between the bifurcation behind the 3rd median. A white subapical band, 3 mm broad at most, veins therein not black. Hindwing whitish, veins and margins broadly black, before the apex a white spot. Expanse 43 mm. Amazons.

H. caerulescens *Schs.* (= *chloris* *Warr.*) (70 d). Wings black, lustrous blue, particularly at the hind- *caerulescens*, margin of the forewing, and the hindwing. Veins black, above the axillaris of the forewing a bluish-white longitudinal streak. Hyaline are in the forewing a basal streak in the cell, posteriorly extending beyond it, a discal band from the radialis to the 2nd cubitus, a subapical band from the 4th radius to the 2nd median, in the hindwing an oblong central stripe from the centre of the cell to the analis, beneath in the hindwing another white stripe at the costal margin. Costa Rica.

H. limbaria *Warr.* Forewing hyaline, veins black like the margins. A small black spot at $\frac{1}{3}$ of the *limbaria*, costa, enclosing the discal dot, a broad black band from $\frac{2}{3}$ of the costa to the distal margin above the tornus. Hindwing hyaline, veins and margins black, a blackish basal stripe along the analis. Expanse 39 mm. Ecuador.

27. Genus: **Brachyglene** *H.-Schäff.*

Cell rather short, 2nd radial rising before the 5th before the 3rd and 4th. 3rd median and 1st cubitus beneath forked in *caenea*-forms.

B. caenea *Drury* (70 e). The 3rd median and 1st cubitus not distinctly forked, wings blackish-brown, *caenea*, forewing with a yellow median band, which is somewhat expanded at both its ends and continued in a spot at the costal margin of the hindwing. — In **extensa** *Wkr.* there is in the hindwing besides another yellow discal *extensa*, spot, in **fracta** *Prt.* the band of the forewing is posteriorly narrower and terminates right behind the 2nd cubitus, *fracta*, *dilatata*, — In **dilatata** *form nov.* (70 d) the band of the forewing is like in *fracta*, the hindwing is yellow except the distal margin which is narrow at the apex and broad at the tornus. (♂ type from Valencia in the Berlin Museum). — From Mexico to Brazil and Venezuela.

B. schausi *Prt.* (70 e). Smaller than the preceding, the 3rd median distinctly forked, in the forewing the *schausi*, veins are yellowish at the base, the discal band equally broad or posteriorly narrower, proximally not concave as in *caenea*. Expanse 30 to 33 mm. Costa Rica, Colombia, Ecuador.

B. circumlita *Prt.* (70 e). Similar to the following, abdomen with a broad yellow lateral line. In the *circumlita*, forewing a 2 mm broad, posteriorly narrower transverse band with a yellow basal streak and a large subapical patch, beneath all these markings are more distinct. Hindwing yellow, only with a black distal margin. $2\frac{1}{2}$ mm broad at most, being narrower towards the apex and tornus. Expanse 35 mm. Amazons,

- bracteola*. **B. bracteola** *Hbn.-G.* (= *privata* *Wkr.*) (70 e). Forewing with an oblong yellow spot distally to the cross-vein, extending at least to the 2nd median, hindwing black, the costal-marginal third yellow. Beneath the spot of the forewing is expanded to the costal margin, besides there is a yellow cellular spot and a yellow subapical spot. Expanse 35 mm. Colombia, Brazil. — The Venezuelan race ***elongata*** *subsp. nov.* (70 f) has longer and narrower forewings, the costal margin is straighter, the tornus more rounded off, the spot of the forewing above and beneath smaller. Expanse only 28 to 30 mm. ♂ type from Valencia in the Berlin Museum.
- peba*. **B. peba** *Drc.* Forewing blackish-brown with a yellow spot distally to the cross-vein, hindwing blackish-brown with a yellow central stripe, so that the margins, also the costal margin, remain black. Expanse 26 mm. Panama.
- crocearia*. **B. crocearia** *Schs.* Body orange with a black dorsal line on the abdomen. Forewing dark brown with a light yellow spot from the base to beyond the centre. Costal margin and hind-margin dark, the latter with yellow streaks at the edge and on the axillaris, on the yellow area beyond the cell a hyaline spot behind the cross-vein. Hindwing yellow, distal margin and hind-margin black with yellow streaks above the tornus. Expanse 25 mm. Costa Rica.
- subtilis*. **B. subtilis** *Fldr.* (= *punctata* *Drc.*) (70 e). Forewing brown with a yellow spot on the cross-vein, which may extend to the costal margin, veins basally lighter. Hindwing yellow, in the ♀ with a narrow black distal margin, which is narrower in the middle; in the ♂ the black margin is broader and extends also along the hind-margin, where it often contains a yellow stripe. Colombia, Venezuela.
- patinata*. **B. patinata** *Prt.* is similar to *subtilis* and perhaps only a local race of it. In the forewing the light spot extends to behind the fork of the 3rd median. Hindwing as in *crocearia*, the black margin narrower. Expanse 30 mm. Brazil.
- divisa*. **B. divisa** *Dgn.* In the forewing there is beside the discal spot another white cellular spot before the centre of the cell, beneath both spots are orange-yellow. Hindwing similar to *patinata*. In *subtilis* the forewing beneath is yellow except the margin, here only the two spots are yellow. Expanse 26 to 27 mm. Colombia.
- thirmida*. **B. thirmida** *sp. n.* (70 e). According to the description similar to *Thirmida venusta* *Dgn.* The cell in the forewing not so long as half the wing, in both wings posteriorly very much produced. 1st cubitus on a long fork. Forewing yellow, costal margin finely black, hind-margin somewhat broader black. Distal margin at the apex as far as $\frac{1}{4}$ of the wing greyish-black, posteriorly narrower, at the border of the yellow spot jet-black. A black-irrorated basal streak on the analis, one in the cell and a hardly visible one at the costal margin. Hindwing black, with a purple reflection, at the costal margin before the apex a yellow spot, beneath the whole costa as far as this spot is broadly yellow. Bolivia. ♀ type from the Rio Songo in the Berlin Museum. In *Thirm. venusta* the veins in the cell are black.

28. Gattung: **Leptactea** *Prt.*

Cell in the forewing longer than half the wing, 2nd median nearer to the 3rd than to the 1st.

- minuta*. **L. minuta** *Drc.* Forewing jet-black with a yellow transverse band between the costal margin and tornus, but not reaching the distal margin. A yellow basal stripe along the costal margin to its centre, hindwing yellow, margins black. Expanse 32 mm. Ecuador.

29. Gattung: **Actea** *Btlr.*

Facies and palpi with projecting hairs. In the forewing the 2nd radial rises before the 5th before the 3rd and 4th, the 3rd median and 1st cubitus are forked.

- pseudena*. **A. pseudena** *Bsd.* (= *dorsispilota* *Warr.*) (70 f). Black, abdomen with a dorsal row of yellowish spots and lateral yellow lines, wings black, forewing with a yellow transverse band. Mexico to Colombia.
- velutinum*. **A. velutinum** *Btlr.* (70 f) is like *pseudena*, the abdomen without yellow marking. Amazons, Peru, Bolivia.
- monilis*. **A. monilis** *Hbn.* (70 f.). Abdomen with yellow dorsal spots and lateral lines, beneath white. Forewing with two yellow spots transversely behind $\frac{1}{2}$ of the wing, beneath with a yellow transverse band. Hindwing black with a yellow transverse band from the costal margin to the middle of the hind-margin, distally anteriorly expanded. Ecuador, Amazons.
- choba*. **A. choba** *Drc.* (70 f) is quite similar to *monilis*, but in the ♂ there is only a yellow costal-marginal spot, in the ♀ an uninterrupted transverse band. The spot on the centre of the prothorax and hindhead is yellow, in *monilis* white. Amazons.
- transita*. **A. transita** *sp. n.* forms the transition from *choba* to *monilis* (70 f). Dorsal spot on the prothorax yellow, forewing in the ♂ and ♀ with yellow, centrally strangulated transverse band. Somewhat smaller than *choba*. ♂ ♀ types from Para in the Berlin Museum. The last three forms may be the races of one species.

30. Genus: **Josia** Hbn.

The members of this genus exhibit remarkable differences, so that later on it will become necessary to divide them. In the forewing the 2nd radial is forked before the 5th before the 3rd and 4th, the 3rd median and 1st cubitus are forked, the 1st median rising near the radial ramus or being forked with it.

1. The 1st median is not forked with the radial ramus (*Ephialtias* Hbn.).

J. consueta Wkr. (= pilarge Wkr., hyperia Wkr., lugens Fldr.) (67 k). Blackish-brown. thorax in *consueta*. front with a yellow spot, abdomen with 3 white lines, ventrum whitish. Forewing blackish-brown with a yellow transverse band from the costa almost to the tornus. Hindwing uni-coloured blackish-brown. Expanse 35 mm. Amazons. — In **cassa** Prt. the abdomen is without white dorsal lines, the wings with a slight blue lustre, the *cassa*. band of the forewing straighter and narrower. Panama, Colombia.

J. brevifascia Prt. Thorax without the yellow spot at the costal margin, the orange band of the forewing *brevifascia*. is shorter, extending from the radial ramus to right behind the 2nd cubitus. Hindwing with a thin blue lustre, otherwise like the preceding. Amazons.

J. abrupta Hbn. (70 g). Forewing black with a yellow, somewhat bent transverse band as far as *abrupta*. the analis; in the ♀ the hindwing has a short whitish-hyaline band from the hind-margin to the posterior edge of the cell, in the ♂ this white spot is intensely irrorated with blackish. — In the form **basalis** Btlr. the yellow *basalis*. band of the forewing is posteriorly pointed and thus does not end broad on the analis, in the ♀-form **icca** Prt. *icca*. the white spot of the hindwing is irrorated like in the ♂. Amazons.

J. dorsivitta Wkr. (70 g). Black. forewing with a yellow transverse band, hindwing with a white *dorsivitta*. central spot extending to the hind-margin. Amazons, Ecuador.

J. ena Bsd. (= tryma Schs.) (71 g). Forewing blackish-brown with a yellow transverse band. *ena*. hindwing black. The most common species. Venezuela, Trinidad, Amazons, Ecuador, Peru.

J. enoides Bsd. is like the preceding, the band of the forewing is whitish. Mexico, Honduras. *enoides*.

J. infans Wkr. is very similar to *ena* (71 g), the distal margin of the forewing is more oblique, the *infans*. band broader, the projection of the 2nd cubitus yellow, not black as in *ena*. Amazons.

J. ignorata sp. n. (71 f). Wings not so elongate as in the preceding, black, only with a very slight *ignorata*. purple reflection, with a very broad yellow transverse band. Patria unknown; perhaps Colombia. ♀ type in the Berlin Museum. [The 1st median rises separated from the radial ramus!]

2. The 1st median is forked with the radial ramus in the forming. (*Phintia* Wkr.).

J. latifascia Prt. (= lativitta Warr.). Similar to *ena* (71 g). Forewing purple black, the band twice *latifascia*. as broad. Ecuador. A specimen in the Senckenberg Museum, denominated by WARREN as *lativitta*, is an Aretiid! The species may therefore belong to *Josiodes*.

J. esoterica Prt. is similar to *dorsivitta* (70 g), abdomen in the ♀ without white dorsal and lateral *esoterica*. stripes, the band of the forewing is shorter and broader, not extending to the analis, in the hindwing the white basal costal streak is absent beneath, the white central spot is broad and roundish. Expanse 32 mm. Ecuador.

J. tegyra Drc. (70 g) is smaller than the preceding, the wings are narrower, palpi shorter, subcosta *tegyra*. of hindwing less abruptly diverging with the radius. Ecuador.

J. simplex Wkr. is similar to *tegyra* (70 g), the black distal margin of the hindwing only gradually *simplex*. narrowed to the tornus, the white stripe of the hindwing is narrow, short, and does not reach the posterior angle of the cell.

J. jordani sp. n. (70 g) is quite similar to *simplex*, but the white band of the hindwing is more oblique *jordani*. and longer, extending almost to the posterior angle of the cell. Patria unknown. ♀ type in the Berlin Museum.

J. tessmanni sp. n. (70 g). Body black, abdomen beneath dull greyish-white. Forewing black with *tessmanni*. a yellow band which extends barely beyond the 2nd cubitus. Hindwing black with a hyaline white central area which is shorter and rounder in the ♂, narrower and longer in the ♀. The hind-margin remains finely black. ♂♀ types from the Rio Pachitea, East Peru, in the Berlin Museum, discovered by G. TESSMANN.

J. podarce Wkr. (70 g). Forewing black with a short white, somewhat yellowish transverse band. *podarce*. Hindwing also black with a yellowish-white central spot as far as the hind-margin. Amazons.

J. cercostis Wkr. (70 h). Forewing as in *podarce*, hindwing more extensively pale yellow, particularly *cercostis*. in the ♀, the yellow colour is darker than in *podarce*. Amazons, French Guiana, East Peru.

J. ilaire Drc. (71 f). Forewing black, at the base with a slight blue reflection, with a yellow transverse *ilaire*. band 2½ mm broad at most; hindwing black, with an intense blue lustre, particularly towards the base. Panama. — In **turbida** subsp. n. (71 f) the band of the forewing is at least 3 mm broad, the lustre on the *turbida*. hindwing is less intense, more reddish-violet. Colombia. ♀ type from the Rio S. Juan in the Berlin Museum.

J. repetita Warr. (71 f) is similar to *ilaire*, but larger, the hindwing with a yellow apical spot, *repetita*. Colombia.

3. Larger species, the apex of the forewing more roundish.

- draconis*. **J. draconis** Drc. (70 h). Forewing blackish-brown, with a broad yellow postcellular transverse band, which is so oblique that the posterior part of the cross-vein does no more touch the band which is somewhat expanded at the costal margin. Hindwing red, distal margin and costal margin narrower, hindmargin broad black. Panama. — In **tenuifascia** Prt. the band of the forewing is narrower ($1\frac{1}{2}$ mm) and anteriorly scarcely widened. British Guiana.
- bryce*. **J. bryce** Wkr. (70 h) is similar to the preceding, the band of the forewing steeper, touching the cross-vein in all parts. Amazons. Perhaps only a form of the preceding.
- rosea*. **J. rosea** sp. n. (70 h) approximates the preceding, it is somewhat smaller, the band of the forewing flesh-coloured or red, beneath more yellow. In the hindwing the base is broader black, the proximal border of the black posterior margin diverges very much with the posterior edge of the cell. Abdomen as in the preceding, the first segment with a large yellow dorsal spot, the row of dorsal spots on the other segments is more interrupted. Expanse 30 to 32 mm. District of the Upper Amazon River. ♂♀ types from Itaituba in the Berlin Museum.
- ariaca*. **J. ariaca** Drc. Forewing black with a yellow transverse band. Hindwing with a narrow yellow central transverse band to the hind-margin. Expanse 26 mm. Mexico.
- coatepeca*. **J. coatepeca** Schs. (67 k) is similar to *ariaca*, larger, the bands on the forewing and hindwing broader. Expanse 29 mm. Mexico, Honduras.
- latistriga*. **J. latistriga** sp. n. (70 i) has the size of *coatepeca*, with broader stripes on the hindwing, occupying the hind-margin except the outermost base. Band of forewing more bent than in the preceding. ♀ type from Marcapata in the Berlin Museum.
- constricta*. **J. constricta** Warr. (70 i) is similar to the following, somewhat smaller, the yellow central longitudinal spot in the hindwing at the base reduced into a narrow bow, the distal part more rounded and ending farther before the distal margin than in *vittula*. Expanse 32 mm. Bahia.
- vittula*. **J. vittula** Hbn. (70 i). Forewing black with a yellow oblique transverse band, hindwing black with a yellow longitudinal band which rises at $\frac{1}{4}$ of the hind-margin and leaves the base black. — In f. **carneata** *adiante* Warr. the yellow markings are flesh-coloured. Brazil. — The Colombian race is **adiante** Wkr. (70 i) in which the forewing and the band are narrower, the band more oblique, rising before the middle of the costa. The yellow central area of the hindwing is broader and more uniformly wide, the yellow markings are deeper orange. As this form flies also in Brazil with *vittula*, it may represent a separate species.
- aperta*. **J. aperta** Warr. (70 i). The band of the forewing is broader and steeper, in the hindwing the hind-margin, except the base, is yellow as far as the tornus. Peru, Bolivia.
- fornax*. **J. fornax** Drc. (70 k). The yellow transverse band of the forewing is distally not bent, steep and straight. Hindwing extensively yellow, apex and distal margin black, the latter towards the tornus much narrower. Expanse 40 mm. The ♀♀, according to WARREN, show a twice as broad black distal margin of the hindwing, the same is the case in the ♂-form **latimargo** Warr. Ecuador.
- latimargo*. **J. latimargo** Warr. (70 k). The yellow transverse band of the forewing is distally not bent, steep and straight. Hindwing extensively yellow, apex and distal margin black, the latter towards the tornus much narrower. Expanse 40 mm. The ♀♀, according to WARREN, show a twice as broad black distal margin of the hindwing, the same is the case in the ♂-form **latimargo** Warr. Ecuador.
- morena*. **J. morena** Warr. (70 h). Forewing blackish-brown, veins somewhat paler, with a yellow transverse band. In the hindwing the yellow central band rises from $\frac{1}{2}$ of the narrow black hind-margin, being distally widened and rounded off. Brazil, Rio Grande do Sul; one specimen from Bolivia.
- angulosa*. **J. angulosa** Wkr. (70 k) is similar to *morena*, the yellow band of the hindwing broader, almost square, sharply angled at the 2nd cubitus. Brazil.
- eterusialis*. **J. eterusialis** Wkr. (70 k). Forewing with a very broad (5 mm) transverse band, the yellow area of the hindwing still broader than in *angulosa*. Colombia.
- flavissima*. **J. flavissima** Wkr. (70 k) is similar to *eterusialis*. Wings changing from sulphur-colour to lemon-colour instead of orange. Venezuela, Ecuador.

4. Forewing with longitudinal stripes (*Josia* Hbn.).

- megaera*. **J. megaera** Hbn. (= *fasciata* Roths.) (71 a). Forewing blackish-brown, with a yellow streak behind the cell, mostly extending into it, and a yellow subapical band which does not reach the margins. Hindwing blackish-brown, hind-margin and a marginal spot behind the 2nd cubitus yellow. The yellow hindmarginal colouring extends to the analis. — In **integra** Wkr., from Mexico, Honduras, and Guatemala, the yellow markings in the hindwing are connected, the indentation through the black analis is absent. — In **decorata** Drc. the subapical band is longer, almost reaching the margins. — **fruhstorferi** Prt. from Bahia has all the markings in the forewing narrower, the basal stripe scarcely reaches the posterior edge of the cell. — In **putata** subsp. n. the yellow hind-margin of the hindwing extends only to the axillaris and does not reach the analis. Amazons. ♂♀ types from Para and Obidos (HAHNEL) in the Berlin Museum.
- auriflua*. **J. auriflua** Wkr. (71 a). Forewing black with an orange longitudinal stripe which ends very near at the distal margin (1 mm). Hindwing black with a yellow posterior margin which cuts the 2nd cubitus before the centre. Panama, Colombia. — In **flavipars** Prt. (71 a) the posterior margin of the hindwing is narrower and cuts the 2nd cubitus in or behind the centre. Bolivia, East Peru. — The following two races may be distinct

species; they both exhibit the broader posterior margin of the hindwing of the nomenclatural form; the streak of the forewing is broader and its anterior edge at the end obtusely angled, not uniformly bent as in the preceding.

— In *scalata* Dgn. (71 a) it ends at the same distance from the margin as in *auriflua*; — in *inaequiflexa* (71 a) *scalata*, it ends before, about $1\frac{1}{2}$ mm before the margin. The former is from Peru, the latter from Ecuador. *inaequiflexa*.

J. aurifusa Wkr. A most variable species. Forewing blackish-brown with an orange central stripe, *aurifusa*, which is narrower at the end. In the nomenclatural type the hindwing is yellow, the apex black which colour taperingly extends to the base; — in *turgida* Warr. (71 b) the black apical colouring in the hindwing only *turgida*, extends narrower to the centre of the wing, between the 2nd cubitus and axillaris a black spot at the margin; in the form *conifera* Warr. the orange central spot of the forewing has distally a coniform continuation; in *conifera*, the hindwing the apical spot is continued to the base, connected with the black spot behind the 2nd cubitus by a broad black space. — The form *glycera* Drc. has a broad black costal margin in the hindwing, in which *glycera*, only the outermost edge remains yellow. Venezuela, Brazil, Colombia, Panama.

J. subcuneifera Dgn. seems to me to be a form or race of the preceding species. Forewing as in *aurifusa*. *subcuneifera*, hindwing also similar; beneath in the forewing the central band is enlarged, extending to the distal margin. on the hindwing only a longitudinal streak on the subcosta, the apex and a spot at the 2nd cubitus remain black (like in *turgida* (71 b)). Expanse 30 to 35 mm. Ecuador.

J. lativitta Wkr. (71 b). Forewing blackish-brown with a broad yellow longitudinal stripe, which *lativitta*, is narrower at both its ends and does not reach the distal margin. Hindwing likewise blackish-brown with a broad yellow longitudinal streak. Amazons.

J. ligula Hbn. (= *fulvia* Cr.) (71 b). Blackish-brown, central area of both wings and hind-margin *ligula*, of the hindwing yellow. The width of the yellow markings varies. From Guiana and Brazil to Bolivia, Ecuador, and Peru.

J. oribia Drc. (= *schmusei* Strd.) (71 b) is quite similar to *ligula*, the yellow areas are much broader. *oribia*, so that the wings are yellow narrowly bordered with black. Bolivia.

J. tenuivitta Btlr. Like the preceding, the yellow markings narrower, particularly in the forewing. *tenuivitta*, Amazons, Guiana, Ecuador, Peru.

J. infausta sp. n. (71 b). Forewing broader, in the shape more similar to *mononeura* (71 c). Forewing *infausta*, blackish-brown with a yellow longitudinal streak as in *tenuivitta*. Hindwing with a streak as in *ligula*. Expanse 31 mm. Colombia. ♀ type from the Rio S. Juan in the Berlin Museum.

J. cruciata Btlr. The first abdominal segment above with a yellow ring. Streak of forewing very *cruciata*, narrow, that of hindwing begins here and in the following species not at the base, but at $\frac{1}{3}$ of the hind-margin. Streaks of both wings almost equally broad. Central America to Brazil and Peru.

J. annulata Dgn. (= *pnnonis* Strd.) (71 d) is probably the same species as *cruciata*, with a broader *annulata*, streak of the hindwing. Range like that of *cruciata*.

J. tamara sp. n. (71 d) is very closely allied to *annulata*, the yellow bands are in both wings broader. *tamara*, extending almost to the margin. There remains but a very fine margin black (in *annulata* the yellow band ends $\frac{3}{4}$ mm before the margin). Base of abdomen with a yellow ring, fringe at the hind-margin of the hindwing yellow. Honduras, ♀ type in the Berlin Museum.

J. aurimutua Wkr. (? = *fulvia* Hbn., ? *jesuita* F.) (71 e). Similar to *cruciata*, fringe at the hind- *aurimutua*, margin of the hindwing black. Panama, Venezuela, Ecuador, Brazil.

J. interrupta Warr. (71 a). The yellow stripe of the forewing is centrally sometimes interrupted by *interrupta*, black scaling, the ground-colour of the forewing is brown, not black, though not so light as in the next species, the streaks on both wings pale yellow, still narrower than in *tenuivitta*. Expanse 36 mm. Colombia.

The three following species with an olive-brown ground-colour of the forewing.

J. mononeura Hbn. (= *mitis* Wkr.) (71 e). The streak of the forewing is very narrow, posteriorly *mononeura*, with short projections on the cubital branches. Abdomen beneath blackish-grey. Brazil, Colombia, Uruguay.

J. similis sp. n. is coloured the same, but the abdomen beneath is white, somewhat smaller. Para. *similis*, 2 ♂♂. 1 ♀ in the Berlin Museum.

J. insincera Prt. (71 b). Streak of forewing broader, posteriorly hardly with projections, abdomen *insincera*, beneath white. Venezuela, Orinoco District.

The 7 following species show the costal margin of the forewing finely yellow in the basal half.

J. ligata Wkr. (71 d). Wings blackish-brown with moderately broad yellow streaks, on both wings *ligata*, about equally broad. Central America, Venezuela, Colombia.

- frigida*. **J. frigida** Drc. (71 d). This and the following species are presumably only forms of the preceding, connected by all kinds of transitions. Streaks of forewing and hindwing narrower. Central America, Guiana, Colombia, Ecuador.
- fustula*. **J. fustula** Warr. has the streaks in both wings almost equally broad; smaller than the preceding ones. Ecuador.
- radians*. **J. radians** Warr. (= ? *fulvia* Drc.) (71 d). Streaks still narrower, particularly in the forewing. Mexico to Venezuela and Guiana.
- fusigera*. **J. fusigera** Wkr. (= *fusifera* Drc.) (71 e) is larger than the preceding, the streaks, particularly in the hindwing broader. I still doubt whether it is a distinct species, or only a form of *ligata*. Mexico to Colombia.
- gigantea*. **J. gigantea** Drc. (71 e) is similar to *radians*, but considerably larger. Expanse about 45 mm. Panama, Costa Rica.
- flexuosa*. **J. flexuosa** sp. n. (71 e) is about the size of *fusigera*, the streaks are very much broader, that of the forewing at 2_3 anteriorly distinctly convex, then much narrower. The black hind-margin of the hindwing is at the broadest place only 2 mm broad, in *fusigera* broader. Mexico. ♂♀ types in the Berlin Museum. — A ♀ from Honduras has in both wings narrower streaks, but that of the forewing has the curve at the costal margin. Thus the specimen approximates *ligata* and may represent a separate race which is called **diminuata** subsp. n. (71 e).

The following species with a black costa of the forewing, larger species.

- striata*. **J. striata** Drc. (71 e). Three quarters of the streak of the forewing are broad, then suddenly narrower by strangulation at its posterior edge. Streak of hindwing posteriorly much broader, extending to the hind-margin, which is yellow as far as the tornus. Expanse 38 to 40 mm. Colombia, Ecuador.
- attenuata*. **J. attenuata** Warr. (71 d) is like the preceding, the streak of the forewing is uniformly narrower, not suddenly narrowing down. The black posterior margin of the hindwing is broader, extending to about half the hind-margin. Colombia.
- ampliflava*. **J. ampliflava** Warr. (71 e). Streak of forewing as in the preceding, the posterior margin of the hindwing very narrow, 2 mm broad on an average. Colombia.
- andosa*. **J. andosa** Drc. is similar to *striata* (71 e), larger. Expanse 50 mm. Colombia.
- longistria*. **J. longistria** Warr. is similar to *patula* (71 e), larger (expanse 44 mm). Hindwing yellow, costal margin and posterior margin narrowly black, broader at the apex and before the tornus. Ecuador.
- patula*. **J. patula** Wkr. (71 e). Streak of forewing broad, shortened, ending already at $\frac{1}{4}$ of the 3rd median. Hindwing yellow, uniformly margined with black; this margin narrows down to a dot on the tornus. Expanse 38 mm. Colombia.
- gephyra*. **J. gephyra** sp. n. (71 f) is between *patula* and *gopala*. Streak of forewing somewhat less expanded than in *gopala*, extending to behind the rise of the 2nd cubitus beyond the analis. Hindwing as in *patula*. A smaller species, expanse 30 mm. Colombia. ♂ type from Tolima in the Berlin Museum (FASSEL).
- gopala*. **J. gopala** Dgn. (71 d). Streak of forewing very much distally expanded, broadly truncated. Venezuela.
- fluonia*. **J. fluonia** Drc. (71 f). Forewing black with a yellow, angularly curved band extending below the costal margin as far as 2_3 , then bending round to the tornus in an obtuse angle. The band is 2 mm broad at most and widens little. Hindwing black. Ecuador.
- banana*. **J. banana** Warr. (71 f) resembles the preceding, the band of the forewing is very much broader, the angle of the curve in the ♀ much obtuser, in the ♂ even the posterior edge of the stripe extends rather straight from the base to the tornus. „Brazil“.

31. Gattung: **Seca** Wkr.

Distinguished from *Josia* by the 1st median of the forewing being always well separated from the radial ramus and the 2nd median not rising at the mouth of the basal median, but behind it, whereby the cross-vein is twice angled (except *obliquaria*). Faeies and palpi not rough-haired.

- auriflamma*. **Sc. auriflamma** Hbn. (= *nervosa* Perty) (71 g). Forewing reddish-yellow, costal margin, veins, hind-margin narrower, apex broader black, distal margin narrower towards the tornus. Hindwing black. Brazil, Bolivia, Paraguay, North Argentina.
- obliquaria*. **Sc. obliquaria** Warr. (71 g). Cross-vein of forewing but once angled, veins less black, the proximal border of the black apical margin is more oblique, straighter; hind-margin broader black. South Brazil, East Peru.
- solaris*. **Sc. solaris** Schs. (71 g). Forewing and veins black, a yellow central spot almost to the distal margin. Its anterior edge extends as far as about 2_3 along the costa and then bends round to the 3rd median. Hindwing black with a narrow yellow central stripe which, in a Bolivian specimen, despatches a tooth towards the costa. Peru, Bolivia.

Sc. nudata *sp. n.* Similar to *auriflamma*, veins not black, the posterior edge of the cell at most; *nudata*. apical margin more extensively black, beginning already at $\frac{2}{3}$. „Brazil“ (Sello). ♂♀ types in the Berlin Museum.

Sc. angustimargo Warr. (71 g). Forewing yellow, veins everywhere black, also blackish scales on *angustimargo* the ground-colour. The black apical area is narrower and more curved. Hindwing black, beneath with a few yellow basal streaks at the costal margin. Bolivia, Peru, Paraguay.

Sc. cleonica Drc. (71 g). Forewing yellow, costal margin and hind-margin narrow, apical area as *cleonica*. far as the cell black, likewise blackish irroration on the ground-colour. Hindwing black, all the black places with a slight purple reflection. Ecuador.

Sc. semifulva Warr. (71 g). Similar to *cleonica*, the yellow colour more reduced, not reaching to the *semifulva*. cross-vein. Ecuador.

Sc. curvilimes *Prt.* The dark apical area of the forewing extends proximally at the cross-vein to the *curvilimes*. posterior angle of the cell, and behind it is strongly curved towards the distal margin. Expanse 38 mm. North Peru.

Sc. gigantea Drc. (= *caesiopicta* Warr.) (71 h) looks like a gigantic *auriflamma*; in the forewing *gigantea*. the apical area except the border towards the yellow area and the anal margin of the hindwing bluish-grey, in the smaller ♂ more indistinct. Bolivia. — In *subcyanea* *Prt.* (= *cyanea* *Prt.*) the bluish-grey areas are intensely suffused with blue; in the ♀ the posterior parts of the hindwing are less light. South-Eastern Peru.

Sc. servula Warr. (71 h) is likewise similar to a very large *auriflamma*, the black places are somewhat purple, but not bluish-grey, the analis and media not black. Colombia, Peru. — **steinbachi** *Prt.* is smaller (expanse 38 to 42 mm), veins black as in *auriflamma*. Argentina. The latter race is discernible from large specimens of *auriflamma* by the 2nd media rising very near to the third.

Sc. erasa *Prt.* (71 h). Similar to *servula*, veins in the yellow area of the hindwing nowhere black. Colombia, East Peru. It corresponds to *Crocomela trigonata* Warr. (p. 453) flying at the same places.

Sc. vulturata Warr. (71 h). Forewing blackish-brown with a yellow longitudinal band which is curved towards the tornus. Hindwing blackish-brown with a yellow basal spot. East Peru. It corresponds to *Crocomela conscita* Drc. (p. 453).

32. Genus: **Thirmida** Wkr.

Veins as in *Scea*, face, palpi, and hind femora with rough hair.

Th. dimidiata Wkr. (71 h). Forewing yellow, costal margin, hind-margin, veins, and apical portion behind the cross-vein black, the apical portion suffused with bluish-grey. Hindwing yellow, margins narrow, apex very broadly purple black, on the cross-vein in both wings a black spot. Colombia. — In **discinota** Warr. (71 i) the black apical portion of the forewing is broader and encloses the cross-vein. Venezuela.

Th. grandis Drc. (71 i). Forewing as in *discinota*, in the hindwing the base is black, the apical portion very much broader, enclosing the cross-vein. Colombia.

Th. circumscripta *sp. n.* (71 i). Forewing yellow, margins and veins narrowly black, in the apex a large circular spot. Hindwing yellow, margins very narrowly black. Beneath the yellow places also in the forewing without black veins, on the cross-vein a black spot. ♂ type from Colombia in the Berlin Museum.

Th. superba Drc. (71 i). In the habitus similar to *Scea servula* (71 h), in the forewing the black apical portion is more extensive, enclosing the cross-vein. Ecuador.

Th. venusta Dgn. is like *superba*, hindwing at the costa above partly yellow, beneath broadly yellow as far as $\frac{3}{4}$, the yellow colour of the forewing beneath extending farther distally. Ecuador.

More densely covered with longer hair than in the preceding genus. Suffused with blue.

33. Genus: **Cyanotricha** *Prt.*

C. necyria Fldr. (71 i). Black, suffused with blue, below the costa of the forewing some red short basal streaks. Ecuador, Peru.

C. bellona Drc. Like *necyria* (71 i), but with an oblong red spot before the apex of the forewing. Peru.

34. Genus: **Sagaris** Wkr.

In the forewing the 2nd radial rises before the 5th, before the 3rd and 4th; the costal margin of the hindwing is strongly curved, ♂ with scent-spots on the hindwing.

S. rejecta Hbn. (= *stygne* Wkr., *erynnis* Wkr.) (71 i, k). Black, forewing with a yellow transverse band the edges of which are undulating. Brazil Venezuela. — The Colombian specimens were denominated: **ortropea** *ortropea*.

Drc.; they have a narrower band of the forewing, though there occur all kinds of transitions to the type, so that the race is hardly tenable. Also from Bolivia.

poliana. **S. poliana** *Drc.* (71 k). Like the preceding species, with white, broader, hardly undulating bands, hindwing somewhat purple blue. In the Berlin Museum there is also a ♂ from Massauary, corresponding to the ♀, the shape of the body similar to *rejecta*. Guiana, Amazons.

dilatata. **S. dilatata** *Wkr.* (71 k). In the forewing the 1st eubitus is forked, in contrast with the preceding species. Abdomen not extending beyond the hindwing. Forewing oblong rounded, veins lighter. Amazons.

35. Genus: **Getta** *Wkr.*

In the hindwing the radial ramus and the 1st median are fused. The cell of the forewing in the ♂ is very short and narrow, hindwing with a scent-organ at the costal margin, also the 2nd median fused with the 1st.

ennia. **G. ennia** *Drc.* Black with a pale yellow cross-band of the forewing. Brazil.

elite. **G. elite** *Wkr.* (= *niveifaseia* *Wkr.*) (71 k). Like *ennia*, cross-band white. Brazil, Ecuador, Bolivia, Southern Peru. — **probles** *Prt.* is larger, the cross-band is twice as broad. Eastern Peru.

bactifica. **G. bactifica** *Drc.* (71 k). Cross-band yellow, wings partly suffused with blue. Colombia, Peru, Ecuador.

36. Genus: **Anticoreura** *Prt.*

In the forewing the 5th radial rises before the 2nd; 1st eubitus not forked.

salmoni. **A. salmoni** *Drc.* Forewing blackish-brown, with a red cross-band, hindwing black, suffused with blue. Colombia. It strikingly resembles certain Syntomidids (*Coreura*).

37. Genus: **Polyptychia** *Fldr.*

In the forewing the 5th radial rises before the 2nd; 1st eubitus forked. ♂ with scent-tufts on the hindwing and hind legs.

fasciculosa. **P. fasciculosa** *Fldr.* Blackish-brown, forewing with a yellowish-white cross-band. Colombia, Venezuela.
ccron. — In **ccron** *Drc.* (71 k) the band is yellow; in the ♀ at the apex of the hindwing a yellow spot. East Colombia,
unicolor. Upper Amazon R. — In **unicolor** *sp. n.* (perhaps only a form of *ccron*?) the yellow band of the forewing is 3 mm broad (in *ccron* 2 mm). Hindwing above and beneath without the yellow apical spot. ♀ type from Yurimaguas in the Berlin Museum.

Alphabetical List

with reference to the original descriptions of the forms of the American *Dioptidae*.

*) signifies that the form is also figured at the place cited.

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nubila Isost. *Schs.* Ann. Mag. Nat. Hist. (8) 9, p. 537.
nubilata Tol. *Dgn.* Mém. Soc. Ent. Belg. 19, p. 133.
nubilosa Polyp. *Wrr.* Nov. Zool. 7, p. 128.
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obliquaria Auth. *Wrr.* Nov. Zool. 12, p. 312.
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obstructa Scot. *Wrr.* Nov. Zool. 16, p. 73.
obteeta Phaeochl. *Mschlr.* Verh. zool.-bot. Ges. Wien 27, p. 657. *
obtusa Polyp. *Wkr.* List Lep. Ins. 7, p. 1663.
ochrophanes Phaeochl. *Prout* Nov. Zool. 25, p. 398.
onega Diop. *Bates* Tr. Linn. Soc. Ld. 23, p. 503 u. 565. *
opaca Diop. *Hcr.* Seitz, Macrolep. 6, p. 522. *
opaca Stenopl. *Hcr.* Seitz, Macrolep. 6, p. 517. *
oribia Jos. *Drc.* Proc. Zool. Soc. Ld. 1885, p. 528.

orthyades Tan. *Drc. Proc. Zool. Soc. Ld.* 1893, p. 295. *
ortropea Sag. *Drc. Proc. Zool. Soc. Ld.* 1893, p. 286.
otanes Paradipt. *Drc. Proc. Zool. Soc. Ld.* 1893, p. 294.
ovata Xenorm. *Dgn. Ann. Soc. Ent. Belg.* 44, p. 438.
ovia Myon. *Drc. Proc. Zool. Soc. Ld.* 1893, p. 292. *
ovisigua Scot. *Prout Nov. Zool.* 25, p. 407.

pales Myon. *Proc. Zool. Soc. Ld.* 1893, p. 285. *
pallene Diop. *Drc. Proc. Zool. Soc. Ld.* 1893, p. 293. *
pallinervis Xenom. *Fldr. Reis. Novar. Het. T.* 133, F. 16. *
pandates Diop. *Drc. Proc. Zool. Soc. Ld.* 1893, p. 294.
papula Myon. *Dgn. Hét. Nouv.* 23, p. 27.
paraeyma Diop. *Prout Nov. Zool.* 25, p. 417.
patinata Brach. *Prout Nov. Zool.* 25, p. 419.
patula Jos. *Wkr. List Lep. Ins.* 31, p. 132.
peba Brach. *Drc. Biol. Centr. Amer. Het.* 2, p. 405. *
pellueida Diop. *Wrr. Nov. Zool.* 8, p. 438.
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peregrina Diop. *Her. Seitz, Macrolep.* 6, p. 523. *
perintrusa Phaeochl. *Prout Nov. Zool.* 25, p. 399.
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phaëton Tithr. *Schs. Ann. Mag. Nat. Hist.* (8) 9, p. 432.
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pheloides Tan. *Fldr. Reis. Novar. Lep. Het. T.* 105, F. 7. *
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piearia Polyp. *Wrr. Nov. Zool.* 11, p. 18.
picata Isost. *Wrr. Nov. Zool.* 7, p. 130.
pietifrons Xenorm. *Wrr. Nov. Zool.* 14, p. 199.
pilarge Jos. *Wkr. List Lep. Ins.* 2, p. 305.
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plataea Xenorm. *Drc. Proc. Zool. Soc. Ld.* 1893, p. 310. *
pleniplaga Myon. *Prout Nov. Zool.* 25, p. 402.
podaree Jos. *Wkr. List Lep. Ins.* 2, p. 306.
pollana Sag. *Drc. Proc. Zool. Soc. Ld.* 1893, p. 285.
primula Myon. *Dgn. Hét. Nouv.* 17, p. 10.
privata Brach. *Wkr. List Lep. Ins.* 31, p. 156.
priverna Myon. *Cr. Pap. exot.* 2, p. 108, T. 166 E. *
privigna Myon. *Hbn. Zutr.* 1, p. 32, F. 195—96. *
probes Gett. *Prout Nov. Zool.* 25, p. 427.
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proix Diop. *Prout Nov. Zool.* 25, p. 417.
projecta Myon. *Wrr. Nov. Zool.* 16, p. 71.
prolifera Oric. *Wkr. List Lep. Ins.* 2, p. 302.
prouti Myon. *Her. Seitz, Macrolep.* 6, p. 503. *
pseudena Act. *Bsdv. Lep. Guat.* p. 94.
punctata Brach. *Drc. Ann. Mag. Nat. Hist.* (7) 3, p. 293.
punctata Polyp. *Drc. (ubi?)*.
punonis Jos. *Strd. Arch. Naturg.* 86 A. 7, p. 133.
purefaeta Isost. *Prout Nov. Zool.* 25, p. 415.
putata Jos. *Her. Seitz, Macrolep.* 6, p. 526.
pyraloides Scot. *Wkr. List Lep. Ins.* 2, p. 525.
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quadricolor Myon. *Wkr. List Lep. Ins.* 7, p. 1677.
quadriguttata Myon. *Her. Seitz, Macrolep.* 6, p. 502. *
quadripuneta Scot. *Wrr. Nov. Zool.* 16, p. 73.
quinquepunctata Tithr. *Wrr. Nov. Zool.* 8, p. 444.
quirites Diop. *Drc. Ann. Mag. Nat. Hist.* (7) 19, p. 308.

radians Jos. *Wrr. Nov. Zool.* 12, p. 44.
regis Myon. *Her. Seitz, Macrolep.* 6, p. 503. *
redueta Xenorm. *Her. Seitz, Macrolep.* 6, p. 507. *
rejeeta Sag. *Hbn.-Gey. Zutr.* 4, p. 18, F. 663—664. *
remota Phaeochl. *Wkr. List Lep. Ins.* VII, p. 1649.
repetita Jos. *Wrr. Nov. Zool.* 12, p. 314.
restricta Diop. *Wrr. Nov. Zool.* 8, p. 439.
retracta Scot. *Her. Seitz, Macrolep.* 6, p. 510.
roraima Diop. *Drc. Proc. Zool. Soc. Ld.* 1893, p. 292. *
rosea Jos. *Her. Seitz, Macrolep.* 6, p. 526. *
rubribasis Stenopl. *Her. Seitz, Macrolep.* 6, p. 518. *
rufipuneta Polyp. *Schs. Proc. Zool. Soc. Ld.* 1894, p. 236.

saga Myon. *Her. Seitz, Macrolep.* 6, p. 505. *
salmoni Anticor. *Drc. Proc. Zool. Soc. Ld.* 1885, p. 521. *
salvini Myon. *Fldr. Reis. Novar. Het. T.* 105, F. 14. *
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semioerulea Polyp. *Dgn. Mém. Soc. Ent. Belg.* 18, p. 159.
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semimaculata Myon. *Wrr. Nov. Zool.* 11, p. 502.
semimarginata Myon. *Dgn. Ann. Soc. Ent. Belg.* 46, p. 342.
seminigrata Tithr. *Wrr. Nov. Zool.* 8, p. 444.
sempiaga Myon. *Wrr. Nov. Zool.* 12, p. 315.
semisocia Stenopl. *Dgn. Ann. Soc. Ent. Belg.* 57, p. 380.
servula Scea *Wrr. Nov. Zool.* 8, p. 443.
sibyllae Pseudor. *Drc. Proc. Zool. Soc. Ld.* 1885, p. 523. *
signata Scot. *Her. Seitz, Macrolep.* 6, p. 510.
similis Jos. *Her. Seitz, Macrolep.* 6, p. 527.
simplex Jos. *Wkr. List Lep. Ins.* 7, p. 1648.
sirenia Polyp. *Her. Seitz, Macrolep.* p. 516. *
sobria Myon. *Wkr. List Lep. Ins.* 2, p. 319.
solaris Scea *Schs. Proc. Zool. Soc. Ld.* 1892, p. 285.
solilucis Phaeochl. *Btlr. Tr. ent. Soc. Ld.* 1878, p. 62.
sordida Xenom. *Dgn. Mém. Soc. ent. Belg.* 22, p. 7.
soror Scot. *Her. Seitz, Macrolep.* 6, p. 510.
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steinbachii Scea *Prout Nov. Zool.* 25, p. 425.
stenothyris Diop. *Prout Nov. Zool.* 25, p. 416.
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striata Jos. *Drc. Proc. Zool. Soc. Ld.* 1885, p. 528.
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subalba Myon. *Her. Seitz, Macrolep.* 6, p. 506. *
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subeuneifera Jos. *Dgn. Ann. Soc. Ent. Belg.* 46, p. 342.
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sublaetigera Stenopl. *Wkr. List Lep. Ins.* 32, p. 383.
sublucens Polyp. *Dgn. Ann. Soc. Ent. Belg.* 53, p. 225.
submaxima Tithr. *Her. Seitz, Macrolep.* 6, p. 514. *
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suffumosa Tithr. *Dgn. Ann. Soc. Ent. Belg.* 46, p. 476.
superba Thirm. *Drc. Proc. Zool. Soc. Ld.* 1890, p. 498.
symoides Diopt. *Strand, Arch. Naturg.* 80, A. 10, p. 115.

tamara Jos. *Her. Seitz, Macrolep.* 6, p. 527. *
tapajozza Myon. *Dgn. Hét. Nouv.* 23, p. 28.
taxila Phan. *Drc. Ann. Mag. Nat. Hist.* (7) 19, p. 309.
tegyra Jos. *Drc. Ann. Mag. Nat. Hist.* (7) 3, p. 298.
tendinosa Phaeochl. *Hbn. Zutr.* 1, p. 18, F. 89—90. *
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tenuifascia Jos. *Prout Nov. Zool.* 25, p. 422.
tenuivitta Jos. *Btlr. Tr. Ent. Soc. Ld.* 1878, p. 61.
tessmanni Diop. *Her. Seitz, Macrolep.* 6, p. 522. *
tessmanni Jos. *Her. Seitz, Macrolep.* 6, p. 525. *
thanatos Tithr. *Her. Seitz, Macrolep.* 6, p. 513. *
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tiznon Polyp. *Dgn. Ann. Soc. Ent. Belg.* 38, p. 239.
traillii Diop. *Btlr. Ill. Het.* 1, p. 56.
transita Act. *Her. Seitz, Macrolep.* 6, p. 524.
transversa Scot. *Wrr. Proc. U. St. Mus.* 30, p. 413.
triamaula Polyp. *Wrr. Nov. Zool.* 4, p. 422.
truneata Oric. *Wkr. List Lep. Ins.* 2, p. 476.
tryma Jos. *Schs. Journ. N. Y. ent. Soc.* 4, p. 154.
turbida Jos. *Her. Seitz, Macrolep.* 6, p. 525. *
turgida Jos. *Wrr. Nov. Zool.* 12, p. 314.

umbrifera Myon. *Wkr. List Lep. Ins.* 2, p. 326.
undulata Tithr. *Her. Seitz, Macrolep.* 6, p. 513.
unicolor Polyp. *Her. Seitz, Macrolep.* 6, p. 530.
unifascia Stenopl. *Her. Seitz, Macrolep.* 6, p. 518.
uniformis Scoturops. *Her. Seitz, Macrolep.* 6, p. 508. *
uniformis Scot. *Mschlr. Verh. zool.-bot. Ges. Wien* 27, p. 657. *
uniguttata Diop. *Wrr. Nov. Zool.* 8, p. 439.
unimaecula Myon. *Wrr. Nov. Zool.* 14, p. 199.
unimaecula Tan. *Wrr. Nov. Zool.* 4, p. 423.
ursula Myon. *Her. Seitz, Macrolep.* 6, p. 505. *

- vaeuata Diop. *Wrr. Nov. Zool.* 12, p. 313.
velutinum Act. *Bllr. Tr. Ent. Soc. Ld.* 1878, p. 60. *
venata Scot. *Bllr. Tr. ent. Soc. Ld.* 1878, p. 60.
venata Oric. *Bllr. Tr. ent. Soc. Ld.* 1877, p. 359.
veninotata Xenom. *Wrr. Proc. U. St. Mus.* 30, p. 414.
venusta Thirm. *Dgn. Ann. Soc. Ent. Belg.* 44, p. 213.
vestigata Scot. *Prout Nov. Zool.* 25, p. 408.
vidua Polyp. *Wrr. Nov. Zool.* 16, p. 72.
villia Polyp. *Drc. Biol. Zentr. Amer. Het.* 2, p. 409. *
villiodes Xenom. *Prout Nov. Zool.* 25, p. 406.
villiopsis Xenom. *Her. Seitz, Macrolep.* 6, p. 509.
vitrifera Diop. *Wrr. Nov. Zool.* 12, p. 43.
vitrina Phan. *Drc. Biol. Centr. Amer. Het.* 1, p. 162. *
vittula Jos. *Hbn. Zutr.* 2, p. 15 F. 265 u. 266. *
vulturata Scea *Wrr. Nov. Zool.* 11, p. 18.
zarza Diop. *Dgn. Ann. Soc. Ent. Belg.* 38, p. 239.
zetila Isost. *Bsd. Lep. Guat.* p. 78.
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6. Family: Lymantriidae.

The general characterisation of the family of the *Lymantriidae* has been so minutely particularised in Vol. II, S. 109, Vol. X, p. 291, and Vol. XIV, p. 127, that it is unnecessary here to touch all the questions once more. We merely recapitulate that the genuine *Lymantriidae* are essentially characterised by the absence of the proboscis; moreover these insects are easily discernible by the basal anastomosis of the costalis in the hindwing, the presence of the frenulum, and the origin of vein 5 of the hindwing near the lower cell-angle. In America the limits are partly somewhat obliterated by the appearance of forms exhibiting also close relations to other families, such as the *Pericopidae* and *Geometridae*. We refer here particularly to the genera *Animomyia* Dyar and *Eloria* Wkr., the former being placed to the *Geometridae* by PEARSALL and MC DUNNOUGH, whereas the latter genus often exhibits a feebly developed proboscis, though only in one sex, for which reason it is partly to be assigned to the *Pericopidae*. Owing to the absence of the proboscis, which fact signifies that they feed on flowers, we may assume a phylogenetically very old age.

As to the distribution of the *Lymantriidae* in the New World, the northern continent only possesses, beside the quite different small species of *Animomyia*, such genera that entirely correspond to the palearctic species of *Dasychira* and *Orgyia*, of which only the latter proceed down to southern latitudes. In Central and South America we meet with quite different forms which partly resemble externally the *Geometridae* or *Pericopidae*, but which partly also exhibit a remarkable convergency to African *Stilpnotia*, such as the silvery white *Caviria*; on the other hand, we also find quite different types, particularly among the genera without an areola, which, as for instance the *Desmoloma*, most decidedly resemble Notodontid groups, the *Phiditia* and *Rolepa*-species the allies of *Apatelodes*. Thus the family creates in the New World a much more heterogeneous impression than in other faunal districts.

As far as the early stages are known, they are here quite the same as we are used to find in the palearctic *Lymantriidae*; knobbed tubercles, pencils, and brushes are inserted in the general hairy coating, partly with an inflammatory effect. Some of them live on conifers. About the early stages of the more southern forms we know almost next to nothing.

The elaboration of this difficult family by Dr. SCHAUS and the most perfect reproduction of the insects by the master-hand of Mr. FRANCIS H. NOYES, most of which have never been figured before, means an enormous progress in the information about this family, particularly since there had so far only existed detached publications about it from the American faunal district. The arrangement in KIRBY's Catalogue is of no use whatever, as it contains a most varied collocation of insects from all kinds of families that were thrown together here.

We feel infinitely indebted to Dr. L. O. HOWARD, the Director of the Entomological Division of the National Museum in Washington, by whose great obligingness we were enabled to published such a unique material of figures as will probably never again be possible for any other work. Some new species from the Berlin Museum have been inserted by myself, in accordance with Dr. SCHAUS to whom I had submitted them. (Dr. DRAUDT.)

It is preferable to use the family name as employed already by STRAND, Vol. II, p. 159, who gives an interesting outline of it. The American species are not very numerous in comparison to the Oriental and African forms. Unfortunately three of the most injurious species, *Porthetria dispar*, *Nygmia phaeorrhoea* Don., and *Stilpnotia salicis* L. have been introduced into the United States where they are doing considerable damage. Eventually the genera *Eloria* Wkr. and *Animomyia* Dyar will have to be transferred to a new family intermediate between the *Pericopidae* and *Lymantriidae*. (Dr. W. SCHAUS.)

Analytical Table of Genera.

Group I: *Areolatae*.

(Forewing with a more or less developed areole.)

A. Palpi porrect.

a. Hind tibiae with one pair of spurs.

a¹. Antennae pectinated with terminal bristles.*Notolophus*.b¹. Antennae pectinated without terminal bristles.*Byrdia*.

b. Hind tibiae with two pairs of spurs.

a¹. Legs hairy.*Hemerocampa*.b¹. Legs smooth.*Animomyia*.

B. Palpi upturned.

a. Hind tibiae with one pair of spurs.

a¹. Forewing with vein 11 free*Eloria*.b¹. Forewing with vein 11 connected with subcostal by a bar or anastomosing with 10 to form areole.*Caviria*.

b. Hind tibiae with two pairs of spurs.

Olene.Group 2: *Inareolatae*.

(Forewing without areole.)

A. Hind tibiae with one pair of spurs.

a¹. Forewing with veins 7—9 stalked.a². Hindwing with veins 3 and 4 from cell.*Stilpnobia*.b². Hindwing with veins 3 and 4 on long stalk.*Phreata*.b¹. Forewing with 7—10 stalked.*Thagona*.

B. Hind tibiae with two pairs of spurs.

a¹. Forewing with veins 7—9 stalked.a². Apex of forewing rounded.*Sarsina*.b². Apex of forewing acute.*Staetherinia*.b¹. Forewing with veins 7—10 stalked.a². Vein 10 given off before 7.*Porthetria*.b². Vein 10 given off beyond 7.*Nygma*.e¹. Forewing with 7 and 8 stalked 9 absent.*Blazia*.d¹. Forewing with 7 and 9 absent in male.*Desmoloma*.e¹. Forewing with 7 absent, 8—10 stalked.a². Hindwing erenulate.*Phiditia*.b². Hindwing not erenulate.a³. Apex of forewing slightly produced.*Phecada*.b³. Apex of forewing not produced.a⁴. Termen of hindwing rounded.*Rolepa*.b⁴. Termen of hindwing straight.*Sorocaba*.

Note: Not included the somewhat doubtful genus: *Aza Wkr.* and the genus *Leuculodes Dyar*, which belongs to the Pericopidae.

1. Genus: *Notolophus* Germar.

Male. —Palpi porrect with rather long hairs. Antennae with long branches, bipectinate, and with terminal bristles. Legs hairy with a single pair of spurs on hind tibiae. Forewing: vein 2 well before lower angle; 3 near angle; 4 and 5 slightly apart from angle; 6 from upper angle; 7, 8 and 9, 10 from areole; 11 free. Hindwing: veins 3 and 4 from lower angle; 5 above angle; 6 and 7 stalked.

Type of genus, *antiqua* Linn.

antiqua. *N. antiqua* L. (= nova Fitch). Vide Seitz Vol. II, p. 117. The species is widely distributed in northern *badia*. United States. — Ab. *badia* Hy. Edw. (72a) has the basal and terminal areas heavily shaded with blackish brown.

2. Genus: **Byrdia** *n. gen.*

♂. Antennae bipectinate without terminal bristles. Palpi porrect clothed with long hairs. Legs very hairy, hind tibiae with a single pair of short spurs. Forewing: venation as in *Notolophus*, the areole long and narrow. Hindwing: vein 2 before angle; 3 and 4 approximated at base or shortly stalked; 5 slightly above angle; 6 and 7 from upper angle or shortly stalked.

Named in honour of Commodore BYRD, first man to fly to the North Pole.

Type: *Byrdia rossii* Curtis.

B. rossii Curtis (72 a). Male. — Body above slate colour, underneath mottled with light neutral *rossii*. grey. Forewing grey irrorated with drab, less so on basal third; lines black; a broken subbasal line; ante-medial line sinuous, well defined; postmedial fine, irregular, partly followed by a black shade; subterminal black shade more irregular than in figure, outwardly with a diffuse white shade. Hindwing cream colour, the margins broadly black and the veins partly fuscous. Arctic America.

B. groenlandica Home. Male with much narrower wing, black mottled with grey. The male in Nat. *groenlandica*. Mus. in very poor condition, the wings rubbed and partly distorted. Greenland.

2a. Genus: **Aza** Wkr.

The type of this genus described by WALKER in Cat. Lep. Het. B. M. 32, p. 384 is lost as kindly communicated by Mr. TAMS. The description says: Male: body slender; proboscis absent; Palpi short, slender, porrect, acute, not surpassing the head; antennae very largely bipectinate. Legs slender, rather short. Wings thinly scaled, semihyaline, anterior wings with the apex rounded, hindwings much longer than the abdomen.

Type: *A. micacea* Wkr.

Druce described a second species as *Aza*; according to the communication of Mr. TALBOT the type, now in the Hill-Museum, is a Lymantriid and is to be inserted here:

A. eutelida Drc. Male. — Head, antennae and thorax pale brown; abdomen white; legs yellow. Primaries *eutelida*. white, the costal and outer margin edged with yellowish-brown; secondaries white. Expanse: 1 1/4 inch. Hab. Sarayacu, Ecuador. Talbot writes that the hind-tibiae have one pair of spurs. If the drawing he sent is correct it shows an areole which would bring it in the same group as *Notolophus* and *Byrdia* which are northern species.

3. Genus: **Hemerocampa** Dyar.

Differs from *Notolophus* in having a single pair of spurs on hind tibiae. Female with wings aborted. The species all offer considerable variation and are more easily separated by the larvae.

Type: *H. leucostigma* Sm. & Abb.

H. leucostigma S. & A. (= *leueographa* Geyer, *intermedia* Fitch, *borealis* Fitch, *obliviosa* Hy. Edw.) *leucostigma*. (72 a). Forewings light drab suffused with pale brown; antemedial irregular darker shaded from costa to median vein; postmedial line fine; outcurved below costa, followed by a dark costal spot; the white spot near angle very small or obsolete. Hindwing drab with pale eilia. In some specimens all the markings are very faint. Atlantic States.

H. vetusta Bsd. (72 a). Forewing brown, the two lines black well defined, the white spot at inner *vetusta*. angle distinct; hindwing brown, the termen darker shaded. — Ab. **gulosa** Hy. Edw. (72 a) smaller, the lines *gulosa*. more confused; white spot at inner angle smaller. — Ab. **cana** Hy. Edw. (72 a). Forewing greyish, the two *cana*. lines black, distinct, the white spot at angle very faint or absent; hindwing brown, paler than in typical species. California to Alaska.

H. plagiata Wkr. (72 a). Forewing reddish brown; a broad fuscous subbasal space, followed by a *plagiata*. faintly wavy thick black line, finer and incurved on inner margin; medial space from costa to median vein whitish containing a slightly oblique discal spot finely outlined with black; postmedial line black, finely wavy, outcurved beyond cell, inbent to inner margin; a subterminal whitish line defined by black, slightly curved at eosta. Hindwing fawn colour. Described from unknown locality.

H. inornata Beut. (72 a). Also rather variable, the larva very distinct, approaching that of *leuco-* *inornata*. *stigma*. Forewing mottled drab and brown, the lines more broadly dark shaded, the reniform space whitish crossed by black lines; the white spot near inner angle almost or entirely obsolete. Hindwing drab shaded with brown. Atlantic States.

- oslari*. **H. oslari** Barnes. ♂. Forewing light yellow brown suffused with darker brown, lines black; basal line distinct; antemedial line distinct, outcurved; postmedial line crenulate, oblique to beyond cell, then incurved to inner margin inwardly preceded by a blackish shade on costal half; termen with three black dashes opposite cell; a white spot near angle; reniform surrounded by a ring of blackish scales. Hindwing blackish brown like darker shades of forewing. Colorado.
- pseudotsugata*. **H. pseudotsugata** B. & McD. (72 b). ♂. Forewing verona brown, thickly irrorated with whitish scales giving an iron grey tone to the wing; lines black, the antemedial straight or somewhat outbent on inner margin, the postmedial outcurved around cell, incurved above inner margin; dark terminal streaks between veins beyond cell; a white curved spot above inner angle. Hindwing snuff brown, the termen broadly dark shaded. California.
- definita*. **H. definita** Pack. (72 b). ♂. Forewing mouse grey, suffused with fuscous, the lines black; a distinct dark subbasal line; antemedial line sinuous accompanied by a broad dark shade on costal half; postmedial fine, outcurved and thicker beyond cell, well incurved from below vein 4; reniform incurved on a white irrorated ground, defined by fine dark lines; veins 6 and 7 white with dark interspaces; a faint white subterminal line, more distinct from below vein 3 to near inner margin; a dark irregular terminal line inwardly faintly white edged. Hindwing mouse grey suffused with fuscous. Atlantic States.
- falcata*. **H. falcata** Schs. (72 b). ♂. Body grey. Forewing with basal third brownish grey limited by a velvety fuscous line; a similar line at base; medial and terminal areas grey suffused with drab; postmedial line finely lunular fuscous black, outcurved beyond cell enclosing a fuscous space; a pale subterminal wavy line defined by drab; a dark terminal line, lunular below vein 3; cilia dark with a pale line at base. Hindwing drab with darker suffusions and a fine dark terminal line. Figured in Biologia. Jalapa, Mexico.
- guatemalteca*. **H. guatemalteca** Schs. (72 b). ♂. Forewing buffy brown, darkest at base; lines as in *falcata* Schs., the postmedial enclosing a conspicuous fuscous black spot; subterminal line fuscous black with projecting teeth basad from costa to vein 4, then forming diffuse spots parallel to postmedial line; a dark terminal line and pale shade at base of cilia. Hindwing cinnamon drab suffused with hair brown; the base with pale suffusions. Guatemala..
- colombiensis*. **H. colombiensis** Dogn. (72 b). ♂. Forewing to postmedial line whitish irrorated with light greyish olive; an interrupted fuscous black subbasal line, slightly outbent, followed by a broad smoky drab shade, its outer edge lunular; antemedial line almost vertical, fuscous; postmedial line, fine, black, minutely lunular, outcurved beyond cell enclosing a buffy olive shade, which is preceded by the narrow, oblique white reniform; an oblique dark spot on costa beyond postmedial, cut by white veins; terminal space mostly light brownish olive crossed by a faintly darker line; an irregular dark marginal line. Hindwing whitish suffused on outer half with drab, the subterminal dark line of underside seen in transparency. Pacho, Colombia.
- costaricensis*. **H. costaricensis** Schs. (72 b). ♂. Body buff, the thorax mottled with darker scales; dorsal tufts of early dark and metallic scales on basal half of abdomen. Forewing: basal third mottled buff and brown, limited by a slightly oblique dark brown antemedial line, and containing an interrupted black basal line and a large ovate brown spot below the cell; costa between lines creamy buff; a steel grey medial shade from subcostal to submedian, and within curve of postmedial line; two brown lines at end of cell; postmedial line outcurved beyond cell, incurved below vein 2, thick, black, lunular, followed at apex by some black and buff; termen light brown partly shaded with grey; sometimes a dark terminal line. Hindwing buff with some dark marginal shading at apex. Tuis, Juan Viñas, Costa Rica.
- coresia*. **H. coresia** Drc. (72 b). ♂. Body and wings saecardo's umber. Forewing: a slightly darker space on basal half from costa across cell, then inbent to near base of inner margin; a similar broad shade preceding the fine, dentate postmedial line which is almost vertical and very indistinct. In Nat. Museum from Guerrero, Mexico.
- povera*. **H. povera** Schs. (72 b). Closely allied to *H. coresia* Drc. ♂. Larger, the body and hindwing buffy brown. Forewing lighter brown; a darker line incurved from middle of costa to median vein, then inset and sinuous to inner margin; two dark lines at end of cell; postmedial line very fine and indistinct; a subterminal sinuous line of small darker spots. Avangarez, Costa Rica.
- salvadora*. **H. salvadora** sp. nov. (72 e). ♂. Body and wings saecardo's olive. Forewing: some blackish scales forming an oblique basal line on costa, and a fine postmedial line well outcurved beyond cell; two small black

streaks at end of cell, the cell itself darker shaded. Wings below rather paler. Expanse. 21 mm. Republic El Salvador.

H. jalisca *sp. nov.* (72 c). ♂. Body and wings pale wood brown. Forewing: a dark point at base; *jalisca*. some fuscous scales on discocellular; postmedial line indistinct, outcurved beyond cell, followed by a few faint clusters of darker scales; the end of cell somewhat paler. Expanse: 24 mm. Guadalajara, Mexico.

H. bipuncta *sp. n.* Draudt (72 c). ♂. Larger and more robust than the other species; body and *bipuncta*. forewings uniform clayey wood-brown; on forewings with 2 blackish spots in upper and lower angle of cell and a short blackish streak between 4 and 5 behind cell. Hindwings fuscous. Type: 1 ♂ from Guerrero (Mexico) in coll. DRAUDT.

4. Genus: **Animomyia** Dyar.

♂. Palpi porrect, slender, thinly scaled; proboscis absent. Antennae with long pectinations. Legs smooth, the hind tibiae with two pairs of spurs. Wings broad. Forewing: veins 2, 3, and 4 equally apart, 4 at lower angle; 5 above angle, but nearer to 4 than to vein 6; vein 6 from upper angle, 7, 8, 9 from end of areole which is large; 10 from areole, also 11, which anastomoses from cell with subcostal. Hindwing: veins 2, 3, 4 equally apart; 5 from middle of discocellular; 6 and 7 shortly stalked; at base 7 approaches 8, but is not connected with it by a bar.

This genus is doubtfully placed in the Liparidae by DYAR. Pearsall placed his genus Graefia in the Geometridae, and McDUNNOUGH agreed with him.

Type: *A. morta* Dyar.

A. morta Dyar. (72 c). ♂. Wings translucent, drab grey. Forewing: two slightly darker transverse *morta*. lines, the antemedial hardly traceable, the postmedial somewhat dentate from costa to cell, and with faint darker streaks on veins. Hindwing: a faint small spot at end of cell; traces of a fine postmedial line. Expanse: 18 mm. San Diego, California.

A. increscens Dyar (72 c). ♂. Larger than *morta* Dyar. Forewing: the terminal third mottled with *increscens*. clusters of darker striae so it is less transparent than *morta*; a distinct small spot at end of cell; postmedial line broad, well defined, evenly curved beyond cell. Hindwing: darker striae on terminal half; a faint medial line crossing discocellular which is slightly darker. Expanse: 20 mm. Laguna Beach, California.

A. smithii Pearsall. (72 c). ♂. Body and wings drab grey. Forewing thickly irrorated with drab *smithii*. points and striae; the two lines well defined, the antemedial outbent to median vein, then vertical to inner margin, the postmedial very slightly outcurved from vein 6 to vein 2 with darker streaks on veins; a dark point at end of cell. Hindwing light drab, the costal area somewhat paler. Expanse: 19—29 mm. Walter's Station, California.

5. Genus: **Eloria** Wkr.

♂. Palpi obliquely upturned; proboscis absent, slight, in some species present in the female only. Antennae with long branches, bipectinate, and tipped with bristles. Body slender; legs slender, smooth; fore tibiae with a long process, terminating in a curved joint; hind tibiae with a single pair of spurs. Wings broad, geometriform. Forewing: vein 2 further from 3 than 3 from 4; 4 from lower angle; 5 above angle; 6 from below upper angle; areole variable; 7, 8 and 9, 10 from areole, or 7 stalked with 8 and 9; 11 from cell. Hindwing: veins 2 and 3 apart well before angle; 4 from lower angle; 5 above angle; 6 and 7 stalked; 7 approximates 8, but there is no connecting bar. KIRBY makes *spectra* Hbn. the type of genus.

I. Forewing with veins 7—10 stalked.

E. mallalia *sp. nov.* (73 a). ♂. Antennae with the pectinations tiller buff. Frons white, vertex and collar *mallalia*. orange yellow. Thorax and abdomen white, the latter with a black dorsal line. Wings white, all the veins drab. Forewing with basal third of costa narrowly fuscous. Expanse: 38 mm. Mallali, British Guiana. Genitalia.

Harp symmetrical, slender, tapering, but very faintly scobinate toward apices; apices hooked; viewed ventrally and unspread harpes no longer than tegumen to base of uncus; uncus deeply bifurcate, rather long; anellus a semichitinous simple tubular support fusing with the strongly arched transtilla; aedoagus very stout (about half as broad as long), straight apex strongly chitinized and produced into a short stout right angular hook; cornuti a dense cluster of heavy spines. (Slide made and described by C. HEINRICH.)

captiosa. **E. captiosa** *sp. n.* Draudt (73 a) belongs to the same group; Antennae drab, head and collar yellowish-white, body white, abdomen with light buff dorsal stripe. Wings thinly scaled, white, veins and discocellulars drab on both wings. Underneath apex of forewings suffused with drab. Type one ♂ from Rio Songo e coll STGR. in Mus. Berlin.

II. Forewing with veins 7, 8, and 9 stalked.

festiva. **E. festiva** *Wkr.* (nec *Cr.*) (73 a). ♂. Antennae with the shaft white spotted with fuscous, the pectinations drab. Frons white, vertex and collar yellowish. Thorax and abdomen white, the latter with a fuscous dorsal line. Wings white, the veins fuscous except the discocellular of hindwing. Forewing with the areole long and narrow. Rio de Janeiro, Brazil.

compulsa. **E. compulsa** *sp. n.* Draudt (73 a). Very near to *festiva*, smaller, apex of forewings more acute, more thinly scaled; antennae paler, pectinations nearly white; veins and discocellulars on both wings more heavily fuscous. May be only a more northern form of *festiva*. Type: 1 ♂ from Arouary (Cayenne), in Mus. Berlin (SAHLKE coll.).

ebba. **E. ebba** *sp. nov.* ♂. Pectinations of antennae light drab. Wings white, the veins and discocellular drab. It differs from *mallalia* Schs. in venation from areole and in genitalia. Expanse: 40 mm. Venezuela, Amazons. ♂ genitalia as in *mallalia* Schs. except harpes longer, reaching almost, if not quite, to end of uncus; aedoeagus with apex strongly chitinized and tapering to a curved point, but very slightly hooked; cornuti a single comb of very short spines. (C. HEINRICH *).

corvicoa. **E. corvicoa** *sp. nov.* ♂. Head, collar and body creamy buff, the dorsal line on abdomen very faint. Wings white, the veins very faintly vinaceous buff; a paratype from Venezuela is only distinguishable from *ebba* Schs. by the genitalia. Veins 7—9 on a longer stalk. Type from Corvico, Bolivia. ♂ genitalia with harpes symmetrical, elongate, slender, curved, tapering, strongly scobined on apical half; uncus rather long, very slightly bifurcate (with scarcely more than a triangular invagination) at apex; anellus produced beneath into a deeply bilobed heart shaped plate, fusing above into the divided arms of the transtilla; aedoeagus moderately stout; apex bluntly pointed, rather strongly chitinized with a short sharp sub-apical lateral spur; cornuti a comb-like cluster of moderately short, stout spines. (C. HEINRICH.)

limata. **E. limata** *sp. n.* Draudt (73 b). ♀. Head and collar creamy white, body otherwise white; abdomen with black dorsal stripe except last three segments. Wings with apices very rounded, white, very thinly scaled, costa somewhat more heavily scaled; veins light buff. Underneath some very light buff suffusion on costa and apex. Type: 1 ♀ from Chaco (La Paz), Bolivia, e coll. STGR. in Mus. Berlin.

subnuda. **E. subnuda** *Wkr.* (73 b). ♂. Shaft of antennae white, the branches drab. Body white, the vertex and collar yellow. Wings semihyaline, white, the veins white; costal margin broadly, termen and inner margin more densely scaled; costa of forewing finely black, more defined on under side. Honduras; Mexico. This is the *festiva* of the Biologia (nec *Hön.*).

edana. **E. edana** *sp. nov.* ♂. Shaft of antennae cream colour with drab branches. Head and thorax white. Abdomen cream colour with fine white segmental lines; a very faint dorsal line. Wings white, the veins light buff. Forewing below with the costa and apex light buff. Expanse: 33 mm. Venezuela. Small proboscis in ♂.

noyesi. **E. noyesi** *sp. nov.* (73 b). ♀. Antennae with shaft white, the pectinations drab. Head and body white, the abdomen with a dorsal buff line. Wings white, semihyaline iridescent; veins finely light drab. Forewing: the costal margin suffused with light drab, the apex rather broadly light drab narrowing to tornus. Hindwing below with termen narrowly light drab. Showing in transparency on upper surface. Expanse: 38 mm. Venezuela. Named for Mr. NOYES, the artist who is doing such beautiful work.

*) Seems rather variable; specimens occur with the discocellulars on both wings very broadly suffused with fuscous; such are before me from Sao Paulo de Olivença (Amazons); in specimens in the U. S. Mus. the genitalia are the same as *nugax*. in *ebba*; we are figuring it as — **nugax** *form. n.* Draudt (73 a). — Other specimens which are before me from Sarayacu (Ecuador), have head and collar white, not yellow, on hindwing veins 4 and 5 are wider apart; as communicated by SCHAUS. the same form is under *ebba* in the U. S. Mus.; genitalia not examined; perhaps a good species: **albicollis** *f. n.* Draudt (73 a). Types of both names in Mus. Berlin (DRAUDT).

E. schausi *sp. n.* Draudt (73 b). Very similar to the preceding species, wings more semihyaline and *schausi*, somewhat iridescent, all the veins drab; discocellulars on forewing very broadly suffused with drab. Forewing: subeostal area dull white, only veins and interspace between 11 and 7 suffused with fuscous; apex fuscous, similar to *noyesi*, terminating in a point at tornus. Termen of hindwings at vein 4 somewhat produced to a slight angle, more broadly suffused with drab. Type: 1 ♂ from Amazonas e coll. STGR. in Mus. Berlin.

E. lucida *Wkr.* (73 e). ♂. Antennae black. Head and collar orange. Thorax light neutral grey. *lucida*. Abdomen white mottled above with drab; dorsal and lateral fuscous lines. Wings white, thinly scaled, the veins fuscous. Forewing: apex suffused with mouse grey, more heavily marked on underside, where the costa is similarly suffused. Hindwing below with some terminal dark irrorations; cilia dark tipped with white. Brazil.

E. hiulca *sp. n.* Draudt (73 e). ♂. Shaft of antennae fuscous, pectinations drab. Head and collar *hiulca*, yellow; thorax and abdomen white, no dorsal stripe. Wings semihyaline white, veins in terminal third broadly suffused with drab, also subeostal area and apex; very broadly so the discocellulars on forewing and veins 3 and 4, the latter connected with discocellulars; on hindwing base of cilia drab. Type: 1 ♂ from Columbia in Mus. Berlin e coll. STGR.

E. discalis *Wkr.* (= *eryeinoides* *Fldr.*) (73 e). ♂. Body and wings fuscous black; abdomen below *discalis*, white. Forewing: basal third more thinly scaled, hair brown; white streaks in cell; a white patch between veins 2 and 3, terminating in a point near termen; 3 subapical white spots between veins 7—4, and a point below vein 4. Hindwing with interspaces thinly scaled, white at termen. Amazons.

E. chorax *Drc.* evidently closely allied to *discalis* *Wkr.*, has the black very much reduced. Sarayacu *chorax*, Ecuador.

E. chares *Drc.* is larger with a large orange yellow spot from costa before apex to tornus. I have not *charcs*, seen specimens of these two species, and do not know whether they belong to this group or the following with veins 7 not stalked with 8. Sarayacu Ecuador.

III. Vein 7 on forewing not stalked.

E. intacta *Wkr.* (73 c). ♂. Antennae: shaft white with small drab spots; branches light drab. Head *intacta*, and body white; collar yellowish; abdomen with a light drab dorsal line. Wings semihyaline white, the veins finely light drab. Underneath the termen narrowly drab; the costa of fore wing with slight light drab suffusion. Pará.

E. insulsa *sp. n.* Draudt (73 e). ♂. Very similar to *intacta*, whole body white, collar not yellow, *insulsa*, abdomen with fuscous dorsal line. Wings semihyaline white, veins very finely fuscous black, discocellulars on hindwing white, not drab. Underneath only the apex of forewings somewhat suffused with drab. 1 ♂ from Corvico, Bolivia, Type in Mus. Berlin.

E. manesia *sp. nov.* (73 e). ♂. Similar to *intacta* *Wkr.*, the discocellulars on both wings more heavily *manesia*, marked with drab. Wings below with tips of veins drab; no drab suffusion at apex of forewing. Expanse: 38 mm. Amazons. ♂ genitalia as in *E. mallalia* except: harpes asymmetrical, left shorter than the right terminating in a ragged strongly scobinate, irregularly shaped but unhooked apex; apex of right harp hooked and strongly scobinate. Cornuti as in *E. ebba*. (C. HEINRICH.)

E. venosa *Wkr.* (73 d). The largest of the white, dark veined species. ♀ from Colombia differs from *venosa*, the figure of the ♂. Lep. Het. in B. M. Vol. 5, pl. 89, fig. 1, in having the veins on hindwing white. It is possible our specimens represent a different species. Proboscis present in ♀.

E. jocosa *Dogn.* (73 d). ♂. Head hair brown; shaft of antennae white, branches fuscous. Thorax *jocosa*, and abdomen white, the latter with dorsal hair brown fuscous. Wings white, the veins finely hair brown, the discocellulars white; costal margin of forewing broadly hair brown. Expanse: 32 mm. Type from Manaos, Amaz.; also from Villavieeneio, Colombia.

E. onaba *Drc.* (73 d). ♂. Differs from *E. jocosa* *Dogn.* in being frequently larger, the veins hair brown *onaba*, on terminal third of wing, and more heavily marked. The ♀ usually has the apex of forewing suffused with hair brown. Expanse: ♀ 40 mm. Costa Rica; Panama.

- pellucida*. **E. pellucida** Hbn. (= *turbida* Wkr.) (73 d). ♂. Wings white, semihyaline iridescent, the veins black. Forewing: costal margin black widening before apex which is broadly black, narrowing to tornus; a black spot on discocellular. Hindwing with termen broadly black. I only know the type of *E. turbida*, which has vein 7 not stalked with 8.
- moconia*. **E. moconia** Drc. (73 d). ♂. Palpi, head and thorax orange yellow. Abdomen white with a dorsal hair brown line and irrorations. Wings dull white, the veins well defined, drab with similar suffusions terminally; a yellow spot at base of forewing. Described from Guiana; Southern Brazil. Small proboscis in both sexes.
- remota*. **E. remota** Wkr. (73 d). ♂. Shaft of antennae white, the branches drab darkest at base. Body white, the anal hairs light buff; traces of a buff dorsal line. Wings white, very thinly sealed, iridescent; the costa of forewing finely light buff. Expanse: ♂ 38 mm. Colombia.
- spectra*. **E. spectra** Hbn. (73 e). ♂. Shaft of antennae white, the branches light buff. Head and body white. Wings white, the veins more heavily scaled. Forewing below with the costa and apex suffused with vinaceous buff. I am not sure that this is correctly identified. HUBNER's figure of the ♂ shows a cluster of dark scales at the base of forewing. Venezuela; the Guianas; Trinidad.
- cubana*. **E. cubana** Schs. ♂. Shaft of antennae white, the branches light buff. Wings white, thinly sealed, the termen of forewing somewhat oblique. Wings below pure white. Baracoa, Cuba.
- diaphana*. **E. diaphana** Stoll. Unknown to me. The figure represents a white species; wings with veins finely dark, the costal edge distinctly black. Allied to *intacta* Wkr. and *mallalia* Schs. Expanse: 40 mm. Surinam.
- gigantea*. **E. gigantea** Drc. (73 e). ♂. Body white in fresh specimens, usually discoloured in collections. Wings white, the apex of forewing below slightly suffused with light drab. Expanse: ♂ 39 mm, ♀ 50 mm. Central America to the Guianas.
- aroensis*. **E. aroensis** Schs. ♂. Body and wings white, the forewing showing slightly the broad apical light cinnamon drab suffusion of underside. Expanse: 37 mm. Aroa, Venezuela.
- serena*. **E. serena** Schs. (73 e). ♂. Head and collar pale yellow. Body and wings creamy white; costal edge of forewing black, the underside purer white, the costa and apex fuscous. Expanse: ♂ 37 mm; ♀ 57 mm.
- sixola*. **E. sixola** Schs. (73 e). ♂. Head and collar yellow. Body white, thinly scaled. Forewing: the costa finely fuscous; underside as above, the apex broadly, the termen narrowly at tornus fuscous, faintly visible in transparency on upper side. Expanse: ♂ 44—46 mm. Costa Rica.
- torrida*. **E. torrida** Schs. (73 e). ♂. Body creamy white. Wings white thinly sealed. Forewing: costa finely fuscous; apex to vein 4 narrowly drab; underneath the costa more broadly fuscous. Expanse: ♂ 32 mm; ♀ 42 mm. Costa Rica.
- subapicalis*. **E. subapicalis** Wkr. (73 f). ♂. Similar to *E. torrida*. Forewing: costa finely black at base; at apex the darker scaling of underside, only shows in transparency. Venezuela; Mexico.
- marginalis*. **E. marginalis** Wkr. (73 f). Larger than *discifera* Wkr. Expanse: 37—43 mm. Head yellow buff. Wings white, the margins darker, on inner margin of forewing reduced to a line on submedian. The Guianas; Amazonas.
- nigella*. **E. nigella** Dogn. (73 f). Head orange yellow. Wings cream white, the margins fuscous, broader than in *E. marginalis*. Amazons.
- moeschleri*. **E. moeschleri** Dogn. (73 f). ♂. Head and palpi brown. Wings creamy white, the fuscous margins still broader than in *E. nigella* Dogn. The abdomen suffused with drab. Amazons.
- ninya*. **E. ninya** Dogn. (73 f). ♂. Head vinaceous fawn. Abdomen above hair brown. Wings white with very broad hair brown margins, the forewing with the white portion reduced to an elongate triangular spot. Amazons.
- nimbosa*. **E. nimbosa** Dogn. (73 f). ♂. Head and collar orange. Wings as in *E. ninya* Dogn., but the central creamy white portions still more reduced. Amazons.
- flavicollis*. **E. flavicollis** Dogn. (73 g). ♂. Collar yellow. Body above hair brown, underneath whitish. Forewing thinly scaled at base and along inner margin, irrorated with hair brown; a large cream white patch from subcostal at middle, across cell to near termen; apex broadly fuscous more thickly scaled. Hindwing semihyaline irrorated with hair brown, the veins darker. Forewing below greyish white from base to dark apical area. Expanse 32 mm. Rio Tapajos, Amazons.

E. albifasciata Dogn. (73 g). ♂. Smaller than *flavicollis* Dogn. Collar concolorous with thorax, hair *albifasciata*. brown; the postmedial patch crossing end of cell, white, its outer edge curved. Forewing below as on upper surface. Expanse: 28 mm. Amazons.

E. moesta Wkr. (73 g). ♂. Wings almost entirely dusky drab with a small pale patch at lower end of *moesta*. cell and base of veins 3 and 4. Wings underneath yellowish glaucous, all the margins broadly brownish black. Amazons.

E. ombrea Drc. (73 g). ♂ described as dusky brown, rather paler from base to about middle. The species *ombrea*. is unknown to me. Fig. in Biologia t. 15, f. 8. Costa Rica.

E. cissusa Drc. (73 g). ♀. Head and collar yellowish brown. Abdomen fuscous above, yellowish brown *cissusa*. underneath. Wings whitish, the margins very broadly benzo brown. Forewing: the white portion elongated, narrow at base expanding and curved beyond cell, its basal half irrorated with dark scales especially on median vein. The ♂ is figured by DRUCE with only a large white spot beyond the cell, the hindwing with a cream coloured streak from base below costa to outer margin. Ecuador; Peru.

E. clodia Drc. (73 g). ♂. Head and collar bright yellow. Body black; abdomen below yellow. Wings *clodia*. semihyaline black. Forewing with a large round cream coloured spot about center of wing. Hindwing with some cream coloured scales at end of cell. Expanse: 38 mm. Santarem, Amazons. This species is unknown to me.

E. grandis Drc. (73 h). ♂. Antennae black. Frons light buff, vertex yellowish. Abdomen white in *grandis*. fresh specimens. Wings white; thinly scaled. Forewing: costa and apex broadly hair brown. Expanse: ♂ 40 mm, ♀ 74 mm (fide DRUCE). Amazons; Fr. Guiana; Colombia; Peru.

E. apicalis Wkr. (73 h). ♂. Head and collar yellow buff. Body and wings creamy white. Forewing: *apicalis*. costal edge black, the apex more broadly dark hair brown. Underside the same. Expanse: 38 mm. Amazons.

E. opaca Dogn. (73 h). ♂. Head and collar orange yellow. Body and wings creamy white. Forewing: *opaca*. costa narrowly, apex broadly hair brown. Underside the same. Expanse: 38 mm. British Guiana.

E. discifera Wkr. (73 h). ♂. Head yellowish. Body white with some greyish suffusions on thorax. *discifera*. Wings thinly scaled white. Forewings: the margins light drab, widest at apex. Hindwing: the termen narrowly light drab. Expanse: 34 mm. The Guianas and Amazons.

The following three species described under *Eloria* should be transferred to **Xenosoma** of the Pericopidae

E. velhoa Schs. (73 i). ♀. Palpi and frons whitish; vertex yellowish. Thorax and abdomen white. *velhoa*. Wings white semihyaline, the veins clearer white. Forewings: costa greyish brown; terminal space with smoky brown streaks on interspaces, the longest between veins 2 and 3, and 5 and 6; the shortest between veins 3 and 4, and above tornus. Rio Madeira, Amazons.

E. nicander Drc. ♂. Head and thorax orange yellow. Body white, anus orange yellow. Wings white, *nicander*. the veins faintly drab; costal edge black; mouse grey suffusions at apex, more intense and broader in the ♀ where they extend along termen. Costa Rica; Panama.

E. geometrina Schs. (73 h). ♂. Head, collar, and anal tufts orange, body otherwise light mouse grey, *geometrina*. with paler segmental lines. Wings semihyaline white, the margins broadly greyish drab. Forewing with the median vein, base of veins at cell, and an oblique broad shade from end of cell to inner margin before tornus light drab. Costa Rica.

6. Genus: **Caviria** Wkr.

Palpi upturned, slender, clothed with hairs. Antennae bipectinated to tips. Proboscis aborted. Legs including tarsi hairy; hind tibiae with terminal pair of spurs. Forewing broad, costal margin arched towards apex; termen slightly rounded; veins 2, 3, 4 equally apart; vein 5 above angle; 6 from upper angle; areole variable, vein 7 from near end of areole; 8 and 9 on long stalk from areole; 10 from close to end of areole;

11 connected with subcostal by a bar, or anastomosing with 10 to form the areole, rarely free. Hindwing broad; inner margin longer than costal margin, the termen almost straight in ♂, rounded in ♀; veins 3, 4, 5 equally apart; upper half of discocellular very faint, 6 and 7 stalked.

Type: *comes* Geyer.

- regina*. **C. regina** Cr. (74 a). ♂. Antennae with shaft white, the branches light ochraceous buff; palpi benzo brown fringed with white hairs; fore tibiae streaked with black. Body white. Forewings silver white with duller silver markings; streaks in cell; antemedial line narrow from cell to inner margin; postmedial broad from costa near apex to middle of inner margin, followed by a fine line; a subterminal narrower line from termen below apex parallel with postmedial, incurved below vein 2; marginal irregular markings; costal edge sometimes fuscous. Hindwing silvery white. Expanse: ♂ 44 mm; ♀ 58 mm. The Guianas; Amazons; Central America.
- doda*. **C. doda** sp. nov. (74 a). ♂. Very similar to *C. regina* Cr., smaller, the lines more undulating, narrower. Forewing: the subterminal not incurved below vein 2; the costal edge finely brown. Expanse: ♂ 30 mm; ♀ 45 mm. The Guianas; Amazons; In this species vein 11 is free.
- sericea*. **C. sericea** Fldr. (74 a). ♂. Forewing: differs from the previous species by the more obliquely inbent lines which are still narrower; postmedial line from apex; the subterminal line fine and gently incurved. Hindwing with anal angle more produced. Amazons.
- micans*. **C. micans** Wkr. (74 a). ♀. Shaft of antennae yellow ocher irrorated with fuscous; fore and hind legs orange with black spots; body white. Wings silvery white without the brilliant shading of the other species. Forewing: costa and cilia yellow ocher. The only known species with yellow cilia. Amazons.
- andeola*. **C. andeola** sp. nov. (74 b). ♂. Antennae with shaft white, the branches buff white; palpi, throat and fore femora fuscous black. Wings thinly scaled, silvery white, the duller markings forming double postmedial and subterminal lines. The only species with fuscous palpi. Expanse: 36 mm. Nova Friburgo, Brazil.
- hedda*. **C. hedda** sp. nov. (74 b). ♀. Antennae as in *C. andeola*. Palpi, throat and fore femora white. Body white. Forewing silvery white, the duller silver lines very wavy; antemedial line deeply incurved; postmedial and subterminal lines narrow, double, and another line closer to margin. Hindwing creamy white, thinly scaled except on veins. Expanse: 45 mm. Rio de Janeiro.
- vinasia*. **C. vinasia** sp. nov. (74 b). ♂. Branches of antennae drab; palpi, throat and body white. Forewing silvery white, the lines less wavy than in *C. hedda*. Hindwing white, thinly scaled. Expanse: 33 mm. Juan Viñas, Costa Rica.
- vestalis*. **C. vestalis** Schs. (74 b). ♂. Antennae with shaft white, the branches light buff; palpi white streaked with fuscous above. Body white. Wings duller white irrorated with slightly silvery scales, the duller portion forming indistinct antemedial, postmedial, and subterminal lines. Expanse: 30 mm. French Guiana.
- comes*. **C. comes** Gey. (= *substrigosa* Wkr.). ♂. Branches of antennae light buff. Palpi white streaked above with brown. Body white. Forewings silvery white, the duller lines narrow, slightly wavy, double, appearing more numerous. Hindwings broad, considerably longer on inner margin than on costal, dull white, somewhat hyaline. Expanse: ♂ 30 mm; ♀ 42 mm. Southern Brazil.
- odriana*. **C. odriana** sp. nov. (74 c). ♂. Belongs to the group of *C. comes* Gey., the lines very numerous. Palpi white, faintly light buff above. Body white. Forewings silvery white, the lines slightly wavy, the duller silver lines very narrow; costal edge finely fuscous; the apex acute. Hindwing semihyaline, the veins more heavily scaled. Expanse: 37 mm. La Oroya, Peru.
- marcellina*. **C. marcellina** sp. nov. (74 c). ♀. Palpi light buff fringed with white hairs. Body white. Forewings with the silvery white lines numerous; postmedial line outbent from costa, angled and inbent to middle of inner margin; subterminal line outbent on costa and parallel with postmedial, followed by another finer line. Hindwings semihyaline, dull white. Expanse: 38 mm. São Paulo de Olivença, Amazons.
- athana*. **C. athana** sp. nov. (74 c). ♂. Antennae with the shaft white, the branches wood brown. Palpi and body white. Forewings silvery white, the duller lines narrow, the postmedial curved below costa; the costal edge wood brown, also the tips of cilia from vein 5 to apex, more apparent on underside. Hindwing semihyaline white, the veins silvery white. Expanse: 27 mm. São Paulo de Olivença, Amazons.

7. Genus: **Olene** Hbn.

♂. Antennae deeply bipectinate, the branches with terminal bristles. Palpi upturned, densely scaled. Abdomen with dorsal crests. Legs hairy including tarsi; hind tibiae with two pairs of spurs. Fore wing in type species broad or frequently narrow; vein 2 well before angle of cell; 3 near angle; 4 from angle, 5 slightly above; vein 6 from upper angle; areole present; veins 7, 8, 10 from areole, 9 on long stalk with 8; vein 11 free running closely along subcostal, sometimes suffusing shortly with it. (This occurs in *mendosa* occasionally). Hindwing: vein 2 well before angle; 3 and 4 slightly apart or from angle; 5 slightly above angle; 6 and 7 on short stalk.

Type: *O. mendosa* Hbn.

O. basiflava Pack. (= *clintoni* G. & R.) (72, c, d). ♂. Forewing grey mottled with brown and drab; *basiflava*. antemedial line fine black, faintly wavy dentate above cell; medial space from costa to median vein whitish with dark irrorations; postmedial line slightly outcurved, black, fine wavy; terminal space with brown mottlings irregularly defined. Hindwings brown; a fuscous discal spot and traces of a postmedial dark line. ♀. Base of forewing yellowish brown with chestnut brown markings; antemedial line outbent, incurved below cell; medial space with whitish anterior space as in male, from cell to inner margin more mouse grey; postmedial line followed by a broad chestnut brown shade on interspaces; a pale wavy subterminal line. North Atlantic States. — f. **meridionalis** B. & McD. (72 d) has the ♂ smaller, the base darker, the medial space below cell *meridionalis*. greyer; the ♀ has a white-grey abdomen, the dorsal tufts chestnut brown very distinct; the entire medial space whitish crossed by a faint darker grey shade; antemedial line consisting of a narrow brown shade; a fine black line on discocellular; termen irregularly whitish grey; a black terminal line, very irregular towards tornus. Florida.

O. kervillei B. & McD. (72 c). ♂. Body light drab, the dorsal tufts on abdomen black. Forewing: *kervillei*. basal and terminal areas light cinnamon drab, the medial space greyer; lines black, the antemedial forming several curves, the postmedial vertical from costa to vein 5 then sinuous. Hindwing light cinnamon drab. Kerrville, Texas.

O. vagans B. & McD. (72 d). ♂. Head and collar drab grey; thorax and abdomen hair brown. Fore- *vagans*. wing drab grey tinged with olive; antemedial line vertical somewhat sinuous; medial space greyer; discal space whitish with a large reniform finely outlined in black; postmedial line outcurved beyond cell, incurved in submedial space; postmedial followed from vein 4 to costa by a broad olivaceous brown space, limited by the pale irregular subterminal shade. Hindwing drab with faint dark discal spot, and a dark subterminal line. ♀. Forewing: the brown basal space with darker suffusions and limited by the wavy antemedial fuscous line; medial space whitish with dark irrorations on costal half, the reniform outlined in black; medial space below cell neutral grey; postmedial line fine, black, wavy, followed by a broad benzo brown shade, narrowing towards inner margin, and limited by an irregular subterminal whitish shade. North Eastern States; Canada. — subsp. **grisea** B. & McD. (72 e). ♂ and ♀ greyer with some light drab suffusions, the basal areas with dark suffusions; *grisea*. antemedial an irregular narrow shade; reniform incurved, outlined by a black line; postmedial vertical from costa in ♂, incurved in ♀ where it is followed by a greyish brown shade, limited by the whitish subterminal shade. Hindwings drab in ♂, paler in ♀; a dark discal spot and postmedial darker line. Utah. — subsp. **willingi** B. & McD. (72 e). ♂. Much darker than two preceding forms, of a general suffused blue black appearance. *willingi*. Forewing: antemedial line broad, wavy; postmedial finer, followed by a broad dark shade; medial space paler especially around reniform, below cell colour variable; subterminal whitish indistinct. Hindwing hair brown. Humboldt, Sask., Canada.

O. atrivenosa Palm. (72 e). ♂. Forewing greyish fuscous, the veins with blackish brown scales; inner *atrivenosa*. half of wing paler with several irregular whitish patches; postmedial line black, somewhat curved, and inangled above submedian, followed by a dark shade, its outer edge irregular, narrower below vein 4; subterminal shade greyish, diffuse. Hindwing greyish fuscous with dark discal spot; termen broadly paler. This species is only known to me by description of Barnes and McDUNNOUGH and figure from photograph of type. Arkansas.

- leucophaea*. **O. leucophaea** A. & S. (72 e). ♂. Forewing purplish grey; a short basal line, and basal space towards inner margin suffused with brown; antemedial line vertical, sinuous; medial space from costa to median vein paler; reniform large, oblique partly outlined in black; postmedial line outbent on costa, outcurved between veins 5 and 3, incurved and bent outwards above inner margin, followed by a brown shade and traces of suffused dark longitudinal streaks most prominent near costa. Hindwing dark smoky brown. ♀ paler; antemedial line inangled at median; medial space neutral grey on inner half, costal half whiter; reniform faint; postmedial line wavy, inbent on costa; subterminal dark line outangled between veins 6 and 7, outcurved above vein 3 preceded by brown suffused with dark streaks. Hindwing pale smoky with darker subterminal shade and discal spot. Georgia.
- dorsipennata*. **O. dorsipennata** B. & McD. (72 f). ♂. Forewing olivaceous grey; basal line black, short; antemedial line double, lunular; reniform broad, incompletely outlined in black, surrounded with whitish, less so than in other species of group; postmedial line irregularly dentate, strongly inangled above inner margin, followed by a diffuse drab shade; subterminal shade whitish, irregular with whitish patch near tornus; a fine marginal black line. Hindwing smoky brown with diffuse lines. ♀ very similar to ♂; discal patch whiter, larger; marginal black line inwardly edged with white. Chelsea, Quebec, Canada.
- atomaria*. **O. atomaria** Wkr. (= *obliquata* G. & R.) (72 f). ♂. Forewing: basal area mostly wood brown limited by the fine dark antemedial line which forms three outward curves; a short basal line; medial space whitish around reniform; postmedial line wavyly outcurved, incurved above submedian; subterminal whitish shade indistinct. Hindwing dark smoky brown; traces of discal spot and subterminal line. ♀ paler; antemedial line more angular; postmedial line more vertical wavy. Eastern States. — f. **parallela** G. & R. (72 f). ♂ very similar to *O. atomaria* Walk. Forewing: base and suffusions beyond postmedial of a deeper brown; a black streak from base below cell to postmedial or beyond. ♀ with dark scaling on median; an almost medial brown shade outbent from costa, then inbent from within cell to the dark streak in submedian space; the brown shading beyond postmedial more pronounced than in *O. atomaria* Wkr. New England; Pennsylvania. — f. **aridensis** Benj. (72 g). Size, lines and ordinary spots as in *O. atomaria* Wkr. ♀. Forewing: basal area and subterminal area chocolate-brown; medial space pale, olivaceous with tendencies to bluish or greenish; reniform strongly outlined by a dark line and filled in with whitish. Hindwing medium brown, with darker discal spot and outer line. New Jersey. Said to be a form of *O. atomaria* Wkr.
- achatina*. **O. achatina** A. & S. (72 d). This species has never been properly identified according to BARNES and McDUNNOUGH chiefly because the larva has not been identified and bred. In the Insects of Georgia, the figures represent a large species with a pronounced broad fuscous dash in basal area below cell. ♂. Forewing: basal and terminal areas wood brown, the latter with a series of fuscous dashes on interspaces beyond postmedial; the medial area is bluish white with dark irrorations, the reniform outlined by black lines. ♀. Forewing: basal area like medial bluish white space; antemedial line wavyly curved, dark brown preceded by a white line; the dark spots beyond postmedial larger, followed by a whitish subterminal shade. Georgia. We are figuring a ♀ from the Berlin-Museum with the label „Georgia“ which seems to match the description and shows clearly the dash in basal area below the cell, absent in the very similar *O. meridionalis*.
- cinnamomea*. **O. cinnamomea** G. & R. (72 g). ♂. very similar to *O. atomaria* Wkō, but browner on basal and terminal areas. Forewing entirely brown; lines brown shaded on either side with whitish scales; medial space with whitish scales on costal half, on which a brown reniform ringlet indicates the discal spot; a dark greyish patch medially above inner margin; postmedial line outbent at vein 2, incurved above submedian; some greyish scales on termen. New England States; New York.
- manto*. **O. manto** Streck. (72 g). ♂. Forewing chestnut brown; a faint basal lunular line; antemedial black line lunular dentate, vertical; postmedial black, irregular, curved inwardly between veins 3 and 4; reniform large outlined in white, the costa above between the lines white irrorated with black; some white scales on inner margin between the lines; a sinuous whitish subterminal shade. Hindwing dark greyish brown with traces of darker discal spot and subterminal shade. ♀ very similar to the male; discal area whiter; the subterminal white shade more irregular. Georgia. — f. **interposita** Dyar. (72 h). ♂ smaller, more uniformly brown. Forewing: the lines black, distinct, irregularly crenulate; a white cloud in the discal area defining the brown filled, oblique

reniform; subterminal line pale, followed by a greyer terminal area. In the ♀ the medial space is largely grey. Tryon, North Carolina.

O. montana *Beut.* ♂ dark smoky brown with a slight violaceous lustre; transverse lines and discal spot *montana*, almost obscured, the latter with a few white scales; antemedial line forming three curves; postmedial line outcurved around discal spot, inbent above middle, then nearly straight to inner margin; a white spot above tornus; terminal black line dentate at tornus. ♀ deep sepia brown; lines distinct; discal mark filled with clear white; white spot at tornus larger. Expanse: ♂ 32 mm, ♀ 36 mm. Summit of Black Mountains, North Carolina.

O. pini *Dyar* (72 h). ♂. Forewing grey, irrorated with black; some brown shading in basal and medial *pini* areas; a small black basal line; antemedial and postmedial lines black, distinct, crenulate, the latter inangled at submedian; discal space whitish, reniform open, broken into two black bars with white edgings; subterminal line whitish, wavy with white spot above tornus; marginal line black, crenulate. Massachusetts; New York.

O. plagiata *Wkr.* (= *pinicola Dyar*) (72 h). ♂. Forewing cinereous fawn colour irrorated finely *plagiata* with black; a black basal line, outbent at inner margin; antemedial line dentate below costa, outbent below cell, inangled on submedian; postmedial line wavyly dentate, outcurved around cell; subterminal line whitish, inwardly dark edged towards costa with a well marked white spot above submedian; a black marginal line; reniform black lines on a whitish space. ♀ very similar to the ♂, the black marginal line partly edged inwardly with white. Wisconsin; Canada.

O. styx *B. & McD.* Forewing fuscous, all traces of maculation practically lost with the exception of *styx*, an obscure black basal dash, a large reniform very faintly outlined in whitish and a small white spot above tornus. Hindwing deep smoky in the ♀ with outer margin concave below apex, in the ♂ well rounded. Considered probably a melanic form of *O. plagiata Wkr.*, as *O. montana Beut.* is of *O. manto Streck.* Duncans, British Columbia,

O. grisefacta *Dyar* (72 h). ♂ and ♀. Forewing whitish coarsely irrorated with drab; lines broad, *grisefacta*, black, the antemedial wavyly dentate, the postmedial wavy, outcurved around cell, incurved below cell to submedian; discal mark broad, whitish, reniform black outlined, broken above; subterminal diffuse, indistinct with whiter spot above tornus; a marginal black line, crenulate, receding somewhat from termen. Colorado.

O. bonniwelli *B. & Benj.* (72 h). ♂. Forewing pale grey tinged with brownish, and heavily dusted *bonniwelli* with black; lines black, the basal line outbent, the antemedial broad somewhat waved, slightly oblique, the postmedial well outcurved around cell, incurved below vein 4; a black dash at base below cell; reniform large outlined by black with brownish center, the whole somewhat surrounded by pale grey; subterminal a diffuse shade, outbent from costa to below vein 7, then inwardly oblique, obsolescent below vein 3, preceded above submedian by a black spot. Hindwing drab to dark brown. New Mexico.

8. Genus: **Stilpnotia** *Westw. & Humph.*

♂. Antennae bipectinated with terminal bristles. Palpi obliquely upturned, reaching vertex, fringed with long hairs. Fore tarsi with long process at base; hind tibiae with one pair of spurs. Forewing: vein 2 long before 3; 3 well before angle; 4 from angle; 5 above angle; 6 from below upper angle; 7—9 stalked; 10 and 11 from cell. Hindwing: veins 2—5 as on forewing; 6 and 7 stalked.

Type: *S. salicis* *L.*

S. salicis *L.* Vol. II, p. 127 (20 d). Has been introduced into the New England States.

salicis.

9. Genus: **Phreata** *Wkr.*

♀. Antennae slender, minutely serrate and setulose. Palpi short, porrect. Legs slightly hairy; hind tibiae with one pair of short spurs. Forewing: vein 5 close to 4; 6 from upper angle; 7, 8, 9 on long stalk; 10 and 11 from cell. Hindwing: veins 3 and 4 on long stalk; 5 from lower angle; 6 and 7 from upper angle.

Type: *P. glaucoalba* Wkr.

glaucoalba.

P. glaucoalba Wkr. ♀. Body white partly tinged with pale green; fore legs striped with ochraceous. Forewing creamy white. Hindwing thinly scaled, white. Bolivia. Have examined the type in British Museum.

10. Genus: **Thagona** Möschl.

♂. Antennae bipectinated with terminal bristles. Palpi upturned to frons, thickly scaled in front, the third joint somewhat porrect. Legs hairy, including the tarsi; hind tibiae with single pair of spurs. Wings broad; veins 2—4 well apart, 4 from lower angle of cell; 5 slightly above angle; 6 from upper angle; 7—10 atalked, 10 from 8 before 7; 11 free. Hindwings: vein 2 well before end of cell; 3, 4, 5 slightly apart; 6 and 7 from upper angle.

Type: *T. uniformis* Moeschl.

hedila.

T. hedila Drc. (72 k). ♂. Antennae light buff. Palpi, thorax and abdomen buck thorn brown; vertex and collar white. Forewing mostly yellow ocher crossed by Kaiser brown veins; base of wing broadly pure white; an irregular curved white crescent on end of cell, enclosing a yellow ocher space containing some black scales; apex white; termen below vein 5 white to tornus, more broadly between veins 5 and 3. Hindwing white suffused with light drab, becoming darker on termen. Expanse: ♂ 14—25 mm, ♀ 34 mm. Amazons; Peru; Costa Rica.

taus.

T. taus Dyar (72 k). ♂. Head, collar and thorax laterally white. Abdomen above drab with white segmental lines, underside and legs white. Forewings pinkish cinnamon; median beyond vein 2 and discocellular white, also base of veins from cell; costal margin medially white, its edge light buff; a fine dark streak in cell on basal half, followed by a broken white line; a broken white antemedial line, punctiform in cell, deeply incurved below cell; a dark medial spot above submedian; traces of a subterminal dentate white line; veins on termen tipped with white. Hindwing white. Expanse: 19 mm. Cayenne, French Guiana.

bilinea.

T. bilinea Schs. (72 i). ♂. Head and thorax drab grey. Abdomen above light ochraceous buff. Wings white. Forewing mottled with grey; the veins and two transverse thick lines and cilia isabella colour; inner line from middle of costa to near base of inner margin; outer line from costa near apex to middle of inner margin. Expanse: ♂ 37 mm; ♀ 56 mm. French Guiana; Amazons.

impura.

T. impura Schs. (72 h). ♀. Head, thorax and forewing light buff. Abdomen and hindwing white. Legs light buff with paired black lines on tibiae and tarsi. Forewing: veins faintly defined; two narrow transverse lines isabella colour; inner line from subcostal before middle to inner margin at one third from base. Expanse: 43 mm. São Paulo, Brazil.

postropaea.

T. postropaea Dyar (72 i). ♂. Head, thorax and forewing olive buff. Abdomen buff yellow when not discoloured. Hindwing white. Forewing: the veins broadly white except subcostal; two transverse isabella colour lines; inner line from middle of subcostal, which is also isabella colour from middle to base, inbent to submedian at one third from base; outer line from costa near apex to below middle of submedian and incurved to base. Expanse: ♂ 17 mm, ♀ 35 mm. The Guianas; Amazons.

crassilinea.

T. crassilinea Dogn. (= *bilinea* Dogn., *pura* Dogn.) (72 i). ♂. Shaft of antennae white, branches ochraceous buff. Head, thorax and legs white, palpi laterally black; mid tibiae and tarsi and hind tarsi thickly irrorated with black. Wings white, the veins more heavily scaled. Forewings: two rather broad light greyish olive lines cut by veins, the inner line from middle of costa to submedian at one fourth from base, the outer line from apex to middle of inner margin; at apex the scaling is black. Expanse: ♂ 36 mm, ♀ 49 mm. The ♀ has the anal segment above deep mouse grey. The Guianas; Amazons.

pura.

T. pura Wkr. (72 k). ♂. Body and wings white; branches of antennae buff; palpi above fuscous. Forewing crossed by two fine brownish lines; inner line from well beyond middle of costa to inner margin near base; outer line from interspace between veins 6 and 7 to near termen, then angled and inbent to inner margin before middle. Expanse: ♂ 28 mm, ♀ 35—40 mm. Amazons; Panama; Costa Rica.

unilinea.

T. unilinea Dogn. (72 k). ♂. Head and abdomen whitish; thorax and forewing light vinaceous cinnamon, the latter with an olivaceous brown line from apex to inner margin near base. Hindwing with vinaceous suffusions, chiefly on termen. ♀. Forewing pale pinkish buff irrorated with vinaceous buff; the line as in ♂. Expanse: ♂ 17 mm, ♀ 30 mm. Amazons; British Guiana.

limula.

T. limula Dogn. (72 i). ♂. Body and wings white. Palpi and abdomen laterally olivaceous; vertex with some vinaceous scaling. Forewing: lines below subcostal, in cell, below cell and below submedian and in

terminal interspaces pale olive brown; two similar transverse lines, the inner from subcostal beyond end of cell to submedian at one third from base, the outer line from near termen at vein 5 to middle of inner margin. São Paulo de Olivença, Amazons.

T. tarsalis Wkr. (72 k). ♂ white. Palpi with black tips. Antennae with testaceous branches. Legs *tarsalis*, with black bands, the forelegs testaceous. Wings with black points on cilia, two on forewing, three on hindwing; some black scaling at apex of forewing underneath. Para, Brazil; British Guiana.

T. uniformis Moesch. (= saphena Dyar). ♂ like *T. tarsalis* Wkr. Forelegs orange yellow in front with *uniformis*, black bands. No spots on cilia of wings. The Guianas.

T. parthenica Dyar. (= immaculata Dogn.). ♂. Entirely white. The interspaces on forewing more *parthenica*, silky. Differs from *T. uniformis* Moesch. in having the fore legs white, the branches of antennae paler. British Guiana; Amazons.

T. suppura Dyar. (73 i). ♂. Body and wings white; branches of antennae light ochraceous buff; *suppura*, tibiae and tarsi with some black scales. Forewing: fuscous black spots on cilia at interspaces. French Guiana.

T. punctifimbriata Dogn. ♂. Body and wings white. Shaft of antennae white at base then orange *punctifimbriata*, buff. Palpi fuscous black fringed with white hairs. Fore and mid legs orange buff with black transverse lines. Forewing: the costa narrowly black; black spots on cilia between veins 2 and 7. Expanse: 37 mm. Quindiu, Colombia. A ♀ in Nat. Mus. from Rio de Janeiro.

T. caramata Dogn. (73 i). ♂. Body white. Palpi black, the tips of fringe white. Forelegs streaked *caramata*, with black. Forewing silvery white, forming irregular more brilliant markings as in some species of Carama of the Megalopygidae, the costa below rather broadly snuff brown, but not reaching apex. Hindwing silvery white semihyaline. The ♀ has the costa below paler. Expanse: ♂ 42 mm, ♀ 47 mm. Loja, Ecuador.

T. medinata Dogn. (74 c). Wings proportionately narrower than in other species of genus. ♂. Antennae *medinata*, with white shaft, the branches mikado brown. Frons cream white, vertex white; palpi black; fore legs inwardly fuscous black; abdomen dorsally yellow with black segmental lines, almost entirely concealed by long white hairs. Forewing thinly scaled except on margins, buff white. Hindwing thinly scaled, white. Expanse: ♂ 29 mm, ♀ 39 mm. Medina, Colombia.

T. nivea Cr. Evidently belongs here, but is unknown to me. The figure represents a white species *nivea*, with dark terminal line and costa of forewing. The hindwing has three small subterminal brown spots at anal angle. Expanse: 63 mm. Surinam.

T. begga Cr. (74 c). ♀. Body and wings white. Palpi fuscous. Fore tibiae orange; fore tarsi black. *begga*, Forewing: costal margin fuscous black. Expanse: 48 mm. British Guiana; Colombia.

T. lojana sp. nov. ♂. Antennae pinkish buff. Body and wings white; a few black scales on fore *lojana*, legs. Forewing thinly scaled; a small rose coloured spot at base of subcostal; a small brown spot at lower end of cell, with a few brownish scales above it and beyond discocellular. Expanse: 31 mm. Loja, Ecuador.

T. tibialis Wkr. (73 i). ♂. Body white. Palpi black above with long white fringe. Legs white. Wings *tibialis*, dull white. Forewing: some fuscous or brown scaling on discocellular, usually forming two small spots; a similar small postmedial spot between veins 4 and 5. ♀ usually with two small spots on forewing, one at lower angle of cell, the other between veins 4 and 5, or both entirely obsolete. Expanse: ♂ 30 mm, ♀ 37—50 mm. Central America to South Brazil.

T. puntuada Dyar. ♀. Head vinaceous buff. Body white. Fore tibiae and tarsi with black scaling. *puntuada*, Forewing buff white; a fuscous line on basal side of discocellular and a curved spot on outer side; a small spot below vein 5 near cell. Underneath the costa is suffused with fuscous. Hindwing white rather thinly scaled. Loja, Ecuador.

T. persimilis sp. n. Draudt (74 d) agrees exactly with *puntuada*, but is pure white, instead of line on *persimilis*, basal side of discocellular 2 superposed black spots; tibiae and tarsi of all the legs wholly black, tibiae with rather long white hairs. Type: 1 ♀ from Monte Tolima in Mus. Berlin.

T. mentor Dyar (72 d). ♂. Body white. Palpi black outwardly, the fringe tipped with white; fringe *mentor*, below eyes black. Legs white. Wings dull white. Forewing; an antemedial dark point above median vein, and a short streak below base of vein 2; a fuscous spot at upper angle of cell, followed by a broad brown splash

with a dark point above it; three curved brown lines on interspaces between veins 2 and 5, gradually receding from outer margin. Wings below white. French Guiana.

- nigrisparsa*. **T. nigrisparsa** *Btlr.* (74 d). ♂. Head and body white, collar sometimes yellowish; a black spot on side of palpi; legs white with small black spots. Wings white. Forewing: three small black spots in an inbent line, two in cell, one below cell near vein 2; a series of black spots between veins 2 and 7, the spot between 5 and 6 inset close to cell. Hindwing white. Varies considerably in size. Amazons; Guianas; Colombia.
- modificata*. **T. modificata** *Drc.* (74 d). ♂. Head, collar, tegulae and abdomen wood brown, the latter with whitish hairs at base, underneath buffy brown. Forewing wood brown; an irregular white mark on discocellular preceded by a small black spot at lower angle of cell, and one beyond below vein 5. Hindwing paler, the base suffused with white. Forewing below darker, except on termen; the white mark larger, the inner margin broadly white. Hindwing below whitish with buff suffusions on costa. Carabaya, Peru.
- grisea*. **T. grisea** *Schs.* (74 d). ♂. Head and thorax buff white. Abdomen and wings avellaneous. Forewing: a white vertical line on outer side of discocellular. Forewing below the same, with inner margin whitish. São Paulo, Brazil.
- fusca*. **T. fusca** *Drc.* ♂. Head and body blackish gray, underneath clothed with dark grey hairs. Forewing blackish grey; a pale spot at end of cell. Hindwing grey, whitish at base. Forewing below black, the discal spot more distinct. Expanse: ♂ 37 mm. Santo Domingo, Peru.
- unicolor*. **T. unicolor** *Schs.* (74 d). ♂. Body and wings silky buff brown. Forewing: a minute whitish streak on discocellular; underneath paler; a small white spot at base of inner margin. Differs from *T. modificata* *Drc.* and from *T. fusca* *Drc.* in having no white at base of hindwing. Also close to *T. grisea* *Schs.* which has the inner margin of forewing below broadly white. Expanse: ♂ 29 mm, ♀ 47 mm. Castro, Parana.
- distincta*. **T. distincta** *Drc.* ♂. Body creamy white. Forewing pale fawn-colour, the margins white; a white mark at end of cell and one black spot beyond. Hindwing pure white. Wings below white; basal half of costal margin black. Santo Domingo, Peru.
- parmata*. **T. parmata** *Drc.* ♂. Head and thorax below white. Thorax, abdomen and wings fawn-colour; a black spot at end of cell on forewing. Rio Grande do Sul, Brazil.
- elmira*. **T. elmira** *sp. nov.* (74 d). ♂. Shaft of antennae white crossed by fine black lines, the branches cinnamon buff. Head and thorax below white; palpi laterally and fringe below eyes black; legs white with a few black spots. Thorax light buff. Abdomen white with some light buff shading. Forewing isabella colour; a white streak on discocellular partly edged by fuscous scales, preceded in cell by a small black spot and emitting a narrow white branch above vein 4 terminating in a black point. Hindwing white. Underside as above, but the forewing white from cell and vein 2 to inner margin, and no black spots near discocellular. Expanse: ♂ 35 mm. Ineachaca, Bolivia.
- rufidorsata*. **T. rufidorsata** *Drc.* ♂. Head, thorax and base of abdomen light brown; abdomen above bright red, laterally and underneath white. Forewing pale brown darker at apex; a black dot at end of cell, and one beyond towards margin. Hindwing pale brown, whitish at base. Santo Domingo, Peru.
- partalba*. **T. partalba** *Schs.* (74 d). ♂. Body white; some faint brown shading on abdomen dorsally. Forewing light ochraceous buff; base and inner margin whitish; an angled white spot on discocellular and below base of vein 5 edged with yellow ocher. Hindwing white faintly tinged with buff towards apex. Nova Friburgo, Brazil.
- votis*. **T. votis** *Schs.* (74 e). ♂. Head, collar and thorax white, the tegulae and abdomen light buff. Forewing pale ochraceous; costa light buff, the edge white; an angled white line on discocellular and below vein 5, longer below 5 than on discocellular. Hindwings white faintly suffused with buff white except on costa. Quirigua, Guatemala.
- roseidorsum*. **T. roseidorsum** *Schs.* (74 e). ♂. Palpi fuscous. Head, collar and thorax light buff. Abdomen above white at base then brilliant rose colour. Forewing light buff; a fine white line on discocellular surrounded by black suffusions in cell and interspaces between veins 3 and 7. Hindwing whitish buff. Joinville, S. E. Brazil.
- ochreata*. **T. ochreata** *Schs.* (74 e). ♂. Body and wings pale ochraceous buff. Forewing faintly darker towards apex and termen; a fine white line on discocellular, preceded and followed on interspaces by fuscous suffusions. Hindwing: costa whitish. The end of abdomen dorsally with purplish red hairs. Southern Brazil.

T. errans Schs. (74 e). ♂. Palpi, head, collar, tegulae and abdomen white. Thorax ochraceous. *errans*. Forewing ochraceous buff, interrupted by a wavy light cinnamon drab irregular line from above end of cell to inner margin near base; postmedial and subterminal lilacine shades define a very irregular line of ground colour; these are inbent from apex, strongly outcurved between veins 6 and 3 and inbent to middle of inner margin; veins mostly white, especially from cell to termen, the discocellular sinuous more broadly white; costa white irrorated with grey. Hindwings white. Cayuga, Guatemala.

T. amalita Schs. (74 e). ♂. Head, collar and thorax vinaceous cinnamon. Abdomen white, the dorsal *amalita*. tufts pink. Forewing vinaceous cinnamon crossed by two fine olivaceous brown lines; the inner line slightly inbent from costa, the outer line from apex to just beyond middle of inner margin. Hindwings white, the termen broadly shaded with roseate. Nova Friburgo, Brazil.

T. nox Drc. ♂. Described as being entirely black above and below. Santo Domingo, S.-East Peru. *nox*.

11. Genus: **Sarsina** Wkr.

♂. Palpi obliquely ascending, thickly scaled. Antennae deeply pectinated. Legs moderately hairy; hind tibiae with two pairs of spurs. Forewing broad; costal margin convex; apex rounded; termen slightly oblique; veins 2 and 3 apart towards angle; 4 from angle; 5 slightly above angle; 6 from below upper angle; 7—9 stalked; 10 and 11 free. Hindwing: costa slightly arched, termen rounded; vein 2 further from 3 than 3 from 4; vein 4 from angle; 5 slightly above angle; 6 and 7 from upper angle.

Most of the species of *Sarsina* are so variable and similar that they can only be separated through the genitalia. They form apparently good geographical races.

Type: *Sarsina purpurascens* Wkr.

S. purpurascens Wkr. (74 e). ♂. The specimen figured is pale pinkish buff, suffused with olivaceous, *purpurascens*. more intensely on the antemedial fascia, otherwise forming shades between the lines more pronounced at costa before the postmedial line and at apex. Hindwing light buff suffused with warm buff except at base. The ♂ are also buffish suffused with dull purple or hair brown. The antemedial fascia in all ♂ is followed by a fine double dark line, the outer one more distinct; postmedial line fine excurved at costa then slightly inbent to inner margin either straight or slightly sinuous; subterminal line fine sinuous. Frequently the hindwing is suffused partly or entirely with drab. ♀ less variable, the forewing has the double line forming a narrow fascia. Hindwing varies from almost white to drab. — WALKER's type came from Yucatan, so I have applied the name to those specimens which occur throughout Central America. — ♂ genitalia with harpes symmetrical, ventrally placed (opposed to tegumen rather than to each other), roughly rectangular in shape, slightly broader at extreme base and apex than at middle, apex sharply truncate, a single strong, central, outwardly curved thorn from apex and another shorter, straight thorn subcostally placed near and slightly behind the apex; uncus long, strong, triangular and broad at base, from middle to apex hook-like and scarcely tapering; tegumen a low, strongly chitinized, broadly-based arch; socii and gnathos absent; vinculum weakly chitinized; anellus a large, weakly chitinized, irregularly shaped and slightly curved plate with a pair of lateral arms which (as they also fuse with bases of harpes) may represent the basal elements of an undeveloped transtilla; aedoeagus long, stout (but much longer than broad), straight and tapering from intake of penis and with a slender, sharply curved blind-sae (part behind intake of penis) forming the basal third; penis with cornutus a large patch of closely set, short, fixed spines. (C. HEINRICH.)

S. violascens H.-Sch. (74 f). ♂. Forewing very similar to *purpurascens*; antemedial fascia followed by *violascens*. a narrow shade and a minutely wavy dark line; a well marked discal point; the sinuous subterminal line broken by veins. Hindwing cinnamon buff; a subterminal row of small dark spots. Hindwing below: subterminal spots better defined; a fine antemedial line from costa across cell, followed by a narrow dark shade to discocellular; a postmedial fine dentate line from costa to vein 2; the inner margin of both wings broadly yellow buff, the costal portion of hindwing suffused with purplish. Brazil; Paraguay. — ♂ genitalia as in *purpurascens* except: harpes larger, stouter, broadest about middle and from there tapering to apex; at apex of harpe a single short, curved thorn; another stouter, longer, straight thorn from costa near base. (C. HEINRICH.)

S. violetta sp. nov. (74 f). ♂. Forewings paler than *S. violascens* H.-S., the shadings pale olivaceous *violetta*. or lilacine. Hindwing buff white or white, the subterminal spots very indistinct. Expanse: 32 mm. Molinas, Paraguay. — ♂ genitalia with a pair of strong apical thorns on harpe. Otherwise as in *violascens*. (C. HEINRICH.)

festiva.

S. festiva Schs. (74 f). ♂. Body and wings cinnamon buff. Forewing: the lines very fine slightly darker like the apical third; a black discal point. Hindwing with faint subterminal points. Underneath the costal half of wings purplish chestnut, the inner half buff yellow; two pale medial streaks on costa, also post-medial line on costa; hindwing with faint postmedial and subterminal lines on dark portion. The ♂ specimen described in A. M. N. H. 1912 p. 40 belongs to *S. purpurascens* Wkr. ♀. Abdomen ochraceous buff. Forewing light ochraceous buff suffused with lilacine, purplish at base of costa and near lines; the lines fine, dark olive brown; antemedial line almost vertical; postmedial line straight, inbent; subterminal line wavy. Hindwing light ochraceous buff; a series of darker spots from apex to inner margin above anal angle. Underneath: forewing buff yellow suffused with purplish red; costa for two thirds from base pompeian red, crossed by two pale medial lines; the three lines dark, straight, the subterminal the broadest. Hindwing suffused with purplish red except on inner margin; darker medial, postmedial and subterminal lines; faint terminal spots. Expanse: ♂ 35 mm, ♀ 56 mm. *Costa Rica; Venezuela. — ♂ genitalia with harpes asymmetrical; left harpe with three outer costal thorns (one at extreme apex and two just behind in a row) and with a similar thorn on costa near base, right harpe with but two outer costal thorns, none of the thorns on either harpe appreciably curved; harpes shaped as in *violetta* and *violascens*; blind-sac of aedoeagus quite slender and but very slightly curved; cornuti very weak, nearly a weak-though extensive-seobination of the penis. (C. HEINRICH.)

electa.

S. electa Schs. (74 f). ♀. Body vinaceous fawn. Forewing deep purplish vinaceous, the base, outer edge of antemedial fascia, a broad medial shade, inner edge of postmedial and subterminal lines and the termen narrowly pale vinaceous lilae; lines straight except the sinuous subterminal line. Hindwing vinaceous fawn, darkest on termen. Forewing below vinaceous buff suffused with purple; costa partly, a broad shade before postmedial, and termen broadly vinaceous brown, the apex lilacine. Hindwing below with a broad vinaceous brown fascia inbent from beyond middle of costa, becoming narrow and obsolete towards inner margin, followed by a fine dentate line; basal half of costa and termen vinaceous brown. The specimen described in the Annals as the ♂ of this species is in reality a ♀ of *S. purpurascens* Wkr. Costa Rica.

dirphioides.

S. dirphioides Wkr. (= *quadristrigata* Fldr.) (74 f). This species is so similar to *S. purpurascens* Wkr. that no description would separate it. WALKER described a ♂ from an unknown locality. As it is impossible to examine the genitalia of the type in the British Museum I have associated with it the race that is prevalent in the Amazonian region and the Guianas. In case it is eventually found to be a synonym of one of the other, FELDERS name *quadristrigata* would stand. — ♂ genitalia with harpes long, reaching well beyond base of uncus, stout, longer than broad, with apices rounded and armed with long, heavy marginal thorns *) (some curved and some straight) and differing in number on the two harpes, four on the right and five or six on the left; each harpe also with a very short, slender thorn from costa close to base; aedoeagus and penis as in *festiva*. (C. HEINRICH.)

avertina.

S. avertina sp. nov. (74 f). ♂. Head and thorax wood brown; abdomen slightly paler. Forewings avellaneous, the darker shadings fawn colour; a narrow subbasal fascia; a fine line, almost medial, inbent, slightly outcurved across median; a black point at end of cell; a darker shade preceding postmedial, narrow from vein 3 to inner margin; postmedial outcurved below costa, fine, defined on basal side by pale scaling, partly white, followed between veins 3 and 5 by a dark patch; subterminal line black, fine, lunular near costa, and wavy, partly broken by veins; termen with an oblique pale shade from vein 3 across the subterminal line to vein 5. Hindwing wood brown suffused with hair brown; traces of a dentate line from apex, and subterminal blackish spots. Wings below avellaneous partly suffused with fawn colour. Forewing: costa dark reddish brown at base; a dark shade from costa crossing the black discal point; a fine postmedial line; subterminal spots above tornus. Hindwing: a black discal point, and a medial dark shade; postmedial line distinct, black, lunular dentate; subterminal black spots, two at vein 1 larger. Expanse: 37 mm. Coatepec, Mexico.

12. Genus: **Staetherinia** Btlr.

♂. Palpi obliquely ascending, thickly scaled, third joint almost porrect. Antennae pectinated to tips in type species the shaft fringed above with scales. Legs almost smooth; hind tibiae with 2 pairs of spurs. Forewing: costal margin very convex towards apex which is subfalcate; the termen excised between veins 7 and 5, below 5 almost straight to tornus; veins 2 and 3 equally apart from 4; 4 and 5 from lower angle; 6 almost

*) In this and other species of *Sarsina*, these „thorns“ are simply hooklike prolongations of the costa of the harpe and have nothing in common with the socketed modified spines found in some other families.

from upper angle; 7, 8, 9 stalked; 10 and 11 from cell. Hindwing: veins 2, 3, 4 apart; 5 close to angle; 6 and 7 from upper angle.

Type: *S. semilutea* Wkr.

S. semilutea Wkr. (74 g). ♂. Palpi rufous with dark tips. Frons dark brown. Thorax vinaceous *semilutea*. buff. Abdomen and hindwings light orange yellow, the abdomen with small dorsal black spots. Forelegs dark purplish brown. Forewing buffish thickly irrorated with lilacine scales producing a vinaceous buff colour; lines russet vinaceous, the antemedial and postmedial parallel, excurved at costa, straight and inbent to inner margin; two dark points on discocellular; subterminal line faint, but outwardly edged with white, lunular from costa to vein 5, then faintly inbent; costal edge, termen narrowly and cilia vinaceous brown, the latter white at base. ♀ with forewing uniformly fawn colour suffused with purple and without the white markings, the lines blackish. Expanse: ♂ 41 mm, ♀ 68 mm. Costa Rica.

S. dodona Drc. ♂. Forewing greyish olive crossed by three darker lines, and a subterminal row of *dodona*. black points. Hindwing light orange yellow with darker suffusions on termen. Described from figure in Biologia. Chiriqui, Panama.

S. valstana sp. n. (74 g). ♂. Shaft of antennae buff irrorated with ferruginous, the branches fuscous. *valstana*. Palpi ferruginous with dark tips. Thorax cinnamon drab. Abdomen antimony yellow; a dorsal tawny line extending on thorax. Forewing fawn colour suffused with purplish grey; lines slightly darker, finely wavy and inbent; an antemedial and two postmedial lines, the first curved around cell; a sinuous subterminal row of black spots partly edged with white; a large black spot at end of cell. Hindwing pale orange yellow; a small point at upper angle of cell and faint traces of three dark lines; cilia ferruginous. Wings below light orange yellow, the hindwing suffused with ferruginous except on inner margin; the three lines dentate purplish red. Expanse: 42 mm. Chiriqui, Panama.

S. corydona Drc. (74 g). ♂. Shaft of antennae ferruginous, the branches fuscous. Palpi deep corinthian *corydona*. red. Thorax wood brown. Abdomen ochraceous orange with a dark dorsal line. Forewing wood brown, the antemedial and two postmedial lines very sinuous, purplish brown; a subterminal punctiform black line, the spots towards costa well edged with white basad; a sinuous white line on discocellular. Hindwing orange buff, suffused except on costa with orange rufous; traces of dark lines, which on underside are purplish red, the medial and postmedial lines dentate, the subterminal punctiform, suffusing somewhat with the terminal shadings. Expanse: 40 mm. Canal Zone, Panama. It is with doubt that I make this the ♂ of *S. corydona* Drc., and should it prove distinct I suggest the name of **tarchona** for it.

S. cayugana Schs. (74 g). ♂. Head and palpi brown, the latter with black tips. Thorax and forewing *cayugana*. avellaneous; lines darker, the antemedial straight, inbent, the two postmedial lines somewhat outcurved and sinuous, very fine; subterminal line indicated by a few small black spots on interspaces, those towards costa and tornus with a few white scales; a white line on discocellular and a white point at origin of vein 4. Abdomen and hindwings yellow. Hindwing below darker yellow; a streak on cell dark purple; the three dentate lines purple, the medial not extending below vein 4. Expanse: 40 mm. Cayuga, Guatemala.

S. alyzia Dogn. (74 g). ♂. Shaft of antennae buff with purplish irrorations, the branches drab. Thorax *alyzia*. and forewing avellaneous. Forewing: an antemedial thick linear purple brown shade, inbent from costa, and a broad postmedial similar shade outangled opposite cell, followed by a fine black wavy line; another fine line medially between the two shades; some dark shading beyond the outer line, and a subterminal punctiform line. Abdomen and hindwing light ochraceous buff with some reddish suffusions; a fine dark postmedial line. Expanse: 23—28 mm. French Guiana.

13. Genus: **Porthetria** Hbn.

♂. Antennae bipectinated, the branches with terminal bristles, Palpi upturned, moderately scaled. Fore tibiae with long tufts; hind tibiae with two pairs of spurs. Forewing broad; vein 2 well before angle of cell; 3 near angle; 4 and 5 slightly apart from angle; 6 from just below upper angle; 7—10 stalked, 10 given off before 7; 11 free. Hindwing: veins 2—5 as on forewing; 6 and 7 from upper angle.

Type: *P. dispar* L.

P. dispar L. See Seitz Vol. II, p. 127. Introduced into the United States and doing considerable *dispar*. damage.

14. Genus: **Nygmia** Hbn.

♂. Antennae bipectinated, branches with terminal bristles. Palpi oblique. Legs hairy; hind tibiae with two pairs of spurs. ♀ with large anal tuft. Forewing: vein 2 well before end of cell; 3, 4, 5 from near angle of cell; 6 from or below upper angle; 7—10 stalked; 10 from beyond 7; 11 free. Hindwing: veins 3 and 4 stalked; 5 from above angle; 6 and 7 stalked.

Type: *N. phaeorrhoea* Don.

phaeorrhoea. **N. phaeorrhoea** Don. (partim *chrysorrhoea* Auct.). See Seitz Vol. II, p. 135. Introduced into the United States like the foregoing species.

15. Genus: **Desmoloma** Fldr.

♂. Palpi upturned, thickly scaled. Frons with long pointed tuft. Antennae pectinated for two thirds then serrate. Legs hairy, hind tibiae with two pairs of spurs. Forewing: costal margin straight; apex acute; termen oblique; inner margin straight; vein 2 well before angle; 3 close to angle; 4 from angle; 5 slightly above; 6 from upper angle; 7 and 9 absent; 10 and 11 stalked. Hindwing: costal margin straight from base then upcurved and produced to a hairy point, with an upturned tuft of hairs at middle of costa; from vein 8 to vein 6 the margin is excised between the veins, below 6 to vein 3 erenulate. Vein 2 well before angle; 3 and 4 stalked; 5 above angle; 6 and 7 from upper angle.

Type: *D. styracis* Fldr.

chironoma. **D. chironoma** Dyar (74 g). ♂. Body tawny, the thorax and abdomen above darker, the abdomen underneath white. Forewing tawny suffused with purple; some scattered black dots and striae; an antemedial darker curved fascia, its outer edge angled in cell, edged by a faint pale line; a round dark edged discal mark, filled in with olivaceous scales and partly surrounded by a white line; postmedial line dark, incurved at cell, and outcurved to tornus partly edged basad by a fine white line, not always present. Hindwing white, the costa broadly, the termen and inner margin narrowly like forewing. Expanse: 35 mm. French Guiana. —
pacha. **pacha** f. nov. ♂. Larger and slightly darker, the markings very indistinct. Abdomen below fuscous brown, only a few white hairs on anal segments. Expanse: 44 mm. Pacho, Colombia.

mollis. **D. mollis** Dyar. (74 h). ♂. Body vinaceous fawn, abdomen white below on basal half. Forewing light vinaceous fawn, with pale olivaceous brown striae and dots; antemedial fascia light brownish olive, edged with white, evenly curved on outer edge, not reaching costa; discal spot light olive, edged with white above; postmedial line fine, whitish, incurved below costa, and below vein 4 ending near middle of termen, outwardly shaded with light brownish olive, extending to termen at vein 3. Hindwing white, the costa and inner margin light vinaceous fawn, the termen narrowly so. French Guiana.

signata. **D. signata** Dyar (74 h). ♂. Thorax brownish olive. Abdomen above fawn colour, anal hairs buff. Thorax and abdomen below white. Forewing: costa narrowly, inner margin broadly from before middle to termen, and base light cinnamon drab; an antemedial small brownish olive spot on costa followed by a similar broad fascia from middle of wing at subcostal to inner margin near base, the basal interspaces below cell also brownish olive; discal spot U shaped, white filled in with russet; a russet shade from the fascia between veins 2 and subcostal to termen, somewhat darker beyond the postmedial line which is white, wavyly outbent from costa and excurved from vein 4 to termen at vein 2. Hindwing white, costa to near apex light cinnamon drab edged by a subterminal pale line, the apical triangular space brownish olive. ♀ broader winged, more uniformly coloured, the antemedial fascia, curved, expanding towards inner margin, edged and cut by white lines. Hindwing with the margins broadly dark cinnamon drab. Expanse: ♂ 37 mm, ♀ 45 mm. French Guiana.

styracis. **D. styracis** Fldr. (74 h). ♂. Body and forewings silky dresden brown. Forewing: the markings darker; a small basal triangular spot below cell; an antemedial small spot on costa; a narrow inbent fascia, partly broken into spots; a fine wavy medial line, followed by another irregular line from discal spot to inner margin; a fine postmedial line broader opposite cell, outcurved below vein 3, inbent and vertical across submedian; an oblique subapical shade with a downturned subterminal line; some striae scattered over the wing; discal spot orange yellow, partly edged with white. Hindwing white, the costal margin broadly dresden brown crossed by a darker subterminal shade. The ♀ similar, the lines on forewing replaced by numerous well marked striae; antemedial fascia very broad and dark, below submedian reddish. Hindwing with termen very broadly suffused with silky fawn colour. Venezuela; Colombia; Bolivia.

D. erratica Schs. (74 h). ♂. Head and thorax argus brown. Abdomen lighter brown. Forewing: *erratica*. more than basal third argus brown, limited by a reddish brown line; rest of wing slightly paler with a purplish tinge, with faint traces of medial, postmedial, and subterminal fine lines; a whitish discal point. Hindwings white, the margins broadly silky brown, darkest on costa. In some specimens the forewing is still darker, the fine lines imperceptible, in others the forewing is clay colour. Panama; Amazons; Venezuela; French Guiana. — This is the type of the subdivision *Mantruda* Schs., with veins 3 and 4 on hindwing not stalked.

D. modesta Dogn. (74 h). ♂. Body and forewings deep colonial buff, probably of a more greenish *modesta*. colour when fresh. Forewing: a medial black lunule below cell, and a short vertical line above inner margin; a black bar on discocellular; an outcurved lunular black postmedial line, followed by a faint dark line lunular on each interspace; termen slightly darker than rest of wing with some faint darker scaling on interspaces. Hindwing white; costa broadly cinnamon buff crossed by a black postmedial line preceded by a hair brown shade. Amazons. This species has the venation of *D. erratica* Schs.

16. Genus: **Blazia** nov.

♂. Antennae bipectinated. Palpi long and slender, obliquely upturned reaching above head. Fore legs moderately hairy; mid and hindlegs broken. Thorax and base of abdomen above with long hairs. Forewing broad; veins 2 and 3 stalked well before angle; 4 and 5 from angle; 6 from below upper angle; 7 and 8 stalked, 9 absent; 10 from angle close to 7; 11 free. Hindwing vein 3 nearer to 2 than to 4; 4 from lower angle; 5 slightly above angle; 6 and 7 from upper angle.

Type of genus: *Orgyia*? *lixivia* Dogn.

B. lixivia Dogn. (74 h). ♂. Head and thorax buff white with some scattered dark brown scales. *lixivia*. Abdomen brown above, buff white underneath. Forewing vinaceous buff suffused with brown, less so on basal half of inner margin; a white streak below cell from base; a subterminal fuscous line parallel with termen inwardly edged with a diffuse dark brown shade, emitting a fuscous streak above vein 5 to discocellular; base of veins 2, 3, and 4 white; terminal margin whitish, almost completely filled in with a silky drab gray shade, becoming brown towards inner margin; a terminal fine cinnamon line. Hindwing fuscous, slightly buff white at base. Expanse: 20 mm. Rio Songo, Bolivia.

17. Genus: **Phiditia** Möschl.

♂. Palpi upturned reaching frons, shortly but thickly scaled. Antennae pectinated to tips. Legs moderately hairy; hind tibiae with 2 pairs of spurs. Forewing: costal margin somewhat convex; apex acute; termen slightly rounded; vein 2 about middle of cell; 3 before angle; 4 from lower angle; 5 slightly above angle; 6 from upper angle; 7 absent; 8, 9, 10 stalked from cell just before angle. Hindwing: costa slightly convex; termen straight from vein 7 to vein 4, then lunular dentate; vein 2 from middle of cell; 3 and 4 from lower angle; 5 from middle of discocellular; 6 and 7 on short stalk.

Type: *P. diores* Cr.

P. scriptigera Dogn. (= *C. johanna* Schs.♀) (74 i). ♂. Head, collar and body pale ochraceous buff, *scriptigera*. the thorax suffused with vinaceous brown, the abdomen dorsally with reddish brown spots, surrounded by similar rings. Forewing pinkish buff suffused terminally with pinkish cinnamon, sometimes the whole wing suffused; a medial fascia suffused with brown, finely edged with black, its outer edge outbent and formed by the black line on discocellular which makes it appear outangled, then lunular and inbent; outer line, double, fine, lunular, the outer lunules above vein 5 with small hyaline white spots followed by a black line to apex. Hindwing with a conspicuous vertical fuscous line on discocellular; outer double line as on forewing. ♀ more of a light buff; medial fascia not so dark, its outer edge before the discal line, forming three lunules to submedian, then vertical. French Guiana.

P. diores Cr. ♂. Body hair brown. Forewing: basal two thirds benzo brown limited by a reddish *diores*. brown, outcurved, wavy line, crossed by two similar lines, antemedial and medial; terminal third light buff crossed by a postmedial outcurved even reddish brown line; subterminal dark-edged with semihyaline spots from costa to vein 3; a dark terminal line. Hindwing benzo brown to an evenly outcurved subterminal line,

crossed by antemedial, medial and postmedial wavy lines; termen light buff; a terminal dark line. Expanse: 48 mm. Surinam. This species is unknown to me and is wrongly identified in collections. Described from figure in CRAMER.

lucernaria.

P. lucernaria Wkr. (74 i). ♂. Head and collar vinaceous fawn. Thorax army brown. Abdomen above fawn colour, becoming paler towards anal segment. Forewing vinaceous fawn suffused with drab except on costa; basal, antemedial, medial and postmedial darker lines, the antemedial and medial outbent, incurved below cell, and more so below vein 2, the postmedial well beyond the two black spots on discocellular, slightly outcurved below costa, then vertical and lunular; a fine outer whitish line partly edged with black, followed by semihyaline spots, those above vein 5 narrower and outbent towards apex, those between 5 and 3 larger; termen fawn colour. Hindwing mostly fawn colour; double antemedial and a medial dark lines; the postmedial like outer line of forewing, followed by two semihyaline spots between veins 3 and 5. Colombia; Guatemala.

maculosissima.

P. maculosissima Dogn. (74 i). ♂. Palpi and thorax army brown. Head, collar and abdomen vinaceous fawn. Forewing vinaceous fawn; base vinaceous brown limited by the pale outwardly dark edged antemedial line which is outcurved to vein 2, then incurved and approaching medial line on inner margin; medial line inangled on subcostal, outcurved and touching postmedial at veins 4—2, then incurved; two black points on discocellular; postmedial incurved below costa, and deeply outcurved beyond discocellular to which it is much closer than in *lucernaria* Walk. and *maculosa* Dogn.; outer line whitish partly dark edged, outcurved at costa, then vertical, followed by hazel spots (not semihyaline) diverging above vein 5 to apex, the spots from veins 2—5 larger, all outwardly edged by a fuscous black line; termen vinaceous brown. Hindwing with faint hazel spots beyond postmedial line between veins 2 and 5. French Guiana. Intermediate between *P. lucernaria* Wkr. and *P. maculosa* Dogn.

maculosa.

P. maculosa Dogn. (74 i). ♂. Forewing differs from *P. lucernaria* Wkr. in having the discal mark linear, the spots beyond outer line less hyaline, except the three apical spots, and outwardly bordered by a fuscous black line. On the hindwing there are no traces of spots beyond the outer line. ♀. Head and thorax drab. Abdomen above cinnamon drab, with pale segmental lines. Forewing light drab; base largely cinnamon drab limited by a light drab strongly outcurved line, incurved below vein 2 and outwardly edged with cinnamon drab; a broad postmedial fascia, outcurved, broadest at costa, its outer edge wavy and with black spots or a line on discocellular; a more remote fine whitish outer line, outcurved from costa then almost vertical to inner margin; termen broadly light vinaceous drab with semihyaline spots close to outer line, but not reaching inner margin. Hindwing with broad cinnamon drab medial fascia; a fine postmedial hair brown line outwardly edged with whitish; terminal space broadly cinnamon drab suffused with purplish. There is considerable variation in the size of the hyaline spots on forewing. French Guiana.

cuprea.

P. cuprea Kaye. (75 a). ♂. Body and wings benzo brown with a silky gloss. Forewing: a fine, pale, antemedial line well outcurved from costa to above submedian then vertical; a similar outer line, outcurved below costa, slightly sinuous below vein 5; a small reddish brown spot on discocellular; a small yellowish spot near termen above vein 6. Hindwing: base of costa whitish; two pale lines on inner margin; a faint medial line, and a better defined postmedial line, slightly darker with pale edge on outer side. There is great variability in position and curve of lines, especially on underside, where the postmedial line either precedes, follows closely, or is remote from discocellular. Expanse: 35—60 mm. Trinidad, West Indies; Guianas; Costa Rica; Guatemala.

minor.

P. minor Schs. (75 a). ♂. Head and abdomen cinnamon drab, the latter dorsally suffused with benzo brown. Thorax benzo brown. Forewing mostly benzo brown with light greyish olive irrorations on inner side of antemedial line, on costa and between postmedial and subterminal lines; lines fuscous; antemedial and postmedial lines outcurved below costa, vertical below cell; postmedial lunular slightly outcurved at costa then vertical; a fuscous point on discocellular followed by a lunule from costa conjoined with medial line below it; costal edge tawny; a fuscous subterminal line outangled on vein 8, then incurved to termen at vein 3 followed by a tawny line between veins 6 and 8. Hindwing benzo brown, the outer half suffused with greyish; dark medial and postmedial lines. In some specimens the body and wings are fawn colour instead of benzo brown. Expanse: ♂ 29 mm, ♀ 39 mm. Trinidad, Paraguay.

18. Genus: **Tepilia** Wkr.

♂. Palpi upturned reaching middle of frons, thickly but smoothly sealed, slightly fringed in front. Antennae bipectinated to tips. Legs almost smoothly sealed; hind tibiae with 2 pairs of spurs. Forewing: costal margin straight, apex produced; veins 2, 3 and 4 equally apart; 4 from angle; 5 from above angle; 6 from

upper angle; 8, 9, 10 stalked; 11 free. Hindwing: costal margin almost straight; vein 2 just beyond middle of cell; 3 well before angle; 4 from lower angle; 5 slightly above middle of discocellular; 6 and 7 shortly stalked; 7 touching 8 near base.

Type: *T. biluna* Wkr.

T. biluna Wkr. (= *confinis* Wkr., *orbigera* H.-S.) (75 a). ♂. Head light drab. Thorax and dorsum *biluna*. of abdomen drab; dorsal cinnamon ocelli with a central cinnamon spot. Body underneath light drab. Forewing light drab; basal area limited by a wavy edged antemedial broad cinnamon drab fascia with dark edges; medial space with two black points on discocellular; postmedial fascia like antemedial, the edges more lunular; an oblique fine white line from apex; termen with darker suffusions towards tornus. Hindwing drab; a fine dark antemedial line; dentate postmedial and subterminal lines, the space between cinnamon drab; the lines terminating in dark streaks on inner margin. Rio de Janeiro, Brazil. Some specimens are brown, or pale as in the ♀ of *orbigera* H.-S.

T. fastidiosa Dogn. (= *joanna* Schs.) (75 a). ♂. Body light drab, the vertex whitish buff. Forewing: *fastidiosa*. base drab gray, medial space broad hair brown extending beyond cell, its inner edge incurved and bluntly angled basad above submedian, its outer edge lunular, wavy vertical; usually containing a large drab grey costal spot on which is a fine dark discocellular line, and smaller spots above inner margin; termen drab grey, darker shaded, terminally frequently forming a triangular space from close to apex to vein 2, almost as dark as the medial fascia. Hindwing buff white at base of costa, suffused in and below cell with light cinnamon drab; a dark postmedial band followed by a narrow drab grey shade; termen dark shaded. Tucuman, Argentina.

T. dodala sp. nov. (75 a). ♂. Head and abdomen wood brown. Thorax buffy brown. Wings cinnamon *dodala*. buff. Forewing: a medial mikado brown fascia formed by two thick lines, lunular dentate, partly broken, partly suffusing, outangled before the small discocellular spot, inbent to submedian, then curved to base of inner margin; a fine dark and faint postmedial line, outcurved around discocellular; a faint outer line outcurved below costa joined at vein 4 by a fine dark line from apex, this latter preceded by two slightly hyaline spots, and followed above vein 5 by a small fuscous spot. Hindwing: a fine postmedial and a subterminal lunular dentate line. Wings below with the terminal half suffused with darker cinnamon, the postmedial and subterminal lines well defined, the spots at apex of forewing white. Expanse: ♂ 38 mm, ♀ 44 mm. Cauca Thal, Colombia.

19. Gattung: **Rolepa** Wkr.

Same as *Olenoptera* H.-S. and *Athrula* Wkr. ♂. Palpi upturned, slender, reaching above frons; third joint short. Antennae bipectinated to tips. Legs with short hairs. Hind tibiae with two pairs of spurs. Forewing: costal margin straight; termen slightly rounded, oblique; vein 2 well before angle; 3 near angle; 4 and 5 from angle, or 5 slightly above, or rarely stalked with 4; 6 from below upper angle; 7 absent; 8, 9, 10 stalked; 11 from cell. Hindwing: costal margin straight; termen rounded; vein 2 from before middle of cell; 3 before angle; 4 from lower angle; 5 from middle of discocellular; 6 and 7 stalked; 7 anastomosing with vein 8 along middle third of cell.

Type: *R. delineata* Wkr.

R. delineata Wkr. (= *flavilimbata* H.-S., *saturnioides* Wkr.) (75 a). ♂. Body cinnamon brown, *delineata*. the thorax mottled with white hairs; collar and metathorax mottled with fuscous. Wings ochraceous tawny suffused with purple. Forewing: some yellowish suffusions at base; antemedial line pale yellow, outcurved to near middle of wing; a small chestnut spot on discocellular; postmedial line fine, dark, outangled between veins 5 and 6 closely followed by a fine whitish line, the two approximated at inner margin; subterminal line from near apex of ground colour edges the white line from vein 5 to vein 3; termen apricot yellow, narrow towards apex; a dark red apical point. Hindwing: termen broadly apricot yellow limited by the whitish, dark edged postmedial line; a faint darker medial line approximating the postmedial at inner margin. Underneath the postmedial line white, well defined on both wings. Brazil. The specimen figured in HERRICH SCHAEFFER is very small.

R. innotabilis Wkr. (75 b). ♀. Head and abdomen buffy brown, the abdomen with dorsal and lateral *innotabilis*. black spots and subdorsal cinnamon drab spots. Thorax and wings cinnamon drab, sericeous. Forewing: a fine dark antemedial lunular line, almost medial; a chestnut brown line on discocellular; postmedial line, outcurved beyond cell, wavy below vein 3, followed by a finer lunular line; a fine oblique subapical black line from below costa interrupting a chestnut brown line from apex forming a small and then a larger lunule

from apex, below vein 6 continuing as an almost straight line to vein 3; some darker brown hairs at base of inner margin. Hindwing: double antemedial and a postmedial chestnut brown short line on inner margin; a fine dark discal line and a wavy postmedial line, closely followed by a more distinct sinuous line, outwardly paler edged; termen suffused with vinaceous rufous. Underneath the pale outer line is nearer termen. The ♂ is rather paler in colour. Expanse: ♂ 38 mm, ♀ 54 mm. Venezuela.

erica. **R. erica** *sp. nov.* (75 b). ♀. Body and wings avellaneous, the latter suffused on termen with vinaceous. Forewing: antemedial line fine, darker; a fine chestnut brown streak on discocellular; postmedial and following line much closer to cell than in previous species; subterminal line from apex paler, inbent from apex and vertical to vein 3, inwardly white edged between veins 6 and 8. Hindwing: dark lines on inner margin as in nearly all the species of *Rolepa*; medial and postmedial lines near together, the latter finely dentate, followed by a dusky subterminal shade. Hindwing below with the postmedial line straight. Expanse: 42 mm. Argentina.

marginepicta. **R. marginepicta** *Dogn.* (75 b). ♂. Frons light drab; vertex whitish; thorax pale purplish grey; collar and tips of tegulae chestnut brown; abdomen dark grey with fuscous transverse lines. Forewing hair brown, largely irrorated with white scales, on costa at base, along costa to antemedial line and beyond this line to outer line; a fuscous streak along base of inner margin; antemedial line whitish outcurved; an outcurved medial fuscous line; a velvety fuscous black mark on discocellular inwardly edged by an inangled white line; postmedial line fuscous, outcurved, well defined; outer line fine white, well outcurved from costa inwardly finely edged with black followed by a chestnut brown line outbent to apex at vein 6; terminal area suffused with reddish brown becoming greyish towards apex. Hindwing whitish suffused with drab; a hair brown streak on discocellular, and a similar postmedial line inangled below costa; outer line white with dark edge; terminal area orange cinnamon, cilia chestnut brown with white spots. Expanse: ♂ 44–50 mm. The Guianas.

nigrostriga. **R. nigrostriga** *Schs.* (75 b). ♀. Palpi and frons light brown, vertex pale grey. Thorax and abdomen drab grey. Forewing pale drab grey; antemedial and postmedial lines filled in with light drab; a faint subbasal line; antemedial line double, sinuous, outbent to median, then vertical to inner margin; a black line on discocellular; first outer line, outcurved at costa, vertical below vein 5, minutely wavy, the outer line, outangled below vein 6, fine, straight, slightly inbent; a broad light drab terminal shade from vein 2 to apex preceded above vein 6 by a white and chestnut brown line. Hindwing: the lines as on forewing, the antemedial downbent from costa near base, curved to inner margin below cell; a hair brown line on discocellular. On both wings the outer postmedial line is narrowly edged on outer side with whitish. Expanse: 42 mm. Venadio, Mexico.

demerara. **R. demerara** *sp. nov.* (75 b). ♂. Thorax light drab, with a brown band posteriorly and the collar brown. Forewing pale drab grey, the lines filled in with light drab; an obliquely upbent fuscous black streak from base of inner margin; antemedial line hair brown, double, almost medial, the lines more widely apart on costa, outbent, curved below cell and again at inner margin; a chestnut brown small triangular spot on discocellular; postmedial line double, the first line outcurved, lunular, the second line fine, deeply outcurved beyond cell, then faintly incurved to inner margin; a broad terminal hair brown shade from vein 6 narrowing to tornus; an inangled line from apex with a fuscous brown vertical line between veins 6 and 8. Hindwing suffused with light cinnamon drab, the lines faint; antemedial hardly traceable, except by the two dark streaks on inner margin; first postmedial line very faint, the outer fine and well defined, slightly sinuous; some cinnamon drab shadings on terminal space. Expanse: 48 mm. British Guiana.

castrona. **R. castrona** *Schs.* (75 b). ♀. Body and wings russet vinaceous, the lines vinaceous brown. Forewing: an antemedial geminate line, outbent from costa to median and vein 2, the lines meeting on inner margin; a small dark line on discocellular; postmedial line finely wavy, outcurved around cell followed by a more distinct line parallel to it and outwardly pale edged; a dark subterminal line from vein 6 to apex, inwardly pale edged. Hindwing with only the outer lines as on forewing. Wings below similar, without the antemedial lines on forewing. Expanse: 41 mm. Castro, Parana, Brazil.

fiachna. **R. fiachna** *sp. nov.* (75 b). ♂. Body and forewings cinnamon drab with slight purplish suffusions. Forewing: base and lines darker; an antemedial line defined by the darker sealing, suffusing with an outbent lunular blotchy shade, inbent below vein 2; postmedial outbent from costa and curved well beyond cell; outer line fine, dark, outwardly pale edged, less outcurved than the postmedial; a subterminal dark shade from vein 9 to vein 3. Hindwing suffused with fawn colour except on costa; medial line hardly perceptible; postmedial line well marked, a continuation of outer line of forewing. Forewing below pinkish buff, the termen and hindwing suffused with cinnamon; faint postmedial and well defined outer line. Expanse: ♂ 39 mm. Manucapuru, Amazons.

R. unimoda Dogn. (75 c). ♂. Body and wings silky light buff; a fine, faint, darker outer line, slightly *unimoda*. outcurved at costa of forewing, then vertical. Underside similar with a fine line on discocellular. Expanse: 40 mm. Prainha; Santarem, Amazons.

R. sicyata Dogn. (75 c). ♂. Head and collar warm buff. Thorax cream colour in front, brownish *sicyata*. drab behind. Abdomen brownish drab, the second segment and part of first cinnamon. Forewing: anterior portion on basal third to within cell, then extending medially to submedian and within an incurved line from apex cream colour; basal and terminal areas brownish drab separated from light part of wing by a fine blackish line, the basal area with the line outbent to submedian, the outer portion with the line from near apex, excurved obliquely, below vein 5 incurved; from vein 5 at termen to vein 3 a lunular dark line encloses a wood brown space, no doubt greenish when fresh as stated in the original description. Hindwing cream colour; a faint dark postmedial line; termen broadly brownish drab from below apex. Expanse: 33 mm. Santa Cruz, Brazil.

R. medina Dogn. (75 c). ♂. Body cinnamon brown with some darker dorsal tufts on abdomen. *medina*. Forewings: base tawny with hair brown scaling in and below cell, limited by an antemedial white line, inbent on costa, outcurved across median vein and inbent to inner margin followed by a reddish brown parallel medial line, the space between tawny; a fuscous black spot on discocellular emitting a fine black line outangled at vein 4, the space around it to costa whitish buff; postmedial line hair brown from costa and outcurved, below vein 4 reddish brown, vertical; space beyond to outer line mostly tawny with a hair brown streak below costa; outer line fine, dark, lunular, outwardly well edged with white, which branches off at vein 5 to apex; termen broadly cinnamon brown. Hindwing mostly suffused with tawny brown on inner margin and outer half; a dark medial line; outer line white, minutely wavy. Medina, Colombia.

R. lojana Dogn. (75 c). ♂. Body hair brown, the abdomen with dorsal oval black lines on segments. *lojana*. Forewing light drab; a subbasal greyish olive fascia; antemedial line hair brown, outcurved, almost vertical below cell, followed by a medial line more remote below vein 2 than on costa, the space between deep greyish olive; a black point on discocellular; postmedial line hair brown slightly outbent from costa to vein 5, then parallel with medial line; outer line finer, less distinct, outwardly narrowly edged with white; termen deep greyish olive with two whitish spots from apex. Hindwing light drab; the dark postmedial line almost straight, a dark spot above it on inner margin; outer line as on forewing; termen with some darker shading and spots. Loja, Ecuador. This species and *R. medina* Dogn. have the hindwing slightly prolonged at vein 2, thus approximating *Phiditia* Moeschl.

20. Genus: **Sorocaba** Moore.

♀. Palpi short, upbent, hardly reaching frons, hairy, third joint small. Antennae pectinated to tips. Legs with short hairs; hind tibiae with 2 pairs of long spurs. Forewing: costal margin straight; apex rounded; termen somewhat oblique, rounded towards tornus; vein 2 well before lower angle; 3, 4, 5 from angle; 6 from below angle, the discocellular sinuous; 7 absent; 8, 9, 10 on long stalk; 11 from cell. Hindwing: costal margin straight; termen almost straight; vein 2 from nearer base than angle; 3, 4 from lower angle; 5 from near middle of discocellular; 6 and 7 stalked; 7 suffusing with 8 near base to beyond middle of cell.

Type: *S. anomala* Moore.

S. anomala Moore (75 c). ♀. Head and thorax vinaceous buff; a black line behind head; a chestnut *anomala*. brown band on thorax behind. Abdomen whitish gray with some brown irrorations, the basal segment white. Forewing: costal half to vein 3, then obliquely to vein 6 at termen light buff; inner margin wood brown; a large pinkish buff patch at base; a benzo brown shade from near base of inner margin expanding and filling the termen from vein 6 to near vein 2; a pale triangular shade at tornus; double antemedial and postmedial fine lunular dark lines almost vertical; a fine dark streak on discocellular. Hindwing dark brownish drab; a faint double, fine, lunular postmedial line; cilia reddish brown tipped with white on interspaces. Castro, Parana, Brazil.

The following two species, formerly included in the Lymantriidae were omitted from the Pericopidae where they belong.

21. Genus: **Leuculodes** Dyar.

♂. Antennae with long curly pectinations; palpi small, slender, upturned; proboscis well developed. Legs slender, smooth; hind tibiae with one medial and two terminal spurs. Forewing rather narrow; vein 2 further from 3 than 3 from 4; 4 from lower angle; 5 above angle; 6 close to upper angle; 7 and 8 stalked;

9 and 10 stalked; 11 free. Hindwing broad; costal margin straight; termen well rounded; veins 3—5 as on forewing; 6 and 7 stalked; 7 close to 8 to end of cell.

Type: *L. lacteolaria* Hulst.

lacteolaria.

L. lacteolaria Hulst. (75 c). ♂. Palpi, head, and collar pale yellow; shaft of antennae white, the branches fuscous. Body white. Wings white, thinly scaled. Forewings: basal third of costal edge fuscous; two fine parallel drab lines, the first from subcostal towards end of cell, inbent to inner margin at one third from base, the second from vein 10; 2 minute drab streak on discocellular. Expanse: ♂ 24—30 mm, ♀ 42 mm. Arizona; Mexico; Guatemala.

lephassa.

L. lephassa Drc. (= *dianaria* Dyar) (75 c). ♂. Differs from *L. lacteolaria* Hulst. in the absence of lines on forewing, and the branches of antennae are wood brown. Expanse: 26 mm. Mexico.

Note. In Stübel Reise p. 132, pl. 5, f. 9 a *Leucoma pasaleuca* is described and figured, but judging from the venation it is not a Lymantriid.

The type of *Microrgyia amazonum* Fldr. is lost as stated by Dr. K. JORDAN, its position therefore not to be ascertained.

Geometrodes mimica Fldr. is a Geometrid: as stated by Dr. K. JORDAN, the specimen is in good order and exhibits—in spite of vein 5 arising from lower angle of cell—the structures characteristic of Geometridae, a well developed proboscis, ocelli, the Geometrid abdominal tympanum etc.

Alphabetical List

with reference to the original descriptions of the American Lymantriid Genera.

Animomyia Dyar. Proc. Ent. Soc. Wash. X, p. 53, 1908. Type = *morta* Dyar.

Athruta Wkr. Trans. Ent. Soc. Lond. 1862, p. 82. Type = *saturnioides* Wkr.

Axuenna Wkr. Cat. Lep. Het. B. M. 32, p. 382, 1865. Type = *discalis* Wkr.

Aza Wkr. Cat. Lep. Het. B. M. 32, p. 384, 1865. Type = *micacea* Wkr.

Blazia Schs. Seitz. Macrolep. VI, p. 555. Type = *lixivia* Dogn.

Byrdia Schs. Seitz. Macrolep. VI, p. 537. Type = *rossii* Curlis.

Caviria Wkr. Cat. Lep. Het. B. M. IV, p. 825, 1855. Type = *substrigosa* Wkr.

Coryphata H.-S. Außereurop. Schmett. p. 18. Type = *orbigera* H.-S.

Desmoloma Fldr. Reise Nov. pl. 99, F. 22. Type = *styracis* Fldr.

Eloria Wkr. Cat. Lep. Het. B. M. IV, p. 813. Type = *spectra* Hbn., fide Kirby.

Gracfia Pearsall Can. Ent. XLII, p. 331, 1910. Type = *smithii* Pearsall.

Hemerocampa Dyar Can. Ent. XXIX, p. 15, 1897. Type = *leucostigma* Abb. & Sm.

Idalia Geyer Zutr. ex. Schmett. IV, p. 16, 1832. Type = *comes* Geyer.

Isocenia Fldr. Reise Nov. p. 7, pl. 99, F. 15. Type = *quadristrigata* Fldr.

Leucula Hulst Trans. Am. Ent. Soc. XXI, p. 317, 1896. Type = *lacteolaria* Hulst.

Leuculodes Dyar Bull. U. S. Nat. Mus. 52, p. 261, 1902. Type = *lacteolaria* Hulst.

Mantruda Schs. Proc. U. S. Mus. XXX, p. 94, 1906. Type = *erratica* Schs.

Notolophus Germar Syst. Gloss. Prod. 35, 1812. Type = *antiqua* L.

Nygimia Hbn. Verz. p. 193, 1822. Type = *phaeorrhoea* Don.

Olene Hbn. Zutr. ex. Schmett. II, 19, 1823. Type = *mendosa* Hbn.

Olenoptera H.-S. Außereurop. Schmett. p. 11, 1856. Type = *flavilimbata* H.-S.

Parorgyia Pack. Proc. Ent. Soc. Phil. III, p. 332, 1864. Type = *achatina* Abb. & Sm.

Penora Wkr. Cat. Lep. Het. B. M. IV, p. 821. Type = *remota* Wkr.

Phecada Wkr. Cat. Lep. Het. B. M. VII, p. 1752, 1856. Type = *confinis* Wkr.

Phiditia Möschl. Beitr. Schm. Fauna Surinam, Suppl. p. 338, 1882. Type = *diores* Cr.

Phreata Wkr. Cat. Lep. Het. B. M. XXXII, p. 403, 1865. Type = *glaucoalba* Wkr.

Porthetria Hbn. Verz. p. 160, 1822. Type = *dispar* L.

Rolepa Wkr. Cat. Lep. Het. B. M. III, p. 770, 1855. Type = *delineata* Wkr.

Sarsina Wkr. Cat. Lep. Het. B. M. IV, p. 800, 1855. Type = *purpurascens* Wkr.

Staetherinia Btlr. Trans. Ent. Soc. Lond. 1878, p. 73. Type = *semilutea* Wkr.

Stilpnotia Westw. & Humphr. Brit. Moths I, p. 90, 1840. Type = *salicis* L.

Sorocaba Moore Proc. Liv. Soc. XXVI, p. 60, 1883. Type = *anomala* Moore.

Tepilia Wkr. Cat. Lep. Het. B. M. V, p. 1176, 1855. Type = *biluna* Wkr.

Thagona Möschl. Beitr. Schm. fauna Surinam, Suppl. p. 338, 1882. Type = *uniformis* Möschl.

Trochuda Schs. Trans. Am. Ent. Soc. XXX, p. 140, 1904. Type = *bilinea* Schs.

Turnenna Wkr. Cat. Lep. Het. B. M. XXXII, p. 545, 1865. Type = *dirphioides* Wkr.

Alphabetical List

with reference to the original descriptions of the American *Lymantriidae*.

* signifies that the form is also figured at the place cited.

- achatina** (Olene) *Abb. & Sm.* Lep. Ins. Ga. II, p. 153, pl. 77. (1797). *
- albicollis** (Eloria) *Drt.* Seitz, *Macrolep.* 6, 540 Note. *
- albifasciata** (Eloria) *Dogn.* Het. nouv. Am. Sud XXIV, p. 5. 1923.
- alyzia** (Staetherinia) *Dogn.* Het. Nov. Am. Sud XVII, p. 5. 1920.
- amalita** (Thagona) *Schs.* Ins. Ins. menstr. 1921, p. 178.
- andeola** (Caviria) *Schs.* Seitz, *Macrolep.* 6, p. 544 *
- anomala** (Sorocaba) *Moore* Proc. Liverpool Soc. XXXVI, p. 60, 1883.
- antiqua** (Notolophus) *L.* Syst. Nat. I, p. 503, 1758, fig. Seitz Vol. II, pl. 19a *
- apicalis** (Eloria) *Wkr.* C. H. B. M. IV, p. 815. 1855.
- aridensis** (Olene) *Benj.* Can. Ent. 54, p. 197. 1922.
- arogensis** (Eloria) *Schs.* Proc. U. S. Mus. XXX, p. 94. 1906.
- athana** (Caviria) *Schs.* Seitz, *Macrolep.* 6, p. 544. *
- atomaria** (Olene) *Wkr.* (Dasychira) C. H. B. M. VII, p. 1739. (1856) (♀ nec ♂).
- atrivenosa** (Olene) *Palm.* Journ. N. Y. Ent. Soc. 1, p. 21, pl. 1, f. 5 (1893). * Contributions (B. & McD) II, p. 65, pl. 7, ff. 5, 6. * (1913).
- avertina** (Sarsina) *Schs.* Seitz, *Macrolep.* 6, p. 552. *
- badia** (Notolophus) *H. Edw.* Proc. Cal. Acad. V, p. 186. 1874.
- basiflava** (Olene) *Pack.* Proc. Ent. Soc. Phil. III, p. 333. 1864. Contributions (B. & McD) II, pp. 54, 55, pl. 1, ff. 1-6; pl. 6, f. 7 (1913). *
- begga** (Thagona) *Cr.* Pap. Ex. IV, p. 125, pl. 355, f. E. *
- bilinea** (Thagona) *Dogn.* Het. nouv. Am. Sud 3, p. 18. 1911.
- bilinea** (Thagona) *Schs.* Trans. Am. Ent. Soc. XXX, p. 140. 1904.
- biluna** (Tepilia) *Wkr.* C. H. B. M. V, p. 1176. 1855.
- bonniwelli** (Olene) *B. & Benj.* Contrib. V, p. 185. 1924.
- borealis** (Hemerocampa) *Fitch.* 2nd. Rep. nox. Ins. N. Y. p. 213. 1856.
- cana** (Hemerocampa) *H. Edw.* Papilio I, p. 61. 1881.
- captiosa** (Eloria) *Drt.* Seitz, *Macrolep.* 6, p. 540. *
- caramata** (Thagona) *Dogn.* Het. nouv. Am. Sud. XVIII, p. 4. 1920.
- castrona** (Rolepa) *Schs.* Proc. U. S. N. Mus. LVII, p. 124. 1920.
- cayugana** (Staetherinia) *Schs.* Proc. U. S. Nat. Mus. LVII, p. 126. 1920.
- chares** (Eloria) *Drc.* (Monocreaga) Proc. Z. S. Lond. 1893, p. 295, pl. XX, f. 9. *
- chironoma** (Desmoloma) *Dyar* (Mantruda) Proc. Ent. Soc. Wash. XII, p. 83. 1910.
- chorax** (Eloria) *Drc.* P. Z. S. Lond. 1893, p. 295, pl. XX, fol. 9. *
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- fiachna** (Rolepa) *Schs.* Seitz, *Macrolep.* 6, p. 558. *
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- flavilimbata** (Rolepa) *H.-S.* (Olenoptera) Ex. Schmett. p. 11, f. 523. 1856.
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- hiulca** (Eloria) *Drt.* Seitz, *Macrolep.* 6, p. 541. *
- immaculata** (Thagona) *Dogn.* Het. Nov. Am. Sud XXIV, p. 7. 1923.
- impura** (Thagona) *Schs.* Journ. N. Y. Ent. Soc. IV, p. 58. 1896.
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- innotabilis** (Rolepa) *Wkr.* (Nerice) C. H. B. M. XXXII, p. 435. 1865.
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- pura* (Thagona) *Wkr.* (Stilpnolia) C. H. B. M. VII, p. 1732. 1856.
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vagans (Olene) *B. & McD.* Contrib. II, p. 60, pl. 3, ff. 1, 2, 4. 1913. *
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Addenda.

We must add here the genus *Doa* *Neum. & Dyar* which stands in earlier lists as a Lymantriid Genus and will be looked for here; it belongs like *Leuculodes* to the Pericopidae, where it is omitted.

22. Genus: **Doa** *Neum. & Dyar.*

♂. Antennae with long pectinations. Hind tibiae with two medial and two terminal spurs. Venation as in *Leuculodes*.

Type: *D. dora* *N. & D.*

D. dora *Neum. & Dyar* (75 d). ♂. Thorax and forewing light drab, the latter frequently suffused *dora*. with hair brown on basal third, and terminal space; an antemedial black point in cell and on submedian vein; a more remote point below cell; a point in cell before end and two points on discocellular. Abdomen and hindwing drab or chaetura drab. ♀ with usually the medial area and a subterminal fascia drab grey. Guadalajara, Venadio, Mexico.

D. ampla *Grt.* ♂. Head and thorax silvery white, abdomen drab grey. Forewing silvery white with *ampla*. black points as in *D. dora*; costa fuscous black; a marginal fuscous black line interrupted by veins. Hindwing drab; a fuscous black terminal line less broken than in forewing; cilia white. Expanse: ♂ 30 mm; ♀ 40 mm. Arizona.

D. cubana *Schs.* (75 d). ♂. Head and thorax pale drab grey, abdomen drab. Wings thinly scaled. *cubana*. Forewing whitish; costal margin and termen narrowly drab; a broad light drab fascia from middle of wing to postmedial interrupted in cell; postmedial outwardly defined by white ground color, inbent from costa toward apex, and inwardly broadly shaded with drab from costa to vein 5; a black point on discocellular; a subterminal light drab shade from vein 5 to inner margin; cilia whitish with drab points at veins. Hindwings whitish suffused with drab grey. Matanzas, Cuba. Vein 9 on forewing is absent.

D. raspa *Drc.* (75 d). ♂. Head, collar and abdomen pale orange yellow; thorax white. Forewing *raspa*. white. Specimens from Venezuela have the forewing maize yellow or pale orange yellow; costa faintly suffused with pale orange yellow; lines fine, black; a double subbasal and an antemedial line angled or curved below costa; a fine line on discocellular; postmedial slightly outbent from costa to vein 5, then inbent; veins on terminal third with fine black lines; cilia and hindwing pale orange yellow. Mexico.

D. translucida *Dogn.* (75 d). ♂. Body drab. Wings thinly scaled. Forewing hair brown; medial *translucida*. and postmedial lines faintly darker, the space between them drab grey widest at costa; veins black. Hindwing hair brown, the veins black. ♀. Some yellow scaling on thorax; abdomen pale yellow orange with dark segmented shading. Wings thinly scaled, drab grey, the veins drab. Forewing: the two lines faintly darker, the space between whitish. Expanse: ♂ 27 mm; ♀ 43 mm. Colombia (Cauca-Valley, Popayan, Cali). This species should be transferred, I think, to *Leuculodes*, as I am unable to distinguish more than one medial spur on hind tibiae.

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translucida *Dogn.* Het. nouv. Am. Sud. Fasc. I, p. 14, 1910.

Family: Lasiocampidae.

The most essential characteristics of this family being represented in all the faunal regions have already been dealt with in the volumes 2, 10, and 14, to which respective passages we refer our readers. The American Fauna containing far more than 600 species probably supplies the greatest number which is by no means yet exhausted, since among every return from rather unknown districts a great number of new species are always discovered again. SCHAUS, for instance, only from his stay in Costa Rica brought along about 60 different species from the genus *Euglyphis* (*Claphe*), more than half of which proved to be new! On looking through the collections of the Berlin Museum almost 60 new Lasiocampid species were found, a great number of other species in the Senckenberg Museum, among the stock of species most kindly put at our disposal by Mr. BANGHAAS, and in the collections of W. HOPP, Charlottenburg, and of H. WERNICKE, Dresden. Thus nearly every important collection of exotic Heterocera still contains many species not yet described. Moreover, this fact shows how sporadically most of the species are taken, except of course some of the very common and widely distributed species. Most of the American species probably fly in the dark hours of night and are only to be captured by the lantern, except the ♂♂ of the genera allied with the *Tolyte*, which partly seek for their ♀♀ also in daytime, rapidly flying in the sunshine, in a similar way as the palearctic *Malacosoma alpicola*-♂♂ do. For this reason, the said ♂♂ are mostly represented in the collections by specimens that are almost unrecognisable owing to their wings having been too much damaged in flying and exhibiting merely hyaline rudiments, as for instance the *Titya proxima*, *nigrescens*, and *pallida*, which are difficult to capture in an undamaged condition. In daytime, *Lasiocampidae* may rarely be found; most of the species of the enormously large genus *Euglyphis* for instance, often exhibiting a bark-like exterior, are well protected and, in the confused jumble of the primeval forest, they are mostly very difficult to discover even for experienced collectors.

The distribution of the American *Lasiocampidae* on the continent is very characteristic. The North American faunal character is entirely like that of the palearctic regions. Above all we find here a group of large species allied to *M. rubi* and similar insects, then the smaller species of *Malacosoma* entirely corresponding to the European forms, and also a representative of the *Epicnaptera*-group; moreover, a few smaller species of the genus *Tolyte* occur, which probably represent forms parallel to our *Taragama*. In the southern and tropical latitudes the *Tolyte* form a very great contingent of partly also brighter coloured and particularly sexually very dimorphous forms. The greatest part of the forms, however, are distributed among the genus *Claphe* or, as it is now called: *Euglyphis*, which is unparalleled in any other faunal region. The more we go to the south, the more all these forms disappear in the same way as they do in the opposite direction towards Mexico. Far down in the south, in Chile, another group of forms appears showing numerous representatives, the species of *Macromphalia* which may be best compared with the *Chondrosteginae* which are otherwise entire strangers to the American Continent, although the structure is quite different. Some forms of the *Macromphalia*, being rather different from the generic type, extend up to Colombia.

We know but very little of the early stages of the tropical forms; we are much better informed of those of the North American forms. Also here we may refer to what has been said in the volumes of the other faunae. The larvae exhibit a highly developed structure and spinning capability, being mostly densely clothed with hair, besides tubercles with single hairs, and very frequently on the first ring with a short obliquely porrect fleshy cone, and on the rings 2 and 3 with the well-known decorative spot. Pencils are also occasionally found on several rings. Particularly in more southern latitudes we also meet with insects with genuine burning hairs.

Of the larvae of the *Eutachyptera psidii*, from which the old Aztecs obtained their famous „Mizteca-silk“, we are very accurately informed; HUMBOLDT already supplied a detailed description of them, and CARLOS C. HOFFMANN dealt with them at large in the Humboldt Publication of 1910, p. 149. This author, however,

does not agree with the general opinion that the old silk only originates from *G. psidii*, but supposes that particularly also *Saturnidae* such as *Callosamia*, *Telea* and *Attacus* are to be taken into consideration for it. The larva of *psidii* has hair which, like that of the larva of *rubi*, cause disagreeable burning sensations on the skin, especially on the back of the hand. Biologically interesting are also their enormously large nests „being particularly before the beginning of the rainy season of a glary white colour and often attaining a length of one meter“. The silk of *psidii* cannot be reeled off, but only combed.

The systematisation of the American *Lasiocampidae* does not cause the difficulties of other faunal regions, because there are fewer genera, part of which at least exhibit such a characteristic exterior that the enlisting of a species is mostly made rather easy. For this reason an analytical division of genera is also unnecessary, for the few principal groups are quickly and clearly identified. It is only difficult in certain cases to define *Tolyte* from *Titya*, as well as *Nesara* (*Ocha*) from *Euglyphis*. In America only the subordinate groups of the *Lasiocampinae* and *Malacosomatinae* in AURIVILLIUS' sense are represented.

Much more difficult, however, than the systematisation of the genera is the distinction of many species. This is chiefly due to the rareness of many species which are only known from single specimens and are often extraordinarily alike, and above all to the wrong identification of the types. The majority of the *Lasiocampid* types is now in the National Museum of Washington, after the Collection DOGNIN had been annexed to it, and chiefly owing to the great obligingness of Mr. W. SCHAUUS we succeeded to some extent in putting this difficult group in order. KIRBY, in his Catalogue, combined a great medley of insects that did not belong at all to the *Lasiocampidae*. A number of WALKER'S and FELDER'S types do not exist any more, so that we shall never succeed in perfectly clearing up all the questions. Mr. SCHAUUS greatly facilitated our task by grouping for us a synonymic list of the species contained in the Washington Museum, which afforded great difficulties, as well as by having a great number of species most perfectly painted for our plates by Mr. FRANCIS H. NOYES, so that we are able to figure such a great material as has never yet been put together. Mr. W. H. T. TAMS, in London, by examining the genital armature of doubtful species of *Prorifrons*, has contributed a great deal to clearing up this genus. All these facts prove that the American *Lasiocampidae* are still very inaccurately known and that by further examinations of the genital organs many questions must yet be solved, before we shall be able to specifically define numerous forms to a certainty. Then only a satisfactory grouping will be possible, which we must therefore leave to the future.

The *Lasiocampidae* are species of very large to small sizes, without a proboscis, with mostly short palpi, a hairy abdomen which is often very long in the ♂♂. The broad lobate projection of the costal margin of the hindwing often occurring in other faunae, is mostly quite absent in the American species. The discal cells of both wings are mostly narrow and short, the cross-vein of the hindwing is often very oblique. In both wings vein 5 rises from the lower cell-angles, vein 6 from the upper ones. The „basal cell“ being formed by 8 anastomosing with 7 on the hindwing is mostly very small or rudimentary.

1. Genus: **Gloveria** Pack.

Well characterised by remarkably little, hairy eyes, short porrect palpi, and in both sexes pectinate antennae, in the female with short pinnae. The abdomen is long, in the ♂ with a parted anal tuft. The veins exhibit few differences in all these large *Lasiocampidae*; on the forewing the cell is relatively narrow and short, 9 and 10 are stalked, 6 rises on a short stalk with 7 from the upper cell-angle, 4 and 5 from the lower cell-angle, 2 and 3 rise at about equal distances between the base and the cell-angle. On the hindwing 7 and 8 rise from a strongly developed basal noose, 4 and 5 on a rather long stalk rise together with 3 from the lower cell-angle. Both sexes are dissimilar, the ♂ is often scantily scaled in the disc.

The large *Lasiocampid* species have been carefully examined by BARNES and McDUNNOUGH, whereby they had to be divided into various genera, the arrangement of which was fundamental for our work.

Type: *G. arizonensis* Pack.

arizonensis.

G. arizonensis Pack. (76 a) is easily recognisable by the strong black neuration and the extraordinarily strongly notched subterminal line; both the transverse lines are rather distinct, particularly the posterior line which is pointedly inwardly dentate on the veins and between them projects feebly rounded distally; discal and marginal areas usually darkened, in the former a distinct white discal spot. — f. **dolores** N. & D. is based upon specimens in which the subterminal line is not uniformly parallel to the margin, but is bent towards the base above the anal angle and between the radials. Nothing has yet been published about the larva, although the species has already been bred. Colorado, Arizona, South California.

G. edwardsii *Drc.* is allied to the preceding species in the male, but it has a somewhat less dentate *edwardsii*, and less prominent subterminal line; the ♀ almost resembles more *gargamelle* *Stkr.* by the subterminal line receding still more and the transverse lines showing a less oblique course, the anterior line being somewhat more removed towards the discal area. Mexico (Durango, Jalapa, Orizaba).

G. venerabilis *Edw.* (76 a) is very similar to *edwardsii*, but it is lighter, the grey postmedian band is *venerabilis*, more regularly dentate and the submarginal line more coherent and uniform. Mexico (Jalapa).

G. olivacea *Edw.* (76 a) looks quite different owing to its intense whitish hairing and strewing on *olivacea*, the coffee-brown ground; median band and marginal area of a purer and darker brown, the latter defined towards the postmedian area by a still darker spotted subterminal line which projects in a large bow towards the margin between the lower subcostal branches; the white discal spot may be very large, but it may also be very much reduced by the darkened bordering; in the subterminal area there is a more or less distinctly prominent darker median line. The ♂ is apparently very much rarer and very scantily scaled in the disc, the hindwing exhibits a lighter postmedian area. Mexico (Orizaba, Jalapa, Misantla, Coatepec).

G. howardi *Dyar* (78 a) is the smallest species, the ♂ somewhat similar to that of *olivacea*, but more *howardi*, yellowish-brown with a reddish tint, with quite indistinct markings; the ♀ is more similar to that of *D. coronada*. Arizona. — The larva lives on *Quercus emoryi*.

G. sphingiformis *B. & McD.* (78 a) is very conspicuous by the narrow long forewing with a concave *sphingiformis*, distal margin. The only ♂ known hitherto is chocolate-brown, its base and cell being darkest, in the disc semi-transparent with a white cellular spot and a strongly dentate subterminal line projecting far towards the base between the lower radial branches and being inwardly, in the upper half, more or less bordered with yellowish-white. Hindwing unicoloured chocolate-brown. — Texas (Kerrville).

G. gargamelle *Stkr.* (= *arizonensis* *Edw. nec Pack.*) (78 b). The nomenclatural type is of a bright *gargamelle*, brown, but usually more blackish-brown, similarly marked as the preceding ones, with but slightly darker median and marginal areas, the ♂ in the disc extensively diaphanous, on the hindwing with a broad light, scantily scaled postmedian band. — If the marking is indistinct, it is the form: **medusa** *Stkr.* — Arizona, South *medusa*, California.

G. concinna *Dyar* (76 b) resembles the ♀ of *gargamelle*, it is lighter or darker red-brown or also more *concinna*, greyish-brown, densely clothed with light yellow hair, with brown transverse lines, the posterior line outwardly with a fine lighter border, with a small white cellular spot adjacent to the proximal transverse line; the brown subterminal line is very indistinct. — In the form **rubicundens** *Dyar* the transverse lines are more distantly *rubicundens*, separated. Only the ♀ is known. Mexico (Zacualpan).

G. obsoleta *Dyar* is very dark brown, with whitish hair and strewing, dark indistinct transverse lines, *obsoleta*, of which only the distal one is better visible, and with a feeble whitish discal spot. Ends of fringes on both wings white. Expanse of wings: 67 mm. Described from a ♀ from Mexico (Hidalgo).

G. sodom *Dyar* (78 b) has also dark brown forewings intensely white-haired, with 2 broad dark *sodom*, transverse bands, both separated afar, the distal one curved, between them a faded spot; the dark subterminal line is irregular, above the anal angle and between the radials inwardly indented; ends of fringes white. Mexico (Hidalgo). Only the ♀ is known.

G. latipennis *Dyar* (78 b) is somewhat smaller than the preceding ones, chocolate-brown, strewn *latipennis*, with white, the median area in the upper three quarters without strewing and representing a dark band, enclosing a round white contrasting discal spot; the subterminal line is composed of a curved row of brown, small internodal spots. Hindwing dark brown, ends of fringes yellowish-white. Mexico (Jalapa).

2. Genus: **Neoborocera** *gen. nov.*

Very closely allied to the genus *Gloveria* and chiefly distinguished by the quite different conspicuous shape of the wings, the abdomen projecting far beyond the hindwing, and a very deep concavity of the costal margin of the hindwing. Besides 7 and 8 rise together with 6 on a stalk. The only, very peculiar species was placed to the Ethiopian genus *Borocera* by its author, but it is better ranged separately.

Type: *N. esteban* *Dogn.*

N. esteban *Dogn.* (76 c). Forewing deep brown, in the subterminal area lighter, at the costal margin *esteban*, broad, at the hindmargin narrow, with a small light cellular spot. The peculiarly shaped hindwing exhibits a yellowish-white distal margin. Ecuador.

3. Genus: **Eutachyptera** B. & McD.

It has larger hairy eyes, but it is otherwise very similar to *Gloveria*, only the basal loop of the hindwing is somewhat smaller. But one species.

Type: *E. psidii* Sallé.

psidii. **E. psidii** Sallé (76 b) is the well known Mexican species, from the cocoons of which the so-called Mizteca-silk was produced. Forewing red-brown, in the ♂ darker, in the ♀ lighter, more yellowish, with 2 light yellowish transverse lines and a small white, in the ♀ mostly indistinct discal spot between them. Also the hindwing of the ♂ exhibits a light curved postmedian line. Arizona, Mexico to Guatemala. — The brown larva set with silky soft rosy hair lives in colonies of 80 to 100 specimens in a glary white nest extending to one meter length, feeding only at night, from October to April on Guayavae and various species of oak.

4. Genus: **Caloecia** B. & McD.

Distinguished from the preceding genus by the veins 4 and 5 of the forewing not being stalked. The distal margin of the wings is slightly undulating; otherwise very similar. The ♂ exhibits on the anterior tibiae a well developed epiphysis, being quite undeveloped in *Gloveria*. Two species occurring from the southernmost parts of North America to Mexico.

Type: *C. juvenalis* B. & McD.

juvenalis. **C. juvenalis** B. & McD. (78 a) may only be a local form of the following species. Forewing in the basal half deep brown, outside densely strewn with grey, with a broad chocolate-brown median band with a small white cellular spot in blackish scaling which extends as a longitudinal band from the base almost to the subterminal line being composed of black sagittary spots; between it and the distal edge of the median band there is another dentate light grey line. Hindwing red-brown with a somewhat lighter distal band. Arizona. The ♀ is lighter and less contrastingly marked. Arizona.

denda. **C. denda** Drc. (76 d) is on the forewing and hindwing very dark brown, with a small white cellular spot and 5 narrow light greyish-brown, more or less distinctly black-edged notched lines, two of which are near the base, two being postmedian and the 5th submarginal, the latter with small black sagittary spots, the subterminal area being reddish-brown. Hindwing with two feeble reddish-brown lines. Mexico (Jalapa).]

5. Genus: **Quadrina** Grt. !

Separated from all the neighbouring genera by vein 10 of the forewing terminating distantly remote from the apex into the costal margin and vein 9, which is stalked with it, almost directly into the apex. The eyes are larger and more projecting than in *Caloecia*. The basal loop of the hindwing forms a very much longer accessory cell, all the rest is as in the preceding genus. But one species.

Type: *Q. diazoma* Grt.

diazoma. **Q. diazoma** Grt. (= *oweni* Barnes) (78 b) is very much like *D. coronada* and, excepting the morphological differences, separable by the equally broad median band which in *coronada* is twice as broad at the costal margin as at the hind-margin. Forewing red-brown intermixed with light grey or yellowish-white hair-scales; the dark lines bordering on the discal area which forms a somewhat re entering angle on the penultimate subcostal branch, are on the averted sides bordered with a somewhat lighter colour; right behind the anterior line there is the small white cellular dot; behind the subterminal line, which is bordered by a more or less light colour, there is a row of small dark internerval spots; New Mexico, Arizona.

6. Genus: **Prorifrons** B. & McD.

A genus containing numerous species part of which are very difficult to identify and very closely allied to one another, hitherto found from Mexico to the south as far as Colombia, Bolivia, and Brazil. The genus is characterised by the relatively long palpi projecting like beaks or snouts. On the forewing veins 9 and 10 rise on a short stalk; the former terminates directly into the apex, the latter below it into the distal margin. The other veins are as in *Quadrina*, though 11 and 2 rise nearer at the base; on the hindwing 4 and 5 rise either together or on a short stalk from the lower cell angle. — The greatest difficulties were caused by the wrong identification of the types; Mr. SCHAU in Washington and Mr. TAMS in London, as well as Mr. JOICEY, the owner of DRUCE's types most kindly and largely helped us in clearing up and rectifying these mistakes, and we therefore beg to express at this place our special thanks. I think it will be possible by the aid of our

figures to identify the species rather surely, so that on this basis the progress of this extraordinarily difficult genus will be facilitated.

Type: *P. quadrilineata* B. & McD.

I. Sect. Transverse lines not undulatingly dentate.

P. lineata Maass. (76 c) has comparatively broad forewings with a slightly oblique, rounded distal *lineata*. margin and an obtuser apex than the other species, ground-colour darker, browner, very coarsely strewn with greyish-yellow, the median area narrow, its distal border-line forming below the costal margin an almost right, somewhat rounded angle; the subterminal area is not darker than the postmedian area, only the marginal area is feebly darkened, the row of the subterminal lunae forming a coherent light line twice projecting distally. The costal margin of the hindwing is hardly concave, 2 lighter transverse bands are distinctly prominent. The abdomen is relatively shorter than in the similar species. Colombia, Ecuador, Bolivia. — It seems very doubtful whether **quadrilineata** B. & McD. is specifically different. The name may be maintained at the most for the *quadrilineata*. northernmore specimens appearing somewhat more olive brown owing to the intenser grey admixture, the median area being usually somewhat darker. The hindwings are of almost the same colouring as the forewings, in *lineata* of a decidedly redder tint. Described from Mexico.

P. antonia Schs. (76 b) is very similar, smaller, dark red-brown, just as coarsely strewn with yellowish, *antonia*. distally lighter veins, lines as in *lineata*, though in the specimens at hand and in the figure of the type kindly put at our disposal by Mr. SCHAUUS the distal border of the median area forms a larger rounded bow below the costal margin. Hindwing violettish-brown. Costa Rica.

P. castullux Dyar (76 e) has decidedly narrower wings, with a much narrower distal margin, the colour *castullux*. being a darker ol ve-brown, often almost blackish; less coarsely strewn, more smoothly scaled; lines more oblique than in *lineata*, the median area hardly darker, the black anal spots variable, often almost absent, the upper spot much farther inwards than in *lineata*. Panama to Colombia. — As **barnesi** f. nov. (76 e) I denote *barnesi*. a much smaller lighter form with a prominently darkened median area which is narrower towards the hind-margin. The costal margin of the hind-margin is much deeper concave. Mexico. Type in the Coll. DRAUDT.

P. doeri Schs. (= *boliviana* Dogn.) (77 a, 86 b) has still longer and narrower wings than the two preceding species, with a very oblique distal margin, the costal margin being very convex towards the apex, so that the apex of the wing is somewhat falciform. Deep red-brown, with feeble yellowish veins, almost straight and very oblique transverse lines, the median area being at the costal margin 3 to 4 times as broad as at the hind-margin and only slightly darker than the ground; the subterminal area particularly analwards lighter reddish-brown; the two black anal spots are mostly very thick and large. The distal margin of the darkened black hindwing with 2 lighter undulated transverse bands is slightly rounded, the costal margin flatly concave. Abdomen very long. The ♀ is duller brown, the lines less oblique, the median area more equally broad, the anal spots small. Bolivia, Colombia. *doeri*.

P. angustipennis Sch. (77 a) is an extreme species of the preceding one with an entirely Sphingid *angustipennis*. habitus, with still narrower and longer wings and a longer abdomen. On the dark ground of the forewing the markings are quite indistinct, only visible as two nebulous darker transverse bands, the small cellular spot ochreous. Costa Rica.

P. phedima Stoll, according to SCHAUUS' assertion, is a *Prorifrons*; we insert the unknown insect here, *phedima*. because the figure also shows two oblique darker nebulous bands in contrast with the other representatives of the genus. The shape of the figure (evidently according to a ♀) is the most similar to that of *quadrilineata*. Surinam.

P. gustanda Dyar (76 d) has almost the same shape of the wings as *doeri*, but the distal margin of *gustanda*. the hindwing is more rounded and slightly waved; the colour is light reddish brown, in the cellular areas variably strewn with blackish, with yellowish veins, intensely intermixed with whitish-grey hair-scales; median and marginal areas hardly darker than the ground. Lines as in *doeri*, but the median area is more equably broad, the blackish, narrow discal longitudinal patch distinct, prolonged almost to the base, the small yellowish subterminal lunae are feeble, the anal spots tiny or absent. Hindwing of a bright red-brown colour. Ground-colour of ♀ much lighter, reddish-brown, the hindwing particularly light. Mexico. The penis is somewhat similar to that of *conradti*, with 2 very long spines.

P. tamsi sp. n. (76 d) is above strikingly similar to *gustanda*, so that it is unnecessary to describe its *tamsi*. colour and marking; but the species is of only half the size with broad wings, a straighter distal margin and a much shorter abdomen, almost as in *lineata*. The costal margin of the hindwing is straight, in *gustanda* deeply concave. The marking of the hindwing beneath is very different; the basal half of the hind-margin is occupied by a deep dark brown triangle above which there is another red-brown triangle at the base in the yellowish-white costal-marginal half; in *gustanda* the hindwing beneath is monotonously light reddish-brown. Mexico (Zacualpan). Type in the Coll. DRAUDT.

peruviana.

P. peruviana Drc. (76 e, 77 b) is probably the most easily discernible of all the species. Forewing broad, blackish red-brown, in the anal quarter contrastingly light brown with reddish-yellow veins; the double lines bordering on the broad median area are so very close together as in no other species; the white discal spot is very large and bright in the black discal longitudinal patch; 2 anal spots almost vertically above each other are deep velvety black and very large. Hindwing dark red-brown with almost pure white fringes. The ♀ is much lighter. Peru, Bolivia (Chaco).

songoensis.

P. songoensis sp. n. (77 b) has the same marking as *peruviana*, but broader wings. The ground-colour is a lighter yellowish-brown with a still lighter anal quarter and reddish-yellow veins; the double lines bordering on the median area are not so close together, the blackish-grey discal longitudinal patch is intense, the white cellular dot feeble like the two small black anal spots; hindwing light reddish yellowish-brown, its anterior angle much more prominent than in *peruviana*, and the abdomen is much shorter. According to a ♂ from the Rio Songo (Bolivia); type in the Berlin Museum.

rufescens.

P. rufescens Schs. (77 c) is the most similar to *castallux* as to the shape of the wings, but the apex of the forewing is more rounded. The colour of the wings is a light yellowish red-brown, only slightly intermixed with whitish-grey, the transverse lines curved as in *peruviana*, but more separated; the narrow blackish discal longitudinal stripe extends from the tiny white discal dot to the subterminal line being composed of yellowish spots which are centred near the apex with 2, analwards with 2 or 3 black spots which, however, may be indistinct; the median area is of a rather pure red-brown, the subterminal and marginal areas somewhat darker than the postmedian area which is intermixed with whitish-grey, the marginal area particularly analwards powdered with a delicate lilac-grey. Hindwing reddish-brown with lighter fringes. Costa Rica. A specimen from the Coll. STAUDINGER, labelled „Mexico“, shows a somewhat more olive tint.

hoppi.

P. hoppi sp. n. (77 a, b) is a beautiful species closely allied to *rufescens*; the red-brown forewing exhibits particularly the antemedian and postmedian areas very much intermixed with whitish-grey hair-scales, especially at the hind-margin; the curved lines are prominent almost white, the blackish longitudinal stripe through the cell-end, enclosing the small white cellular dot, almost extends to the subterminal line which is composed of a more or less complete row of black small spots inwardly bordered with yellowish. Collar contrastingly whitish-grey, also the thorax very light. Hindwing red-brown with almost white fringes. The ♀ is much more uniformly red-brown hardly intermixed with whitish-grey. Described from 2 ♂♂ and one ♀ from Chachatoy (Colombia), 2300 m. Type in the Coll. HOPP, Charlottenburg.

II. Sect. Transverse lines, at least the postmedian one, finely dentate towards the costal margin.

championi.

P. championi Drc. (77 c, 86 a). The identification of this species which was long misunderstood has caused the most difficulties, because beside the type, the photo of which was most kindly put at our disposal by the Brit. Museum, apparently at least no other specimen exists. It is allied to the two preceding species from which it is separated by the small fine dents of the postmedian line below the costal margin; the shape of the wings is broader, the apex rounder, the whole insect smaller; the colour is a soft brown, the antemedian and postmedian areas are just as broad as the somewhat darker median area which is almost broader at the hind-margin than at the costal margin and projects a little below the submedian fold on both sides rounded; the tiny blackish subterminal spots form an almost complete, slightly S-shaped row. The figure in the Biologia is deceptive, the description futile. Described from Panama. In contrast with *conradti*, the accessory spine at the penis is situate almost as high as the main spine, and in the concavity between both there is another small plain spine and a bicuspid spine. The ♀ figured on pl. 86 a we have placed here only as the presumable ♀. It originates from Ecuador.

tremula.

P. tremula Schs. (77 c). Here begins a very difficult group of closely allied and variable species extraordinarily allied to *championi*; their sure identification will therefore only be possible by examining the peculiarly shaped genitals, the more so since the similar species vary also in the same direction. *tremula* is rather large, the basal area as far as the darker median area brown, strewn with yellowish-reddish, traversed by a darker waved line proximally bordered with a lighter colour; the white discal dot is very small; the postmedian and subterminal areas are lighter than the basal area, traversed by an undulatingly dentate, distally light line, passing over without a distinct border into the yellowish ochreous subterminal spots, projecting scalariformly especially in the centre and subanally, each of them being outside spotted blackish; the marginal area behind it is strongly mixed with grey. Hindwing dark brown with hardly lighter fringes and traces of two lighter transverse bands. Costa Rica to Colombia.

crenulata.

P. crenulata sp. n. (86 b). There is but one faultless ♂ before me, for which I am indebted to Mr. BANG-HAAS; without examining the genitals, it is therefore impossible to ascertain whether it is only a form of *tremula*. Forewing and hindwing not entirely margined as in *tremula*, but decidedly undulatingly margined. Ground-colour redder, hindwing almost copper-coloured, with whitish tips of the fringe. On the forewing the subanal line is similarly shaped as in *tremula*, the median area about thrice as broad, the line defining the

postmedian area against the subterminal area much more distinct, blackish and particularly in the upper half much more strongly dentate with distally projecting round bows; subterminal markings almost as in *tremula*. Colombia. Type (♂) in the Coll. BANG-HAAS.

P. prosper Dyar (78 d) is quite an uncommon variable insect, very similar to *tremula*, somewhat *prosper*. smaller, in the form which I consider to be the type light red-brown, before and behind the median area very much mixed with yellow, the subbasal line shaped as in *tremula*, the median area at the costal margin more than twice as broad as at the hind-margin, between 8 and 9 distally four times as broad and here very denticulate, towards the hind-margin in the centre of a very light yellowish-white; discal dot very small, on the proximal border of the median area; on the border between the postmedian area and the decidedly yellow subterminal area there is an intense double red-brown wavy line filled with light; marginal area reddish-grey, subanally and between 4 and 6 extending notched into the yellow subterminal area; the row of black dots is complete, the two anal ones and apical ones being the largest. Hindwing brownish-red, fringes with whitish tips. The ♀ (77 d) of which we are able to figure the type is compared with *conradti* by the author, but it seems not to have been the genuine *conradti*. DYAR writes that *prosper* has much narrower wings, the hindwing being less deeply concave at the costal margin; the markings are much more distinct without the faded yellowish areas; body beneath not so dark blackish-brown, the subterminal spots more irregularly arranged. Mexico. — **pini** *pini*. *f. n.* (78 d) I denominate an extremely grey-dusted form, only the subterminal area being yellowish reddish, the total colouring being softer, smoother, all the lines somewhat finer, the black discal patch feebler; thereby a remarkable resemblance to certain *D. pini* from Europe is produced. The genital organ is quite the same in both forms: at the penis between the main and the vesical spine a concavity exhibiting like a comb 4 more, slightly curved parallel spines gradually decreasing in size towards the main spine; the vesical edge of the accessory spine exhibits on a slight convexity 4 more, smaller spines, so that this insect shows an extraordinarily complicated spining which cannot be mistaken for any other species known to me. Mexico (Orizaba; Cordoba), type in the Coll. DRAUDT.

P. costaricensis *sp. n.* (77 d) is the most similar to *prosper* in the genital organ, but very different in *costaricensis*. the exterior; much smaller and of an almost monotonous greyish-brown ground-colour, lighter than in *mülleri*, all the lines, as well as the border of the median area, indistinct, shadow-like, the subbasal line shaped as in *tremula*, the median area relatively very narrow, in one of the two specimens at hand only few millimeters broad, the white discal spot almost extinct, particularly the distal border-line very undulatingly dentate, still more so the postmedian border-line which is distally bordered by a light line; the small blackish subterminal spots are very feeble, hardly shadow-like. Hindwing somewhat darker, more intensely coppery, the ends of the fringes whitish. According to 2 ♂♂ from Costa Rica in the Coll. BANG-HAAS. — **seitzi** *f. n.* (78 e) is specifically *seitzi*. not separable owing to the genital organ, but it looks quite different and is very similar to *prosper* by the bright red-brown colour which is more rusty yellow basally and behind the median area; in the marking otherwise the same, the median area is somewhat broader, the white discal spot stronger, the contrast between the rusty yellow subterminal area and the greyish-brown marginal area much more prominent, the small black spots stronger. According to 1 ♂ from Gramal near Muzo (Colombia); type in the Mus. Senckenberg. The penis is not dissimilar to that of *prosper*, but much smaller and neater, the concavity between the spines very much deeper containing but 2 very feeble small spines, at the upper edge of the vesical convexity with 2 somewhat larger dents, below them with 3 tiny dents.

P. vibrans Schs. (77 c, 86 a) is very similar, smaller, the median band narrower, distinctly darker, *vibrans*. the transverse lines at the costal margin more distinctly denticulate, lighter, more distinctly bordered with dark, the median area above the hindmarginal vein on both sides convex, the subterminal spots distinct, roundish, more or less completely centred with blackish. Hindwing dark copper-brown. Costa Rica.

P. conradti Drc. (77 d) is one of the largest species; reddish-brown, all the transverse lines finely *conradti*. undulatingly dentate, the median area particularly at the costal margin broad, at the hind-margin narrower, distinctly dark brown or blackish-brown, the white discal dot on the proximal border, the blackish discal longitudinal stripe narrow; subterminal line not broken up into dots but forming a yellowish-ochreous band which is proximally indistinctly, distally distinctly defined, enclosing small black spots, only the anal ones of which are more distinct, the upper spot receding far; between the median area and the subterminal band there are besides two undulating darker brown lines; marginal area somewhat greyer, projecting in the centre between 4 and 6. Hindwing red-brown with distally whitish fringes, the light transverse lines very distinct. Mr. TAMS had the kindness to send me a photo of the genital organ of the type which has apparently remained unique. Accordingly, the penis which is very characteristic for every species exhibits, at the proximal end opposite the vesica, as in all the *Prorifrons*, a very strong spine-like appendage with a single shorter accessory spine in the centre of one edge. Described from Guatemala. From the Coll. BANG-HAAS I have a much flown specimen at hand from Marcapata, which is very much like the figure of the type, but without examining the genital organ nothing can be said in this most difficult group.

- mülleri*. **P. mülleri** *sp. n.* (78 s) is a large species with relatively very broad wings, of a dark, more greyish-brown colour, strewn with yellowish-grey, the darkest in the median area, in the subterminal area more reddish-brown, at the distal margin strewn with violettish-grey, but all the colours not very much contrasting; subbasal band broad, shadow-like blackish and extending to below the cell, median area moderately broad, at the costal margin about twice as broad as at the hind-margin, the border-lines hardly waved, the white discal dot tiny, close in front of the median area; the border-line between the postmedian and subterminal areas faint, blackish, distally bordered with a lighter colour, below the costal margin feebly though distinctly undulatingly dentate. The subterminal row of black spots is complete, arranged as in *prosper*; the blackish discal shadow is faint but broad, extending from the subbasal line to the subterminal line. Hindwing very dark, deeply coppery blackish-brown, with 3 lighter transverse bands: an antemedian, a postmedian, and a marginal one; the hind-margin exhibits hair of the same colour. Penis similar to that of *conradti*, but on the whole much stouter, shorter and broader, the main spine being shorter with a much broader base, the accessory spine rising higher, so that both apices are situate in the same height; the 11th tergite is quite different from *conradti*, but the differences of the penis are sufficient for the characterisation. According to several ♂♂ from Chiapas (Mexico), taken in June, named in honour of ROBERT MÜLLER in Mexico; type in the Coll. DRAUDT. — **guatemalteca** *f. n.* (78 e) is evidently a form of it, much lighter and more contrastingly coloured, particularly the whole marginal third conspicuously light; the intensely blackish-brown darkened median area is much broader, inside undulatingly, outside almost rectilinearly defined, with an obtuse angle on 7, the white discal dot stronger, situate within the median area, the black discal longitudinal patch sharply defined, only between 5 and 6, the postmedian border-line more distinct; hindwing also much lighter. According to a faultless ♂ from Guatemala in the Coll. BANG-HAAS.
- granula*. **P. granula** *Schs.* (= *hempsteadii* *Schs.*) (77 d, 86 a) is allied to *conradti*, but larger, with still broader wings, the median area broader, more blackish-brown, at the costal margin 1 cm broad, at the hind-margin only $\frac{1}{3}$ cm broad, the proximal border below the costal margin distally angular, the distal border hardly dentate, on the uppermost radial branch distally angular, from there extending in a flat, inwardly concave bow to the hind-margin; the discal longitudinal patch is distinctly defined, blackish, more distinct than in the two preceding species; the small subterminal spots are distinctly ochreous, either all, or only the anal ones, spotted black. Guatemala. This species was regarded by SCHAUS as a synonym to *conradti*, but according to what has been said at that species, this is probably not the case. The species varies besides in the lighter or darker, more yellowish or reddish ground-colour and in the width of the median area.
- crossaea*. **P. crossaea** *Drc.* (77 e) of which likewise only the type is known, which is besides so much damaged that but few details are yet to be recognised, is presumably also allied to *conradti*, but very much lighter, quite unicoloured light reddish-brown, behind the median area still lighter, the markings very indistinct, anally with two small black spots arranged as in *conradti*, farther above there are some more punctiform ones. The specimen is somewhat smaller, the apex of the forewing somewhat rounder, the distal margin more convex. Mr. TAMS kindly sent a photo of the type and a microphotographic reproduction of the genital organ; accordingly, the penis on the whole exhibits a much broader and shorter, almost flat wing-like shape and is not so deep dark brown chitinated, the vesical edge of the terminal spine shows in its upper half 2 smaller accessory spines, each of which is again provided with a still smaller accessory spine, so that this edge looks like a short blade of a saw; the opposite edge shows below the centre an intensely chitinated hunched projection. Bahías, Jalisco (Mexico).
- lemoulti*. **P. lemoulti** *Schs.* (77 e) forms a transition from *conradti* to *nox*; a very large species with narrower wings; forewing dark brown, thorax and hind-margin of forewing hued with grey, before the centre with 2 yellowish-red dentate lines, convergent to the hind-margin, also 2 postmedian finely waved lines which are dentate towards the costal margin; the light brown irregular subterminal row of spots exhibits the usual black centres. French Guiana. — **yahuarta** *Dogn.* (77 e) is somewhat smaller; the author considers it to be a local race of the preceding species. Peru (Yahuarmayo).
- negrita*. **P. negrita** *Dogn.* (78 c) is still somewhat smaller, on the dark yellowish-brown forewing the antemedian area, the transverse lines, and the subterminal area are lighter, the first line at the hind-margin farther from the base than at the costal margin; the small light subterminal spots with but one black anal dot. Hindwing coloured like forewing, with reddish-brown fringes. From the Rio Negro (East Colombia). Separable from *antonia* by waved transverse lines.
- nox*. **P. nox** (= *melana* *Dogn.*) (78 c) is very similar to the preceding species, large and strong, but much darker, with almost black hindwings and marginal area of the forewing; lines arranged exactly as in *lemoulti*. The type of *nox*, from the Coll. STAUDINGER, is not separable from *melana*, only the transverse lines are more indistinct owing to the insect having flown very much, but on examining the insect very carefully they show the very same course, the white discal dot being also present. A ♀ from the Berlin Museum is very large, with yellowish veins, all the subterminal spots very conspicuously rusty yellow. Panama to Colombia and Brazil. The penis exhibits a great resemblance to that of *conradti* and especially of *mülleri*.

7. Genus: **Edwardsimemna** *Neum. & Dyar.*

Distinguished by bare small eyes, a very short cell of the forewing, from the upper angle of which 7 and 8 rise on a joint stalk with 6. The basal loop of the hindwing is short, the distal margin somewhat undulating. The short palpi are straightly porrect, the abdomen does not project beyond the hindwing.

Type: *E. jalapae* *Edw.*

E. jalapae *Edw.* (78 d). Light reddish-brown, the hind-margin and marginal area lighter, more *jalapae*. violettish-grey, with a slightly darker border of the median area, the distal line towards the costal margin bordered with whitish; subterminal line somewhat more distinctly dentate. Thorax and abdomen greyer. Mexico.

8. Genus: **Dicogaster** *B. & McD.*

It has likewise bare though much larger and thicker eyes. The wings are shaped as in *Quadrina*, and also have the same veins except that 10 terminates into the apex, 9 below it into the distal margin.

Type: *D. coronada* *Barnes.*

D. coronada *Barnes* (78 d) has an exterior almost like that of *Q. diazoma*, where the differences are *coronada*. mentioned. In the type the red-brown forewing is densely intermixed with whitish grey, the white transverse lines are narrowly bordered with red-brown; the stréwing may be so dense that the wings almost appear grey. — f. **valens** *Dyar* is without any grey irroration at all, for which reason the white transverse lines on the deep *valens*. red-brown ground do not appear to be bordered with brown. The larva resembles that of the European *quercus*, being red-brown set with silky white hairs, with yellow stigmata. It lives on *Quercus arizonica*, hibernates almost in its adult stage, and pupates at the end of April in a loose blackish brown web. Arizona; recently also reported from Mexico (Michoacan).

9. Genus: **Mesera** *Wkr.*

This genus being extremely allied to the following I have nevertheless separated, because it forms a good connection of the large preceding genera and the following genus. From *Macromphalia* it differs in the shorter, not so long combed antennae and a small anal tuft in the ♀.

Type: *M. tristis* *Wkr.*

M. tristis *Wkr.* has remained unknown to me, the male with a red-brown body and black antennae has *tristis*. blackish-grey wings, the forewing is somewhat darker and more densely powdered than the hindwing. Length of forewing: 12 lines. Venezuela. The ♀ which, however, surely does not belong hereto, is described to be lighter, the forewing with an undulating grey band near the distal margin. Length of forewing: 19 lines. From Bogotá.

M. arpia *Schs.* (75 e) is in both sexes bright red-brown with a thick black roundish discal spot; *arpia*. in the ♀ the border of the median area projects twice distally and is distinctly prominent by a postmedian brightening, in the ♂ hardly distinct. Anal tuft of ♀ whitish. Brazil, Argentina.

M. crassipuncta *sp. n.* (75 e) has a somewhat obliquer distal margin of the forewing which is somewhat *crassipuncta*. lighter and not so bright red-brown; the ♂ exhibits a broad dark postmedian band projecting distally on 4 and 7; the round discal spot is still larger than in *arpia*. Described from a ♂ from Surinam. Type in the Berlin Museum.

M. rimicola *sp. n.* (75 e) is much smaller, monotonously light reddish-brown, with a small blackish *rimicola*. discal spot. Anal tuft light slate-coloured. Described from a ♀ from Buenos Ayres. Type in the Berlin Museum, a similar ♀ is in Washington in the National Museum.

10. Genus: **Omphalia** *H.-S.*

This genus must be kept separate, because in the two specimens that are in the Berlin Museum and were lying before me (among them the type) veins 7 and 8 of the hindwing are stalked as in the genus *Sphinta*; they rise only shortly before the cell-angle, in *Sphinta* near the base. Palpi somewhat longer than in *Macromphalia* with which the other marks correspond.

Type: *O. psorica* *H.-S.*

psorica. **O. psorica** H.-S. (75 f) is in the ♂ greyish-brown, the body somewhat lighter and more yellowish; on the forewing the median area is edged by 2 darker lines which are bordered with lighter on the averted sides, the distal line projecting twice distally in an acute angle; in each of the two cell-angles there is one black dot; the darker subterminal line being parallel to the distal margin is distally round waved between the veins and towards the distal margin bordered with a lighter colour. Type from Venezuela. The small whitish ♀ with narrow wings and a very large anal tuft, being figured by HERRICH-SCHÄFFER, certainly does not belong to this species, but is probably much rather a *Tolyte*.

11. Genus: **Macromphalia** Fldr.

Evidently very closely allied to the preceding genus, but at once discernible by the separate origins of veins 7 and 8 of the hindwing. The rudimentary palpi are somewhat drooping. They are, moreover, robust insects with broad wings, the ♂ with a relatively short abdomen, the ♀ without an anal tuft; ♂ antennae very long, with long pectinations. Costal margin of hindwing straight or somewhat concave. The range of most of the species extends into the southernmost parts of South America to Chile. Most of the Chilean species are very variable and seem to me to belong to but very few species. Examinations of the genitals are here absolutely necessary in order to ascertain which is a species and which a form.

Type: *M. chilensis* Fldr.

- lignosa*. **M. lignosa** Wkr. (75 f) is a very doubtful insect; according to SCHAU, there is in the Coll. DOGNIN as *lignosa* a *Macromphalia* which looks very much like the following and differs in the broader median area with a less dentate distal border which is bordered with broader and purer white; subterminal area not lighter, without the small black spots therein. From the common point of view, however, *lignosa* is an *Euglyphis* of the *narceta*-group (cf. there!). Argentina, Chile.
- chilensis*. **M. chilensis** Fldr. (75 f). Body and wings greyish-brown; mesothorax and base of abdomen darker; forewing with a darker median band, its dark border-lines on the averted sides lighter, the distal one projecting thrice distally acute-angled; postmedian area somewhat lighter, then follows a still lighter subterminal band on the outside of which there are small black internodal spots; in the darker marginal area the veins are somewhat lighter. Chile (Valdivia). — Larva greyish-brown with a double row of long black pencil-like brushes; head black with a yellow V-shaped marking. Ventral feet and claspers reddish.
- rubrogrisea*. **M. rubrogrisea** Phil. (= *rustica* Phil.) (75 f) is very similar, but the median area is broader, occasionally prominently darker, the light subterminal band is absent, the row of the small dark antemarginal spots is more coherent, the distal border of the median area is not so pointedly notched, between the veins roundish convex. Chile.
- valdiviensis*. **M. valdiviensis** Dogn. (75 f) has a somewhat lighter reddish-brown forewing with a dark brown median band which is twice as broad at the costal margin as at the hind-margin, enclosing a small black discal spot, and on both sides bordered with light, the distal border projecting still more flatly than in the two preceding species; fringes on the ends of the veins crossed by a somewhat lighter colour. Described from 1 ♂ from Valdivia.
- rivularis*. **M. rivularis** Btlr. (= *dedecora* Phil. nec Feisth.) (75 g). The ♂ is above greyer than the preceding species, the border of the median area is almost white, shaped as in *valdiviensis*, with a submarginal double row of small whitish lunae; the black median spot is strong. The ♀ is lighter, yellowish-white, the border of the median area represented by brown double lines, in the subterminal area before the black antemarginal lunae with a greyish-brown notched nebulous band; costal area in the centre and subapically darkened with brown. Chile.
- dedecora*. **M. dedecora** Feisth. (= *ancilla* Phil.) (75 g) is on the forewing greyish-brown, at the apex somewhat lighter, with 3 waved blackish-brown transverse lines and a black discal dot. Hindwing darker, with a whitish median band and darker subterminal band. Chile. — The larva is clothed with brown hair, with a double row of long black, pencil-shaped hair-tufts along the dorsum. Cocoon similar to that of *C. potato*. It lives on Pinus and Mühlenbeckia.
- purissima*. **M. purissima** Btlr. (75 g) is snow-white, in the basal half of the forewing, on the hindwing and body with a silky gloss; the median area of the forewing is edged by 2 brown lines, the proximal one consisting only of a costal-marginal streak, the distal one at the costal margin black and notched; a submarginal indistinct row of small black lunae, at the costal margin before them an oblong black spot, at the cell-end a black spot. Hindwing with a brown hair-pencil at the cell-end. The ♀ is more yellowish, with much fainter markings, the submarginal lunae combined as a fine brown line; hindwings with brown anal spots. Chile.
- hypoleuca*. **M. hypoleuca** Phil. (75 g) resembles *rivularis*, but it is lighter, the ♀ quite yellowish-white, the lines as fine as hairs, not double, but single. Hindwing without markings. Chile.
- affinis*. **M. affinis** Feisth. (75 g) resembles *purissima*, but in the ♂ the wings are chalky white, scantily strewn with brown, producing a grey impression. Lines arranged as in all the allied species. Chile (Valparaíso).

M. nitida Btlr. (75 g) is in the male dark copper-coloured, towards the margin lighter greyish-white, with two black transverse lines, the distal one almost double, on the averted side more or less brightened, especially at the costal margin; a subterminal row of small blackish-brown spots. Hindwing copper-coloured. The ♀ is whitish, strewn with black and grey, marked as in *dedecora*-♀, but the markings are more hazy, the colour darker. Chile. *nitida*.

M. catharina Dogn. (75 h) is on the forewing monotonously chestnut-brown; a waved subterminal line, not darker than the ground, is distinctly prominent by a double row of small feeble whitish lunae. Hindwing somewhat lighter red-brown. In the body a few whitish hairs are intermixed, frons whitish. Sa. Catharina. Described from a ♂. *catharina*.

M. spadix sp. n. (75 h) is similarly coloured, but with a discal spot and 2 black transverse lines, the distal line on 2, 4 and 7 distally angled as in *chilensis*; a subterminal line of black spots distally lighter by white scales, distal margin blackish before the fringe which is crossed by black. Hindwing without markings. According to a ♂ from Valdivia. Type in the Berlin Museum. *spadix*.

M. lojanensis Dogn. (79 a) initiates another small group of allied, somewhat more slender, grey species. Forewing whitish-grey, base, median area and marginal area darker, the median area edged by dark grey lines, with small indistinct discal spots; a subterminal row on the veins distally dentate, before it an indistinct curved nebulous line, behind it the margin is whitish; fringes on the veins crossed by light. Hindwing almost white with a brownish marginal line. Ecuador. *lojanensis*.

M. deficiens Dogn. (79 a) is more slender, with a longer abdomen, a much duller colouring and marking, the postmedian line more oblique, the antemarginal line quite indistinct. Hindwing not so white, at the hind-margin and anal angle very brown, with a very faint subterminal shadow. Colombia. *deficiens*.

M. canescens Dogn. (79 a) in contrast with *deficiens* is stronger, larger, much more clearly and distinctly marked, the median area narrower, edged by blackish-brown lines, costal margin darkened by blackish-brown, fringe speckled black and white, ground-colour of a purer ashy grey, hindwing pure white. Colombia. — **quindiensis** f. n. (79 a) is still much larger, the median band broader, more rectilinearly defined, fringe not speckled, hindwing at the hind-margin broad blackish. From the Quindiu Pass (FASSEL). Type in the Mus. Senckenberg. *canescens*. *quindiensis*.

12. Genus: **Norapidia** g. n.

The genus contains 2 *Lasiocampidae* described as *Norape* (*Megalopygidae*) by DOGNIN, allied to *Omphalia*. They are distinguished by a more pointed, in *divisata* almost falcate apex of the forewing and a longer, more slender abdomen; the middle joint of the longer palpi is flatly compressed, wing-shaped. The cell of the hindwing is very short, the cross-vein very oblique, 4 and 5 rise from the same place; on the forewing 9 and 10 terminate before the apex into the costal margin. Only 2 species:

Type: *N. divisata* Dogn.

N. divisata Dogn. (75 h). Forewing brown, in the basal $\frac{3}{4}$ much darker, with a purple reflection, towards the light brown terminal area feebly defined in an S-shape, the apex of this border terminates into the apex; an antemarginal row of small blackish internerval spots. Hindwing light brown. From the Quindiu Pass (Colombia). *divisata*.

N. subdelineata Dogn. (75 h) is larger than *divisata*, of a deeper purple brown, the marginal area hardly lighter, a submarginal curved row of white, black-centred spots, the 3 costal ones much larger than the others. Hindwing lighter red-brown. From Mt. Tolima (Colombia). *subdelineata*.

13. Genus: **Tolype** Hbn.

Palpi feebly developed, mostly bent downward, forewing rather long, but generally broader than in *Titya*, the distal margin of the hindwing straighter, the abdomen of the ♀ very strong with a thick anal tuft. On the forewing 6 and 7 are forked with 8, 9 and 10 rise on a very long stalk, generally bifurcating only right before the apex. On the hindwing 6 and 7 are distinctly separated, the cross-vein more or less angular, just like the lower cell-margin on 3, the upper one on 7; 9 entirely absent, basal loop very feebly developed. 4 and 5 rise from the same place, 3 rather far before them. Rather numerous large and small species, sexes mostly of very different size, colouring, and marking. The few larvae that are known generally resemble the palearctic *Taragama* which the genus resembles in many ways; they are mostly clad with short and thin hairs, between them with hair-tufts on knobbed tubercles, larger fleshy cones on the first ring, flanking the head on both sides, and mostly

with a torous decorative spot on the first ring. The genuine *Tolyte* being allied to the generic type *velleda* exhibit on the mesothorax very peculiar large spatulate or oar-shaped hairs of a blackish-brown colour with a more or less intense steel-blue reflection; in the *velleda*-group they occupy the whole length of the thorax, whereas in *brevicrista*, *mollifacta*, and *vemerila* they are only on the metathorax. In the *innocens*-group such long-stalked spatulate hairs are on the abdomen, most of the other *Tolyte* are without them. Whether according to these differences other genera are to be separated, cannot be decided at present.

Dr. HARRISON G. DYAR, Washington, had the kindness to characterise for us the very difficult North American forms of *Tolyte*, though, as he writes, without any very satisfactory result; for beside the great individual variability, it is at present impossible to say what constitutes a species and what a form. Thorough examinations, particularly of the genitals, are therefore here more necessary than in other genera, and the accurate division of this genus must be left to the future.

Type: *T. velleda* Stoll.

- velleda*. **T. velleda** Stoll is the oldest name of a group of allied forms in which the forewing is whitish with a broad blackish median and subterminal band both of which are more or less crossed by white veins and accompanied by more or less distinct narrower linear stripes. — **velleda** Stoll (81 a) is the largest species of the eastern U. S., both sexes similar; thorax white, markings of forewing shaded, the dark colour grey, extensive, so that the forewing seems grey marked with white lines. Larva brown with darker longitudinal lines and a bluish-black decorative spot on the 3rd ring, it lives on oak and changes into an obtuse brown pupa in a long yellow web. As long as so little is known about the different forms, we prefer quoting them in the usual way as species.
- mint*a. **T. mint**a Dyar (81 a) is very similar to *velleda*, but smaller and from Florida. Perhaps only a southern race of *velleda*.
- glenwoodi*. **T. glenwoodi** Barnes (81 a) is likewise smaller than *velleda*, the markings darker and more sharply cut, the median grey space of the forewing generally narrower. From Colorado and New Mexico.
- dayi*. **T. dayi** Blackmore is hardly discernible from *glenwoodi* and may be only a local form of the same species. From British Colombia.
- lowriei*. **T. lowriei** B. & McD. (81 a) is very similar to *glenwoodi* and perhaps a race of it from California. The ♂ is whiter than most *glenwoodi*, more like the ♀ which has no tangible differences from *glenwoodi*-♀. Compared with *mint*a it is larger, the distal border of the median band more regular. The larva is greyish-brown, in the black decorative spot there are 2 yellow dots; on the dorsum darker spots. It lives on Abies.
- laricis*. **T. laricis** Fitch (= *minuta* Grt.) (81 b). The ♂ is black, the ♀ white, the ♂ very black and with only traces of pale lines on the wings, the ♀ similar to that of *velleda*, but separable by much smaller size, whiter abdomen and often a broad white space in middle of forewing. Atlantic States.
- distincta*. **T. distincta** French (81 b). Thorax dark grey in the ♂, pale grey in the ♀; veins of forewing rather distinctly white, a pale grey over the surface in the ♂, crossed by narrow white lines and two dark grey lines, one beyond the inner line, the other after the double whitish outer lines. From Colorado, with *glenwoodi*, but apparently a distinct species.
- tolteca*. **T. tolteca** Neum. (= *deboma* Drc., *hemira* Drc.) (79 a) is the Mexican representative of the *velleda*-group, generally greyer with darkened hindwings, the curved subterminal band distinctly darker than the hardly darkened median band; on the whole extremely variable in the white or rather grey ground-colour, the thorax also in the greyer specimens always conspicuously white. DYAR writes that he cannot see how it is to be separated from *glenwoodi* and also from *hemira*, so that they are probably synonyms.
- dyari*. **T. dyari** sp. n. Draudt (81 b) is apparently a well defined rather invariable species which hitherto came only from Zacualpan in Mexico. Ground-colour brownish grey, not white, also the thorax and abdomen greyish-brown, median and subterminal areas narrower, both equally dark, the border-lines much less curved, particularly the inner one of the subterminal band almost straight and somewhat faded, not distinct; hindwing dark greyish-brown. Described from several ♀♀; type in the Coll. DRAUDT.
- brevicrista*. **T. brevicrista** Dyar (81 b) is the typical representative of the second group, in which the dark spatulate hairs are only on the metathorax as in the two following species. On the forewing the white predominates, the dark marks not heavy. New Mexico.
- vemerila*. **T. vemerila** Dyar (79 b, e). Forewing very light grey, almost white, crossed by grey lines which are traversed by the white veins, both the lines bordering on the not darkened median area are double, irregularly waved, the subterminal line more spot-shaped. Hindwing shaded with grey, veins darker. Mexico (Guerrero, Tehuacan).
- mollifacta*. **T. mollifacta** Dyar (79 b) is darker grey, the light markings of the *velleda*-group very feebly marked, with a white line at the base of the fringes on both wings. Mexico (Colima), taken in January.

T. salvadora Dogn. (81 b) is somewhat similar to *velleda*, greyish-white, the median band hardly *salvadora*. darker, the proximal border almost straight, the distal border oblique, distally angular; in the interior traversed by 2 more, partly hazy lines; there are 2 more subterminal and antemarginal bands divided into oblong grey spots. Hindwing greyish-white. Wings somewhat opalescent. San Salvador.

T. abdan Schs. (81 c). The white forewings are scantily sealed, the darker lines very feeble, the two *abdan*. median ones proceeding from square brownish costal-marginal spots, the postmedian line reduced to short vein-streaks. Subterminal line cinnamon reddish, below the apex distally removed and widened as far as 6, also between 4 and 3, otherwise narrow; cross-vein white sealed, at the apex with 3 dark dots. Hindwing smoky blackish, in the disc whitish, with a narrow white subterminal band. In this species the cell of the hindwing is very short, so that vein 6 rises from 7 near the base. Panama *).

T. dollia Dyar (81 e) is an almost unmarked pure white species, with but 2 or 3 small black spots *dollia*. at the costal margin, the subapical one of which is largest, from the latter a subterminal row of diminutive black vein-dots crosses the wing, and a similar dot is at the base of vein 2. The species recalls a *Norape*. Mexico (Colima).

T. adolla Dyar (79 b) is allied with the following species, but the median lines are straighter, *adolla*. darker, and more distantly separated. Forewing white with a broad light grey subbasal line, both the median lines crossed by the white veins, the subterminal line broad, faded grey. Mexico (Misantla).

T. albula Drc. (81 e) resembles *adolla*; forewing and hindwing white, the grey bands somewhat *albula*. broader, less straight, and the two median ones more closely together. Fringes of both wings white. Mexico, Coatepeque.

T. mota Dyar is likewise very closely allied to *albula*, but of a stronger structure with a longer *mota*. abdomen, the lines as in *albula*, but darker, particularly in the costal-marginal third, the median lines somewhat more separated. Likewise described from Coatepeque (Mexico).

T. lasthenioides Dogn. The ground-colour is slightly more yellowish-white, the undulate lines reddish- *lasthenioides*. brown, partly somewhat faded, the veins upon them partly marked with a darker brown, the postmedian line being broadest and apparently composed of several lines, with 3 black small angular spots between 1 and 2, 3 and 4, 7 and 8; cross-vein white with a black dot in the upper cell-angle. Fringe between the veins speckled with red-brown. Hindwing yellowish-white. South-Eastern Peru.

T. nigribarbata Dogn. (79 b) resembles *lasthenioides*, ground-colour yellowish-white, markings rusty *nigribarbata*. red, forming 3 incomplete macular bands, with a row of diminutive costal-marginal spots in the distal two thirds: in the upper and lower cell-angles one black dot each. — f. **nigricula** Dogn. differs from the nomenclatural type *nigricula*. in more blackish macular bands, also the fringe between the light veins being more or less blackened, in *nigribarbata* all white. Both forms from South-Eastern Peru. Only ♂♂ are known.

T. nuera Dogn. (81 e) was described as *Artace*. Forewing greyish-white, at the distal margin of a *nuera*. purer white, with traces of grey antemedian and postmedian lines, and a small black discal dot. Fringe dingy white, at the apex more grey. Hindwing dull white. Body white, at the abdominal end with black hairs. Loja (Ecuador).

T. flexivia Dogn. (81 e). Forewing yellowish ochreous, in places mixed with reddish-brown, the lines *flexivia*. indistinct and faded, the postmedian area strewn with blackish between 7 and the costal margin, 3 and 4, 1 and the interior margin; in the upper cell-angle with a black dot; subterminal line light; at the apex a black spot, extending to the base of the fringe. Hindwing light yellowish ochreous. Peru.

T. cinella Schs. (79 f). Head and body are light brown, collar and thorax white. Forewing yellowish- *cinella*. red, in the basal third and subterminally strewn with blackish; subbasal line dark grey, the two median lines brown, the posterior line angular below the costal margin, then undulating to the hind-margin; at the base of vein 6 there is a black dot; subterminal lines double, black, behind it a white broad undulating marginal line. Hindwing light brown with a broad grey subterminal shadow. Castro, Paraná, Brazil.

T. gelima Schs. (81 e). Body and forewing yellowish-reddish, abdomen with brown bands; veins 2, 3, *gelima*. and 4 are black as far as the subterminal line, behind it all the veins are whitish; the brown median lines as in *cinella*, but less distinct, a postmedian brown area, the apex darkened by grey; between 5 and 6 there is a brown spot at the distal margin. Hindwing brown, darkened towards the lighter distal margin. Castro, Paraná, Brazil.

T. miscella Dogn. (81 e). Body yellowish-white, with an olive tint on the abdominal dorsum. Forewing *miscella*. olive grey mixed with white, before the centre and subterminally and terminally strewn with black, the two indistinct median lines white, the postmedian one inserted between 2 and 3; cross-vein white with a black dot in the upper cell-angle; subterminal line white, forming bows between 2 and 3, and 4 and 6, at the apex bordering on a black spot; fringes blackish. Hindwing blackish with white ends of the fringes. Muzo (Colombia).

T. medialis Jones (= *flavobrunnea* Dogn.) (79 b) is very variable in the size and distinctness of *medialis*. the marking. Head, collar, and patagia are of a bright rusty brown like the abdominal dorsum; mesothorax,

*) On account of the short cell of the hindwing better to be placed to *Titya*, near *alma*.

sides of abdomen, and anal end with blackish and greyish-brown hairs. The yellowish-brown forewing with a more or less reddish tint exhibits a dull blackish, not distinctly defined median band which is very broad and light brownish in the centre here, in front of it and behind it several darker yellowish-brown undulating lines; subterminal line light, before and behind it at the apex blackish powdering, sharply crossed by the light veins. The much smaller ♂ is much darker blackish brown, thorax and abdomen contrastingly fox-coloured, the median area above 2 still darker, containing the whitish cross-vein streak. Widely distributed and common in Brazil. In more greyish-brown specimens the thorax and abdomen are not rusty brown, but of the same colour.

hella. **T. hella** H. S. (= *vocontia Drc.*) (79 c) is much more allied to *medialis* than it might appear from the first glance. Forewing reddish yellowish-brown, in the marginal area with distinct and fine white veins, very similarly marked as *medialis*, but the lines and the median band but slightly darker than the ground; the median vein is likewise fine white, at the cell-end there is a whitish transverse streak; apex blackened. The ♂ is relatively large, with broad and round wings, coloured and marked like the ♀, but generally behind the subterminal line somewhat darkened by blackish-brown. Widely distributed and common in Brazil.

regina. **T. regina** Dogn. (81 c) has the same scheme of markings as the preceding species, but the ground-colour is blackish-grey („pepper and salt“), with light flesh-coloured median area and transverse lines, the latter bordered with olive, the marginal area likewise olive; at the cell-end above and below one dark olive dot each. Hindwing flesh-coloured reddish-grey, subterminally blackened, the margin and fringe olive. Described from a ♀ from French Guiana.

dulcis. **T. dulcis** sp. n. (Maass. i. l.) (79 c) is very similar to *medialis*, light yellowish-brown like the thorax and abdomen, the latter with a thick greyish-black anal tuft. Lines much more sharply dentate, the postmedian line with dark vein-dots on the tips; median area not scantily scaled, blackish, but brown, edged by 2 dark dentate lines; in the middle at the costal margin not lighter; the subterminal line forming in *medialis* small crescents distally projecting between the veins, forms here only 3 large flat bows, and the marginal area behind it is not darkened. Hindwing lighter. Described from a ♀ of an unknown habitat, in the Berlin Museum (in Coll. MAASS).

catharina. **T. catharina** sp. n. (79 c). Head, thorax, and abdomen light ochreous, the lines being similarly bordered as in *dulcis* and the median area more prominently dark yellowish-brown, very undulatingly dentate, the median area distally projecting on 7 in an acute angle, above it as far as the costal margin with 3 pointed small dents; a subapical large brown crescentiform spot embraced by the branches of the white subterminal line which is only subapically visible. Fringe broadly speckled with whitish. Hindwing light yellowish-red. Described from a ♀ from Sa. Catharina, in the Coll. WERNICKE. The ♂ is much more distinctly marked.

sorex. **T. sorex** sp. n. (79 c) is similar to *catharina*, but with much broader wings, the colouring is much lighter, whitish, in the basal, median, and marginal areas not darker, crossed by about 7 notched light rusty brownish transverse lines; in the basal quarter of the costal margin and apically strewn with blackish. Hindwing almost white. Abdomen yellowish-white, only dorsally and at the anus with rusty brownish hairs like the thorax. Remarkable by particularly long, tapering palpi. According to 1 ♀, habitat unknown, in the Berlin Museum.

pelochroa. **T. pelochroa** Berg is unknown to me, in the colouring and organisation described as allied to *hella*, with the same wing-contours and scheme of marking on the forewing; median area filled with a darker colour excepting the costal margin, undulating line indistinct, only in the dark apex more distinct; margin dark excepting the ends of the veins. Ground-colour ochreous; the postmedian line forms 3 or 4 bows. Base and marginal line of hindwing somewhat lighter. Expanse of wings: 52 mm. Rio de Janeiro. The description is rather similar to that of *medialis*.

innocens. **T. innocens** Burm. (79 d). As to the identification of this species and the following I am not certain, though I consider the couple denoted as *innocens* in the Berlin Museum, from Buenos Ayes, to be correct. Greyish brown, lines arranged as in *hella*, median area edged by 2 more intense lines, with 2 black discal dots; apex blackened, the darkest, before the subterminal line. The ♂ is lighter, more yellowish, scantily scaled, the transverse lines edging the median area are distinct, the lower discal dot is mostly absent. Abdomen much more intensely haired rust-brown. Larva dark brown or grey, finely striated with reddish-yellow, with large bluish-grey tubercles margined with red or yellow with black spines, the brownish-grey lateral hairs as much as 1 cm long, among them on the 4th and 11th segments with black lustrous spatulate hairs. It lives on *Schinus molle* and *Duvana dependens*, and constructs a flat yellowish-grey cocoon on the twigs. Brazil and Argentina.

pauperata. **T. pauperata** Burm. (79 d) is very similar, the lines of the median area feebler, in the ♀ the inner line almost quite absent; in the median area there are below the cell two chestnut-brown round spots, the lower of which is mostly more indistinct; the lower discal dot is usually absent; subapically broad blackish irroration. The ♂♂ are lighter or darker, mostly more yellowish. Brazil, Argentina. Larva, according to BERG, on *Acacia* and *Celtis tala*, similar to *innocens*, with 2 long lateral hair-pencils. Cocoon of a dingy yellowish grey.

pellita. **T. pellita** sp. n. (79 d) is allied to *innocens* and *pauperata*, but much larger, yellowish-brown, the lines are lighter wavy lines, only those enclosing the not darkened median area are more brownish, on the opposite sides bordered with light; in the upper cell-angle there is a thick black dot, in the lower angle a very fine

one, below the cell between 2 and 4 there are 2 small roundish chestnut-coloured spots, the lower of which is indistinct; apex from 8 to the costal margin blackened with whitish hairs, crossed by the undulating line. Hindwing lighter yellowish-grey with 2 blackish shadowy antemedian and postmedian bands. Long black spatulate hairs project from the brownish hair of the abdomen. According to 2 ♀♀ from Curitiba (Parana), type in the Coll. B.-HAAS. — *oculata* f. n. (79 d) is a specimen probably belonging to it, in the Berlin Museum, *oculata*. habitat labelled „Brazil“. It exhibits a somewhat more greyish-brown ground-colour, with the same scheme of markings, but only the much brighter rusty red spot between 3 and 4 is present, not round but quadrangular and below and outwardly bordered with jet-black.

T. biapicata Dogn. (81 d). ♂ on the forewing rusty yellow with a very large chocolate-brown discal *biapicata*. spot containing the white cross-vein streak, touching neither the costal nor inner margin, forming two projections outside on 4 and 6; subterminal line lighter, fringe on the veins crossed by light, with two black spots at the apex and between 8 and 9; hindwing rusty yellow with a broad lighter median band. The larger ♀ is pale the discal spot only indicated by brownish irroration ochreous, without any distinct border; subapically, before the subterminal line, brown irroration, the two small apical spots on the fringe are less distinct. French Guiana.

T. disciplaga sp. n. (79 d) is allied to *biapicata*, ground-colour pale ochreous brownish with a large *disciplaga*. blackish-brown discal spot distally projecting on 4 and 6 with 2 long dents, and containing the white cross-vein streak which reaches upwards only to the subcosta, whilst below it does not cross vein 2; the light subterminal line forming 3 large bows is inwardly bordered with grey and subapically with a darker colour; fringe speckled somewhat darker, apically rather darker, though the 2 black spots being very distinct in *biapicata* are absent here. Hindwing darkened by greyish-black with light ochreous fringe. Described from a ♂ without the habitat being stated, in the Berlin Museum.

T. albiapicata Schs. (79 c) is similar to the *innocens*-group. In the ♂ the ground-colour is reddish- *albiapicata*. brown, the darkened median area with a black dot in the upper cell-angle, the light subterminal line turns white in the apex which is blackened as in the preceding species. The larger ♀ is more reddish-brown, the apex very broad black, the subterminal line in it white; below the cell, as in *oculata*, a square chestnut-red spot, outside and below bordered with black; in the lower cell-angle there is mostly also a black dot. Hindwing greyish-brown with yellowish-brown fringe. Brazil (Novo Friburgo, Sa. Catharina).

T. viuda Schs. (= *fumosa* Giac. nec Dogn.) (79 e) belongs yet to the same group, but it is smaller *viuda*. and of a grey ground-colour. Below the cell with 2 small brown spots in the ♀, which are absent in the ♂, but neither seem to be always present in the ♀. Argentina (La Rioja, Formosa).

T. alegra Dogn. (79 e). The ♂ resembles that of *medialis*, but it is still darker blackish-brown, with *alegra*. distinct light veins, instead of the white cross-vein streak with a black lunule, at the apex mixed with whitish. The body is less bright rusty yellow, more dull red-brown. Brazil.

T. nana Drc. (79 e) is a widely distributed and common species; very similarly marked as the *nana*. preceding ones, but whitish, more or less mixed with grey or yellowish, with the same arrangement of lines as in *innocens*, the median area below the cell in the ♀ brownish black, between 2 and 4 filled with a more or less bright rusty yellow or rusty red colour, the apex in both sexes powdered with greyish-black, traversed by the distinct light veins and by the undulate line being white here. In the scantily scaled light ♂ the whole marginal area below 8 is more or less unmarked whitish; at the cross-vein there are 2 fine black dots. From Mexico through the whole of Central America. In the Berlin Museum there are in the Coll. STAUDINGER a few very old male specimens labelled: „*silveria* Cr.“; it may be that this name which cannot be identified any more is synonymous with *nana*.

T. perplexa Schs. (79 b) is very similar in the ♀, with broader and rounder wings of a grey ground- *perplexa*. colour, the median area not so oblique, but more vertically placed, the dark discal spot penetrates into the cell, distally projecting with a step below the median vein. The ♂ is much darker than that of *nana*, powdered with brown instead of light grey. Costa Rica to Colombia.

T. picta Fldr. (81 d) is another species extremely similar to *perplexa*; according to the figure the *picta*. brown median area extends as a broad brown postmedian line in a bow around the cell to the costal margin, behind it there are between the inner margin and vein 5 four intense blackish-brown spots; the violettish-grey postmedian area contrasts with the reddish-yellow marginal area, both colours being separated by the curved light subterminal line.

T. phyllius Drc. (81 c) is very similar to *nana*; only the ♂ has been described; instead of the yellowish- *phyllius*. white ground colour in *nana* only the base, inner margin, and marginal area of the forewing are of that colour, whilst the rest is suffused with blackish-grey, the lines as in *nana*. Described from Mexico (Guadalajara).

T. bipunctata Giac. (79 f) is closely allied with *viuda*, but the ground-colour of the ♀ is light Isabel- *bipunctata*. coloured, the lines are very feebly darker, less undulating, without discal dots, the 2 spots below the median are diminutive, blackish; the apex very little darkened. Body and hindwing reddish yellowish-white. Argentina.

- poggia*. **T. poggia** Schs. (81 d) is the first of a group of similar smaller species. In the ♂ the body is reddish yellowish-white; the forewing is greyish white, basally shaded with light brown, at the cross-vein there are 2 black dots; veins in the marginal half finely marked with brown; a postmedian waved grey shadow, as well as in the usual way at the apex; between 5 and 6 at the margin a grey spot, marginal line white, the brown fringe at the ends of the veins crossed by white. Hindwing light smoky brown, in the disc and the centre of the distal margin whitish. The ♀ is more grey, the abdomen above brown; on the reddish yellowish-white forewing there is in and below the cell a dark brown spot shaped as in *perplexa*; behind the white postmedian line follows a brown shadow towards the margin bordered with dark grey, the white subterminal area is shaded with grey towards the base. Expanse of wings: ♂ 24, ♀ 34 mm. Guiana.
- praepoggia*. **T. praepoggia** Dogn. (81 d) is still smaller; only the male is known. Forewing yellowish-white, the median area defined by 2 rusty yellow lines united above the hind-margin like spots, before and behind them indistinctly defined blackish transverse bands, the distal band projecting outwards in 2 bows; 2 black cross-vein dots; marginal area strewn with blackish, the broadest at the apex and between 4 and 6; the black fringe on the veins crossed by white. Hindwing yellowish-white, in the hindmarginal half and subterminally strewn with black. Colombia.
- meridensis*. **T. meridensis** Dogn. is larger than *poggia*, but very similar to it. Forewing greyish-white with a black dot at the upper end of the white cross-vein, the median area edged by two brownish faded lines, the postmedian line corkscrew-shaped; the brown fringe crossed by white. Hindwing white with two brown spots, an apical one and a postmedian one between 3 and 5. From Venezuela (Merida), described from 1 ♂.
- fasciatus*. **T. fasciatus** Drc. has remained unknown to me. Body and wings white, abdomen at the end yellowish brown. The white forewing in the basal area and at the apex powdered with black; the white hindwing is crossed by a blackish demi-band from the apex. Expanse of wings: 1 inch. Carabaya (Peru).
- lemoulti*. **T. lemoulti** Schs. Only the ♀ is known. Body brownish ochreous, abdomen above blackish-grey. Forewing brownish ochreous, with darker veins, at the apex in the usual way powdered with dark grey; the distal margin is narrow brown, between 5 and 6 broader, at the cell-end there is a black dot; 2 hardly darker antemedian transverse lines are very indistinct, 3 dentate postmedian ones similar, the last outside below 4 shaded with dark grey; subterminal area Isabel-coloured, traversed by an indistinct darker line. The yellowish hindwing is powdered with ochreous at the hind-margin and exhibits a brown marginal line. Expanse of wings: 36 mm. French Guiana.
- ferrugo*. **T. ferrugo** sp. n. (79 d) is a small species allied to *innocens*. Forewing and body reddish-yellow, the latter mixed with rusty red; forewing finely veined black with 2 black cellular dots; transverse lines darker, running as in *innocens*, apically the subterminal line is powdered with black; fringe feebly speckled darker. Hindwing somewhat lighter, more yellowish-white. Described from a ♂ from Buenos Ayres; type in the Coll. WEYMER in the Berlin Museum.
- adventitia*. **T. adventitia** sp. n. (79 f) is almost exactly marked like *ferrugo*, but much larger, and excepting the whitish serpentine subterminal band, of a grey ground-colour, the lines still darker grey, the apex in the usual way powdered with a still darker grey, traversed by the veins which are white here and besides finely marked with black. Hindwing grey with a narrow brownish marginal band. Body light brownish, abdomen above blackish, anal tuft darkest. According to 1 ♂ from Chaco (Bolivia); type in the Berlin Museum.
- effesa*. **T. effesa** sp. n. (79 f). Body Isabel-coloured brownish, abdomen with a greyish-black anal tuft. Forewing-white, in the basal area feebly brownish and strewn with grey, with a faded brownish antemedian line, taperingly projecting distally on 4; at the upper end of the cross-vein there is a black dot; the faded brownish postmedian line is broadest at the costal margin, projecting far distally between 8 and 9, and disappearing between 3 and 4; behind it there follows a light grey narrow band of a similar shape as in the two preceding species, behind it the whitish subterminal band as in *adventitia*; apex grey, the very narrow brownish marginal area projects inwards between 4 and 6. Base of fringe between the veins with feeble blackish strigae. Hindwing yellowish-white, at the anal margin somewhat brownish. Described from 1 ♂ from Pacho, Colombia. Type in the Berlin Museum.
- denormata*. **T. denormata** sp. n. (79 f) is an intermediate form between the preceding group and the *nana*-group. Body very light ochreous, abdomen analwards reddish-brown. Forewing light ochreous, in the marginal area more whitish; basal and median areas brownish, the latter edged by somewhat darker lines, the posterior one of which turns blackish between 6 and the inner margin; in the upper cell-angle there is a black dot; veins 2, 3, and 4, and the portion of the median vein between them are fine black as in *effesa*; behind the postmedian line there follows a double undulating line the inner portion of which between 6 and the inner margin is blackish, the exterior portion and that between 3 and 5 as a fine demi-bow; the marginal area behind it is very light between the anal angle and 7, marked with a hardly darker brownish, from 7 to the costal margin brownish, between 8 and the apex with 3 small black strigae extended into the fringe. Hindwing yellowish-white, fringe apically brownish. Described from 1 ♂ in the Berlin Museum, habitat unknown.

T. tenebrosa Wkr. (79 f) is somewhat similar to *alegra*, darker blackish-brown, particularly the body *tenebrosa*. not contrastingly lighter; forewing not with lighter veins, the median area hued with a deep chestnut-brown, the somewhat lighter cross-vein streak is edged by 2 darker parallel lines; apex as in *alegra* also strewn somewhat with white. Brazil.

T. nebulosa Schs. (81 d). Head and anterior half of collar brown, the latter behind and the patagia *nebulosa*. white, strewn with brown; rest of body brown, ventrum grey. Wings greyish-white, distal half of costal margin dark grey, in the upper cell-angle a black dot; 2 antemedian and 3 postmedian undulating grey lines, behind them a grey marginal shadow. Hindwing at the anal margin and distal margin from 4 to the anal angle powdered with dark grey. Expanse of wings: 33 mm. French Guiana.

T. nigra Dogn. (79 f). This and the following species are very closely allied, both being blackish- *nigra*. brown, with deeper black veins, and a black cross-vein streak; in *nigra* there is only a subterminal row of black internerval streaks, in front of which, towards the base, the ground is somewhat lighter grey except between 5 and 6. Peru, Colombia.

T. interstriata Dogn. is extremely similar to *nigra*, somewhat smaller, with somewhat broader wings; *interstriata*. it chiefly differs in the presence of a second postmedian row of black internerval streaks, the whole marginal area being lighter grey. Guiana.

T. iridescens Wkr. (79 g) is a larger species, with a white thorax and forewing, the latter being *iridescens*. scantily scaled with a greyish-brown base and median band, before and behind the latter with a grey transverse line, the distal one of which projects taperingly on 4, more obtusely between 7 and 8, behind it a subterminal band being broadly confluent with the median area at the costal margin, the area behind it as far as the narrow grey distal margin is white; at the distal margin black internerval streaks. Hindwing powdered with grey, with two darker, broadly washed out nebulous bands. Abdomen with blackish-brown ringlets. Costa Rica to Colombia and Brazil.

T. celeste Dyar (79 g) entirely resembles *Titya infernalis*, but the species is smaller, neater, with *celeste*. purer white forewings, the postmedian and subterminal transverse markings are less sinuate, the hindwings almost pure white. Only known from Mexico (Misantla, Tabasco, Colima).

T. caieta Drc. (= *nigropatagiata* Dogn.) is larger than *celeste*, of a purer white, with narrower transverse *caieta*. markings, the discal dot thicker, at the anal angle of the hindwing a dark spot. The ♂ is similar to that of *tolteca*, but easily separable by the thick black discal spot and the much more sinuate transverse markings and much whiter hindwings. Panama, Guiana, Colombia.

T. aroana Schs. has an exterior quite similar to the *primitiva*-group of the genus *Titya*. Body *aroana*. and wings dark grey, patagia yellowish pink. On the forewing the veins are striped ochreous, the cross-vein is black; 2 antemedian and postmedian whitish undulating lines each, being almost contiguous on vein 2; the broad subterminal band is likewise whitish; distal margin and fringes light grey with dark spots. Hindwing dark smoky grey. Expanse of wings: 34 mm. Only the ♂ is known. From Aroa (Venezuela).

T. columbiana Schs. (79 g) is larger, with broader and rounder wings, the inner margin almost as *columbiana*. long as the costal margin, patagia not much lighter, only somewhat intermixed with Isabel-colour; the broad median area is somewhat darkened, the light transverse lines feebly yellowish pink, the light grey subterminal area towards the margin dentate. Expanse of wings: ♂ 37. ♀ 44 mm. Colombia.

T. peruviana Dogn. is above extremely similar to *columbiana*; it appears to be somewhat larger *peruviana*. on an average, lighter, greyish-white, without the slight pink tint. Beneath very different from the more monotonous grey under surface of *columbiana*; forewing in the basal half blackish, at the costal margin as far as $\frac{2}{3}$ widened, and towards the greyish-white marginal area defined by a black, submedianly incurved line, at the costal margin with a dark subterminal spot. South-East Peru.

T. tarudina sp. n. (79 g) differs from the very similar *columbiana* in its more slender structure, *tarudina*. narrower forewings with a more oblique, longer distal margin and therefore much shorter inner margin. Head, collar, and patagia are more contrastingly whitish; forewing lighter grey, with softer and less contrasting markings, the median band obliquer, outside without the two projections, between 3 and 5 only very feebly convex, the parallel lines accompanying the median area outside and inside are almost quite absent. Hindwing relatively smaller, abdomen longer. Colombia; type in the Berlin Museum (Coll. STAUDINGER).

T. obscura Dogn. is compared with *velleda* in the structure. Body and forewing blackish-brown, *obscura*. forewing with a black cross-vein and traces of 4 whitish transverse lines, an antemedian one close in front of the cross-vein, the second close behind it, uniting with the first submedianly; the third is postmedian in the third quarter with the usual two convexities between 8 and 6, and below 4; the subterminal line is sinuate as

in *velleda*. Hindwing more brownish, feebly lighter postmedianly and a narrow brightening at the distal margin. Expanse of wings: 46 mm. Rio Songo (Bolivia). Only the ♂ is known.

guentheri. **T. guentheri** Berg (= *candida* Dogn.) (79 g, h) is the first of quite a different group of species. Forewing monotonously yellowish-white with a feeble reddish tint, the ♂ of a somewhat deeper colour; veins and fringes as well as a narrow discal spot somewhat darker; the anal tuft of the ♀ is black with a bronze-brown reflection. Argentina.

magnidiscata. **T. magnidiscata** Dogn. (81 d) is mouse-coloured with a very thick black cross-vein streak and a subterminal row of dark grey internerval spots, the one between 5 and 6 being less distinct, that between 8 and 9 forming a shadow; veins distinct dark. Hindwing basally and subterminally darkened. Only the ♀ is known. Expanse of wings: 59 to 63 mm. Peru.

villanea. **T. villanea** Dogn. (81 d) is allied to *magnidiscata*, but smaller. Forewing mouse-coloured, with fine and distinct dark veins, with two light, undulatingly dentate transverse lines; the posterior line extends from the second third of the costal margin, almost parallel with the distal margin, and terminates at the inner margin close at the antemedian line; at the cell-end a thick black streak. Colombia.

fumosa. **T. fumosa** Dogn. (79 h), described from a ♂ from Peru, is above monotonously brownish-black, with a thick black discal dot and three whitish transverse bands: a very short faded one close before the cellular dot, another one from the 3rd quarter of the costal margin to the centre of the inner margin, feebly incurved in the centre; the marginal line, finally, is connected with the postmedian line at the costal margin and extends narrower to the anal angle. Hindwing with a narrow whitish marginal band fading away before the anal angle. Body covered with long smoky-grey hairs. Expanse of wings: 34 mm.

incerta. **T. incerta** Dogn. (79 h). Forewing light loam-coloured with a small darker cellular dot and feebly darker, light-edged transverse lines, hindwing with a hardly visible lighter postmedian line. Body somewhat more yellowish. Only the ♂♂ are known. Argentina, also from Catamarca (Peru).

undulosa. **T. undulosa** Wkr. (79 h) is a scantily scaled, greyish-black species, marked as the following species, the median band not prominently darker, the discal spot indistinct, darker. Thorax darker; abdomen, particularly in the ♀, somewhat lighter grey, anal tuft black with a feeble bluish-grey reflection. Southern Brazil.

fuscicaudata. **T. fuscicaudata** Schs. (79 h) exhibits a somewhat purer greyish-black tint on the wings, the median area is more prominently dark, the light bands bordering on it are broad; abdomen with a brown tint, anal tuft deep black. Rio Grande do Sul.

vespertilio. **T. vespertilio** sp. n. (80 a) is similar, with somewhat narrower wings, the costal margin towards the apex more convex. The colour is a darker scpia-brown, the median band at the costal margin much broader, the edging narrow and only somewhat lighter, the distal one is distally bordered by a darker line. Abdomen coloured like the wings, anal tuft of a dull sooty black. The ♂ has broad wings and is somewhat browner, the fringes are crossed on the veins by a feebly lighter colour. Type from Rio Grande do Sul in the Coll. WERNICKE, Dresden.

pulla. **T. pulla** sp. n. (80 a) has broader wings than *vespertilio*, the somewhat darker median band proximally confluent with the likewise darker basal area without a light border, the distal third of the wing somewhat lighter; the discal spot is smaller and more distinct than in *undulosa*, the anal tuft deeper black. A slight concavity of the distal margin below the apex. Southern Brazil. Type: 1 ♀ in the Berlin Museum.

egena. **T. egena** sp. n. (80 a) is very similar to *undulosa*, only half its size, much paler and more brownish, the discal spot strigiform, the two light median bands broader than in *undulosa*, the subterminal band hardly sinuate, almost parallel with the distal margin. Anal tuft brownish-black. Type in the Berlin Museum, 1 ♀, patria not mentioned.

mediocris. **T. mediocris** sp. n. (80 a) is larger than *egena*, with somewhat broader and rounder wings, more blackish, the light postmedian band narrow, though distinctly prominent and submedianly more convex; the thorax is of a decidedly reddish-brown tint, the anal tuft is coloured like the brownish-grey abdomen. Type in the Coll. WERNICKE, Dresden, 1 ♀ from Sa. Catharina, other specimens are from Southern Brazil.

indecisa. **T. indecisa** Wkr. (80 a) is the lightest species of all its allies, particularly in the male almost white, also the median area being inside lighter whitish, the discal spot adjacent to the proximal line, deep black, almost quadrangular. Brazil.

ventriosa. **T. ventriosa** sp. n. (80 b) is somewhat similar to *indecisa*, but the colour is yellowish-brown in the ♀, darker brown in the ♂ which presumably belongs to it; marking as in *indecisa*, the median band in the ♂ filled with dark brown; fringes slightly speckled by light interruption on the ends of the veins. Abdomen of ♀ reddish-yellowish-brown, anal tuft deep black. Rio Grande do Sul; type 1 ♀, allotype, 1 ♂ in the Coll. WERNICKE.

T. castralia Jones. The ♂ is on the body dark purple-brown, the forewing scantily scaled, black, *castralia*, powdered with brownish; median area not darker, its light proximal border-line only distinct at the costal margin, the white distal one in its costal portion straighter than in the other species, the black discal spot hazy; subterminal line only feebly indicated, at the distal margin before the dark brown fringes on the ends of the veins whitish dots. Hindwing with traces of a lighter postmedian band and an indistinct dark discal spot. The ♀ is lighter brownish-grey, the median area edged by darker lines, the anal tuft purple blackish-brown. Castro (Paraná).

T. lanuginosa Schs. (80 b) is a large dark brown species, the median area is not darkened and *lanuginosa*, towards its light border-lines edged with a darker colour, the subterminal line quite indistinct. Abdomen of ♀ lighter greyish-brown, anal tuft blackish, with a slate-coloured silky gloss. South-Eastern Brazil (Sao Paulo).

T. cupriflua sp. n. (80 b, c) is very similar to *fuscicaudata* on the forewing, but the distal border *cupriflua*, of the median area is less sinuate, the subterminal line in the upper third distinct; easily recognisable by the copper-red anal tuft of the ♀. — The larva, according to a water-colour sketch kindly communicated by Mr. GIACOMELLI, is irregularly spotted green on the white ground, with a white dorsal band which is traversed by two fine black lines and shaded with blackish on the 4th and 5th; as well as on the 9th and 10th rings. Argentina. Type in the Mus. Senckenberg; similar specimens in the U. S. Museum in Washington.

T. serralta Jones resembles *cupriflua* by the golden brown anal tuft of the ♀; forewing more brownish, *serralta*, the median band not prominently darker, the light grey proximal border broad, the distal border narrow; the faded undulating subterminal line is light grey; fringes dark brown. Described from Santos (Brazil).

T. scaenica sp. n. (80 c). Colour and marking of forewing similar to *cupriflua*, but the colour is *scaenica*, somewhat more brownish, the median area broader at the costal margin, the light bands are narrow, on both sides edged with a somewhat darker border, also the subterminal line which is more distinct in its anal portion than in its costal portion. Hindwing with a light postmedian band; anal tuft of ♀ yellowish white. Rio Grande do Sul, type in the Coll. WERNICKE, Dresden.

T. simulans Wkr. (80 c) is very similar to *scaenica*, but more brownish, duller, the light bands *simulans*, indistinct, less prominent, the light band of the hindwing only in the ♂ more distinct. Anal tuft of ♀ silvery white. Southern Brazil.

T. nigripuncta Schs. (81 d) resembles *undulosa* and *simulans* on the forewing, but the distal margin *nigripuncta*, is rounder, the light postmedian band less undulating; forewing light grey, with brown veins; the median band is edged by broad brown shadows and centrally lighter, at the cell-end there is a large velvety black spot, subterminally a light brown shadow. Hindwing smoky-brown. Only the ♂ is known. French Guiana.

T. suffusa Jones is dark grey powdered with brown; on the forewing this powdering is the most *suffusa*, distinct, somewhat less in the basal third. A broad, somewhat faded dark brown postmedian transverse band is outwardly angular below the costal margin; at the cell-end a dark spot, the dark undulating line indistinctly waved. Hindwing brown, towards the base grey. Fringes of both wings dark brown. Described from 1 ♀ with an expanse of 58 mm, from Castro, Paraná.

14. Genus: **Titya** Wkr.

The separation from *Tolyte* is, as we already mentioned there, more or less artificial. To this genus the species are placed, with somewhat more elongate forewings showing particularly often in the ♂♂ an extremely short inner margin, and on the hindwing a very oblique cross-vein which is not or but slightly angular. Most of the species are very similar to such of the preceding genus.

Type: *noctilux* Wkr.

T. primitiva Wkr. (= *taruda* Schs.) (80 c) is the main representative of a group of very similar *primitiva*, species. In the ♂ the body is black, the patagia are greyish-white with a flesh-coloured pink tint. Forewing greyish-white with a feeble reddish hue, a blackish median band containing a small black discal spot, before and behind it with finer grey transverse lines, with postmedian and subterminal broader grey nebulous bands; veins yellowish-ochreous. Hindwing blackish-grey with a more or less distinct light narrow marginal band. The ♀ is much larger, dark grey, with more undulating transverse markings, and much larger black marginal spots. Guiana, Colombia.

T. angala Schs. from Bolivia, is very similar to *primitiva*; the shoulders are yellowish salmon-coloured *angala*, like the ground-colour of the forewing, which however is almost covered by broad blackish markings, the median area below the cell broadly interrupted. Margin of hindwing likewise yellowish pink with black internodal dots at the margin. According to 1 ♂ from Rurrenabaque (Bolivia), with an expanse of 35 mm.

- infernalis*. **T. infernalis** Schs. (= *levana* Drc.) (80 c, d) entirely resembles *Tol. celeste* on the forewing, but it is somewhat larger with more intense and darker greyish-black markings. At once separable by the quite dark hindwings. The ♂ is much smaller, with very narrow and pointed wings, almost black with a reddish reflection, with quite indistinct darker markings. Mexico.
- vitreus*. **T. vitreus** Dogn. (80 e). The ♂ has similarly shaped though not quite so pointed wings. Forewing hyaline transparent — but presumably loosely scaled in the freshly hatched specimen —, at the base and inner margin with long grey hairs, with a black cross-vein streak on the forewing and traces of several whitish transverse lines, being mostly more distinct only at the costal margin. Body blackish-grey intermixed with single reddish hairs. Merida (Venezuela). ♀ apparently still unknown.
- avita*. **T. avita** Schs. (80 d) is very closely allied to *vitreus* and *proxima*. Body black, shoulders, sides of collar, and outer half of patagia as well as a transverse line above on the base of the abdomen are light flesh-coloured, also the end of the abdomen beneath. Forewing transparent smoky-grey, finely strewn with blackish, in the basal area and along the inner margin scaled; veins fine white, the markings very similar as in *proxima*, the median transverse lines very close together on vein 2 and connected by a white transverse streak. Hindwing at the anal margin broadly haired smoky-black. The larger ♀ is less transparent; expanse of wings: ♂ 36 mm, ♀ 59 mm. Sao Paulo.
- proxima*. **T. proxima** Burm. (= *argentina* Schs.) (80 d) is extraordinarily similar to *avita*, larger, more robust, somewhat more densely scaled, the median lines less close together, not so strongly notched, not connected on 2, the grey median area behind them broader, patagia not flesh-coloured, at the base of the abdomen 2 flesh-coloured pink hair-tufts on each side. Brazil, Argentina.
- cinerascens*. **T. cinerascens** Wkr. (= *nigra* Schs.) (80 d). The ♂ is smoky-blackish, body quite black; on the forewing the veins are strewn with whitish, towards the apex at the costal margin a few small yellowish-ochreous spots, at the cell-end 2 black dots, and traces of antemedian and subterminal whitish lines. The larger ♀ is loam-coloured grey, the body more brownish, the anal tuft blackish-brown intermixed with single ochreous hairs; forewing with indistinct lighter transverse lines, one black dot each in the cell-angles, and a darker brownish spot below the cell between 3 and 4, some more darkenings being also in front of the light subterminal band on 4 and between 6 and 7. From Venezuela and Guiana.
- bella*. **T. bella** Drc. (80 e) is allied to the preceding species, but it is larger, of a more greyish-brown colour, with more distinct linear markings, the darkened spot of the median area below the cell larger, more distinctly defined by the border-lines, the veins in the postmedian area partly darkened, also the fringe between the veins. Panama. In the Berlin Museum there is a ♀ of *Euglyphis fibra* Schs. labelled as ♀-type of *bella*. SCHAUSS is also of my opinion that the label must have been mistaken, for the figure in the *Biologia* is too unmistakable as to allow this possibility.
- hirtipes*. **T. hirtipes** Wkr. (= *everildis* Schs.) (81 d) is likewise similar, smaller, forewing sand-coloured, the veins in the postmedian and subterminal areas striped blackish-brown, basal area, the spot below vein 4 likewise smoky-blackish as well as a postmedian shadow which is broad at the costal margin and parted by a light line; fringe smoky-black. Hindwing similar with reddish-brown veins. Abdomen brown, the 2 last segments blackish-brown. Castro (Paraná).
- pallida*. **T. pallida** Dogn. (80 e), based upon two much flown ♂♂, in the structure resembles the ♂ of *cinerascens*, but the hindwing is rounder; wings hyaline, light brownish ochreous with 2 black dots in the cell-end. Sao Paulo de Olivença (Amazons).
- synoecura*. **T. synoecura** Dyar (80 c) is most closely allied to *bella*. Wings light fawn-coloured with the same markings as *bella*; anal hair of ♀ ochreous-brown with a golden gloss. The ♂ is lighter, with much lighter hindwings. The larva lives gregariously in nests. Mexico.
- jamaicensis*. **T. jamaicensis** Schs. is smaller, more smoky-grey with the same darkenings at the base and below the centre of the cell and a brown postmedian shadow which is very broad at the costal margin; the brown marginal shadow is narrow, the brown fringe crossed by the light ends of the veins; the distinct light lines of the preceding species are quite absent. Hindwing scantily scaled, light smoky-brown, at the distal margin the lightest. Body greyish-brown with a blackish anal tuft. Expanse of wings: 40 mm. Jamaica.
- gracilis*. **T. gracilis** Dogn. This species described from a ♂ has the shape of the ♂ of *infernalis* (80 c). Body blackish-brown, forewing with a light subterminal line parallel to the margin and about 2 mm distant from it, before that line the wing is blackish-brown, behind it lighter. Hindwing blackish-brown. Rio Tapajoz (Amazons).
- lusciosa*. **T. lusciosa** Dogn. is likewise described to be very similar to *bella*, the ground of the wings scantily scaled, light blackish-brown, the markings grey, as in *bella*, but both the antemedian line as well as the line between the postmedian and subterminal lines are absent; between 5 and 6 there is in the subterminal area a blackish

shadow; fringes black, on the ends of the veins traversed light by the dentate terminal line; hindwing blackish-brown, fringes as on forewing, anal tuft intermixed with ochreous. According to a ♀ from Cali (Colombia).

T. subluca *sp. n.* (86 b). The ♀ exhibits a greyish-brown body; the wings are lighter, more brownish, *subluca*, with fine dark veins, 5 broad, darker brownish, undulating, indistinctly defined transverse bands, 2 antemedian and 3 postmedian ones, beginning much darker below the costal margin; at the cell-end there is a thick blackish spot; distal margin behind the subterminal line likewise darker; before the undulated fringes there is a fine dark limbal line. Hindwing without markings light brownish, at the costal margin somewhat darkened. According to 1 ♀ from Brazil, habitat not mentioned; type in the Berlin Museum.

T. nigrescens *Drc.* (= *nigricolor Dogn.*) (80 e). Hitherto only ♂♂ seem to be known. Black, on the *nigrescens*, wings scantily scaled; a fine marginal line strewn with whitish extends on the ends of the veins into the fringes as in *subluca*; a subterminal line, occasionally a more or less distinct postmedian line, indicated by white dots on the veins. Single white hairs are in front on the forehead and collar, as well as at the base of the abdomen; ventrum yellowish-white. Colombia, Bolivia.

T. arpiana *Schs.* (80 f). Body yellowish-reddish white, thorax and abdomen above with brownish *arpiana*, bands, the forewing with the same markings on the light ground, a line at the base, behind it a spot below the cell, then 3 interrupted, irregular lines and at the cell-end a darker spot from which an interrupted line extends to the inner margin; besides 4 postmedian lines and a fifth line close at the distal margin, in the lower half broken up into spots. Hindwing scantily scaled, white, in the abdominal half dusted with brownish. Abdomen brownish-black. Rio de Janeiro.

T. alma *Weymer* (= *septemlinea Schs.*) (80 e) entirely resembles *arpiana*, but the abdomen above *alma*, is white. The ground of the wings may be somewhat whiter. São Paulo.

T. intercalaris *sp. n.* (80 f) forms a transition from the preceding species to the following *mexicana. intercalaris*. Somewhat larger and more elongate. Forewing feebly iridescent reddish-white, the lines as in *alma*, but more sand-coloured brownish, less distinct; discal dot absent, the whole cell and the space between 5 and 6 as far as the distal margin almost hyaline. Hindwing whitish, smoky except a marginal band, the darkest in the abdominal half. Body whitish, head and collar brownish, thorax and abdomen with yellowish-brown bands. According to 1 ♂ from Espiritu Santo (Brazil). Type in the Coll. WERNICKE, Dresden.

T. mexicana *H.-S.* (= *plurilinea Wkr.*) (80 f) is larger than the preceding species, similar, though *mexicana*, with darker yellowish-brown markings, the transverse lines more or less distinct only in the marginal half and costally, in the basal $\frac{3}{4}$ below the cell flown together into a large shadow. The cell and the space between 5 and 6 as far as the subterminal line hyaline. The ♀ is very much larger, more densely scaled, darker fawn-coloured, the lines rather indistinct, the lightest is the subterminal line which gradually widens from the inner margin to 7 and narrows down again at the costal margin. Anal hair blackish. Mexico to Rio de Janeiro.

T. rivulosa *Btlr.* (= *butleri Berg*) (80 f) resembles the preceding ones, forewing semidiaphanous *rivulosa*, whitish, on the veins with dark spots, with greyish-brown transverse markings: a small basal spot, before the centre with 2 angular bands, then a broad median band interrupted by the hyaline cell, behind it 3 parallel undulating lines, a light brown marginal band, and a series of dark brown marginal spots. Head and prothorax white, metathorax and abdomen brownish. Rio Negro (Colombia).

T. opalina *Wkr.* (= *cervina Wkr.*) (81 e). The ♂ resembles *alma* and *intercalaris*; the narrow forewing *opalina*, at the distal margin dentate, whitish, iridescent, with 2 irregular, broad, reddish antemedian transverse bands and a broad postmedian band, in the latter with 4 whitish undulating lines and finely brown-striped veins between them, the small hindwings feebly yellowish. The ♀ is reddish yellowish-brown with 6 dentate darker transverse lines and an incompletely double whitish subterminal line, and a whitish discal spot between the 3rd and 4th lines. Ega (Amazons).

T. hirta *Stoll* (80 f). The ♀ is scantily scaled, very light yellowish-brown, with 3 broad darker transverse *hirta*, bands, the median band being the broadest, enclosing 2 black dots in the cell-angles, before the darker and lighter speckled fringes with a narrow darker marginal band. Guiana. The larva painted by STOLL looks dark brown with a white dorsal line and 2 yellow lateral lines, and fir-tree-like hairs, on the 1st ring with 4 longer ones, the 2 longest with a white ring. It lives on water-melon. I presume that the ♂♂ described by DOGNIN as *pallida* (80 e) belong hereto.

T. trilinea *Dogn.* (80 g) is somewhat more greyish-brown, the median band interrupted on 2, so *trilinea*, that the light border-lines of the ground-colour form an X here, otherwise very similarly marked as *hirta*. Ecuador (Loja); also from Leopoldina (Brazil).

- angustipennis.* **T. angustipennis** Schs. (81 e). The ♂ has remarkably long and narrow wings; body brown; forewing scantily scaled, strewn with blackish and white, with dark veins; base and inner margin dark brown with traces of lighter brown antemedian and postmedian lines, and with a black subterminal shadow. Hindwing dark brown, towards the margin shaded with black. French Guiana.
- guthagon.* **T. guthagon** Schs. (81 e). The ♀ is light brownish on the scantily scaled wings, with whitish transverse lines, the antemedian line almost vertical, below the cell somewhat bent, between both lines the median vein is blackish-brown and at the cell-end expanded into a small spot; behind the postmedian line at vein 7 a darkening, behind it a fine dark double line, its lower half nearing the postmedian line; subterminal line whitish flesh-coloured, undulately dentate; the white marginal line extends on the ends of the veins into the fringes, so that the distal margin appears to be somewhat dentate. French Guiana.
- fumida.* **T. fumida** Schs. (80 b) is smaller than *guthagon*, darker, more greyish-black, the dark bands very broad, so that the light ground only remains as a narrow line; instead of the discal spot there are 2 dots in the cell-angles. Body darker brownish-grey, in the anal tuft ochreous hair are intermixed. Petropolis, St. Catharina.
- abstersa.* **T. abstersa** Fldr., according to the figure, entirely resembles the *Tolyte*-species from the *simulans*-group. Forewing on the scantily scaled, light brownish ground with faded greyish-black transverse bands, the median band being the broadest, distally projecting twice, on 4 and 9, with a thick blackish faded discal spot. Brazil. The type was neither to be found in Tring nor in Vienna. — **perlonga** f. n. (80 g). As a precaution, I range the figured couple from the Berlin Museum as a form with *abstersa*, because of all the species before me this form is the most corresponding to FELDER'S figure; it may even be *abstersa* itself, although the shape of the wings appears to me to be too elongate. Brazil; the exact habitat is not stated.
- maura.* **T. maura** sp. n. (80 g) is quite unicoloured sooty blackish, scantily scaled, without any marking except the cross-vein being more densely scaled in blackish; veins brownish, fringes somewhat darker, particularly on the hindwing with a bronze reflection. Body covered with very long shaggy sooty black hair. According to 1 ♂ from the Songo (Bolivia) in the Coll. BANG-HAAS.
- noctilux.* **T. noctilux** Wkr. (= *argentata* Schs., *manoba* Schs.) (80 g) differs greatly from all the others. Forewing silvery white, with fine black veins, with a greyish-black oblique band from the apex to the centre of the inner margin. Body and hindwing greyish-brown in the ♀, whilst in the ♂ the hindwing is white, only at the distal margin grey. Venezuela to Brazil.

15. Genus: **Tytocha** Schs.

At once discernible from the preceding genera by only two veins of the forewing rising on a joint stalk from the upper cell-angle, 8 being absent, 9 and 10 rising on a long stalk close before 6 and 7 from the upper edge of the cell. On the hindwing the cell is relatively long. Only 2 species are known

Type: *T. lineata* Dogn.

- lineata.* **T. lineata** Dogn. (= *temperata* Schs.) (81 e) is on the forewing very light pinkish-yellow with darker transverse lines, 3 antemedian and 3 postmedian ones, between them a dark-shaded cross-vein streak; before the broader subterminal shadow there is another interrupted spotted line; at the margin cinnamon-reddish internerval streaks. The abdomen is coloured like the forewing and exhibits darker transverse bands. In the ♀ the ground-colour is more olive grey, only the darker transverse markings show a slight pink tint. Guatemala to Colombia.
- crassilinea.* **T. crassilinea** Dogn. (81 e) is extremely similar to *lineata*, but the ground-colour is semi-transparent white, the transverse markings are brownish. Colombia, Amazons.

16. Genus: **Tolytia** Schs.

Likewise very closely allied to the preceding ones, but the ♂ antennae exhibit short pectinations as far as the tips; abdomen with broad dorsal tufts. Forewing broad, distal margin rounded. Recognisable by the veins 6 and 7 of the forewing rising together on a short stalk from the upper cell-angle, and 8 from the upper cell-angle, 9 being absent, 10 and 11 rising from the cell. On the hindwing 6 rises from 7 before the cell-end. Only 3 rather small species.

Type: *T. multilinea* Schs.

- sanguilenta.* **T. sanguilenta** Dogn. (82 a) is white, on the forewing with 9 somewhat irregular, parallel transverse lines of a greyish-brown colour, with a rusty red irroration on single veins in the disc, being intensified on the transverse bands, as well as 2 dots in the cell-angles. Described from Peru.

T. sana Dogn. is very similar to *sanguilenta*, but the transverse markings are much narrower, partly *sana*. extinct; of the rusty red colour only the upper cell-dot remains as well as the base of the branches 6 and 7. Colombia.

T. multilinea Schs. (82 a) entirely resembles *sanguilenta* in the scheme of markings, but the ground-colour is sulphur, the transverse lines are darker yellow, the veins in the disc partly strewn with blackish. French Guiana and Amazons (before me from Massauary). *multilinea*.

17. Genus: **Sphinta** Schs.

Exterior quite different; structure about the same as that of *Tolyte*, but the ♀ abdomen lacks the thick anal tuft. On the hindwing 7 and 8 rise on a very long stalk contrary to *Artace*. Only two species:

Type: *S. cossoides* Schs.

S. cossoides Schs. (82 a). This species with a stout abdomen and brown forewing showing a broad *cossoides*. slate-coloured costal margin and black dentate lines is unmistakable. Brazil.

S. schausiana Jones (82 a) is smaller than *cossoides*; body brown, collar and patagia grey, with a black *schausiana*. dorsal streak on the thorax. Forewing white with brown veins. Costal margin and cell dark brown, thickly haired and scaled in a greenish grey; below the median vein with a faded dark brown longitudinal stripe and below it with 3 dark brown lunae; another longitudinal stripe is situate between 5 and 6, and below the apex there are 3 dark subterminal spots; distal margin tinted yellowish, fringes brown. The white hindwing is powdered with light brown at the costal and posterior margins, at the anal angle there is a brown spot. Expanse of wings: 43 mm. Curityba, Parana, Brazil.

18. Genus: **Artace** Wkr.

Palpi extremely short, turned downward, in some species of a peculiar red brick-colour; frons and eyes covered by pendent hair-fringes. Veins of forewing as in *Tolyte*. In the hindwing the cross-vein is very oblique, 2 rises behind the centre of the cell, 3 shortly before the lower cell-angle from which 4 and 5 rise together or on a short stalk; 6 from the upper cell-angle, 7 far before it, almost from the middle between 6 and 8. Many similar species.

Type: *A. punctistriga* Wkr.

A. cribraria Ljung (= *punctistriga* Wkr.) (82 a) is one of the oldest and most common species. *cribraria*. Forewing white, with fine dark veins, with rows of black vein-dots, 2 subbasal dots, an antemedian row and 3 postmedian ones, between the two outermost with a very feeble subterminal row of small spots. Distal margin between the veins dotted black. Hindwing with traces of a subterminal shadow-like band. The dots are very variably developed, in some specimens the postmedian row of vein-dots is connected by a fine blackish-grey line: — **connecta** f. n.; such specimens are before me from St. Catharina. Very widely distributed from the *connecta*. Southern Atlantic States of North America down to Argentina and Paraguay.

A. regalis Jones is considerably larger than *cribraria*, of a very pure white, palpi outside black, the *regalis*. rows of black dots arranged as in *cribraria*, but more spot-shaped; the subterminal row of spots is composed of more elongate spots. Hindwing pure white. Castro Parana; Santos.

A. muzophila Dogn. is very near to *cribraria*, of a purer white, with much fewer black dots, the *muzophila*. antemedian row proceeding from a thick brownish-black costal-marginal streak, without discal dots, a subterminal row formed of very feeble pale rusty brownish irroration; at the distal margin only between 7 and 10 some small black dots. Hindwing all white. Described from 1 ♂ from Muzo (Colombia).

A. litterata Dogn. (82 a) is smaller, in the white colour of the body there are grey and black hairs *litterata*. intermixed. Forewing with 7 more or less distinct blackish parallel transverse lines which are partly broken up into black vein-dots and interrupted in the cell; on the margin between the veins with thick black dots, 2 similar ones are situate in the two cell-angles. Hindwing with a subterminal grey marginal band. Brazil (São Paulo).

A. argentina Schs. (82 b) differs in quite black palpi, the thorax being mixed with drab, the abdomen *argentina*. with similar bands. Forewing opalescent white, with a faint sand-coloured hue, the vein-dots otherwise as in the preceding species, but the marginal streaks are absent on the veins; before the marginal spots a fine black marginal line, also on the hindwing. Argentina, Brazil.

- menuve.* **A. menuve** Schs. (82 b) has likewise black palpi, the white body is above tinted with sandy grey. Forewing white, scantily scaled, somewhat opalescent with black dots as in *argentina*, but with black marginal streaks on the veins and without the fine black marginal line, only with the small internerval spots. The white hindwing at the anal margin with light sand-coloured hairs. South-Eastern Brazil (São Paulo).
- sisoes.* **A. sisoes** Schs. (82 b) is a larger species very similar to *cribraria* f. *connecta*; body above with more sandy grey hair. Forewing of ♂ scantily scaled, opalescent, the black dots as in the two preceding species, but the postmedian row forms short vein-streaks, a subterminal grey narrow transverse band is parted by the veins; veins in the marginal area strewn with black. Hindwing with a smoky black subterminal line being the most distinct at the anal angle. In the ♀ the forewing is greyer, the dots are partly connected by lines. Hindwing grey with a white marginal band. Guatemala, Amazons (from Casa Branca in the Coll. STAUDINGER).
- meridionalis.* **A. meridionalis** Schs. In the ♀ the forewing above is white, with 3 rows of dark grey vein-dots and two at the cell-end; subterminally and at the margin one dusty grey transverse band each, and on the margin a row of black internerval spots. Hindwing above grey, at the anal margin darker. Head and thorax grey, abdomen above dark grey, beneath white. Expanse of wings: 44 mm. Tijuca, Rio de Janeiro.
- punctivena.* **A. punctivena** Wkr. (82 b) is very similar, the wings above greyer, but very scantily scaled, particularly the body darker grey; on the forewing the dots as in the preceding species, behind and before the small subterminal grey spots we notice a somewhat more distinct white ground-colour. Hindwing with a feeble grey subterminal band which is only more intense at the anal angle. Colombia, Brazil.
- anula.* **A. anula** Schs. (82 b). Palpi black, forewing white with 6 grey, undulatingly dentate transverse lines, with black vein-streaks interrupted by these lines, the two central lines together forming rings above the inner margin; besides a subterminal grey undulating line, and at the margin black internerval streaks; hindwing with a blackish anal angle; abdomen blackish. In the ♀ the transverse undulating lines and the subterminal band sand-coloured brownish. Hindwing smoky excepting the white margin and a narrow subterminal band. Brazil.
- coprea.* **A. coprea** sp. n. (82 c) is a very large species of a quite dark colour, on the yellowish-red ground densely dusted with a neutral grey, the darkest in the subterminal area; veins still darker yellowish-red, the rows of vein-dots strigiform, on vein 2 five black streaks at equal distances, the black internerval dots at the margin very thick. Thorax dark neutral grey, intermixed with yellow-reddish hairs. Abdomen absent. Hindwing on the yellowish-red ground densely powdered with grey. According to 1 ♀ without any habitat stated, presumably from Brazil (type in the Berlin Museum).
- lilloi.* **A. lilloi** Giac. (81 e) is a very different small species, uniformly light ashy grey, the legs with somewhat darker rings; on the forewing from the centre of the inner margin to the apex a black oblique line, but not quite reaching the apex; at the cross-vein there is a comma-shaped black streak; the oblique line may also be absent; all the veins distinctly black, at the margin there are black internerval spots. Expanse of wings: 22 mm. La Rioja (Argentina).
- helier.* **A. helier** Schs. (82 c). This species belongs to the group of species with red palpi; palpi blackish-brown, the last joint carmine; the white body is covered with drab hair; on the abdomen with dark transverse lines. Forewing light neutral grey, with darker grey transverse lines, the costal margin and veins white, on all the lines with short black vein-streaks, the subterminal shadow more spotted; the small terminal spots extend into the fringes. Hindwing whitish with a grey anal margin and distal-marginal band. The ♀ is larger and scantily scaled. Castro (Parana), Rio de Janeiro.
- aemula.* **A. aemula** sp. n. (82 c) is allied to *helier*, but also similar to *anula* from which it differs in the rosy red palpi. Body with very light sand-coloured hair. Forewing very light brownish-white, costal margin not pink at the base, with very indistinct dull and blurred sandy brownish undulate lines and a somewhat more distinctly prominent median band; behind the row of subterminal spots the margin is somewhat whiter with extremely feeble, brownish, anteterminal diffuse spots; in this species the fringes are speckled with brownish-grey. Hindwing whitish, powdered with a sand-like brownish colour almost as far as the margin. The abdomen is absent in the only ♀ from Rio Grande do Sul. Type in the Coll. BANG-HAAS.
- nigripalpis.* **A. nigripalpis** Dogn., described according to a ♀ from Loja, Ecuador, entirely resembles *rubripalpis*, but it has black palpi, nor any red at the costal margin. Body and wings white, the black dots as usual, above the 2 dots at the cell-end there is another dot at the costal margin, the dots of the postmedian line on 6, 7 and 8 distally removed, hindwing all white, with black marginal dots as on the forewing.
- albicans.* **A. albicans** Wkr. has red palpi, towards the base black; forewing white, at the base of the costa red, with the usual rows of vein-dots, a subterminal row of small brownish spots, and on the margin with the usual black small internerval spots. Brazil; the statement „Georgia“ is surely wrong.

A. rubripalpis *Fldr.* (82 c) is smaller and greyer than *albicans*, the palpi and the base of the costal margin *rubripalpis*. being red, the vein-dots particularly in the ♂ more strigiform, in the ♀ by connecting shadows arranged more as transverse lines, the terminal spots very large, oval. Rio Grande do Sul. The frequent statement of its being a synonym of *cribraria* is wrong.

A. rosea *sp. n.* (82 c) is marked almost like *menuve* or *helier*, but the ground-colour is pink, on the *rosea*. forewing with a grey longitudinal patch through the cell as far as the margin. Hindwing white with a smoky anal spot and black marginal dots. Abdomen above black, anal tuft red-brown. Palpi and base of costal margin crimson. According to 1 ♂ from Rio de Janeiro. Type in the Coll. SENCKENBERG.

19. Genus: **Euglyphis** *Hbn.*

This genus being also called *Hydrias*, *Claphe*, or *Eriogaster* comprises an enormous number of species the size of which varies between more than medium and small, the sexes being mostly very differently large, the considerably larger ♀♀ exhibiting a very stout abdomen. The eyes are bare, the palpi rising obliquely or being more or less horizontal are rather long, the second joint thickly haired, the 3rd hidden in the hair. Proboscis stunted. Antennae rather short, of $\frac{1}{3}$ to $\frac{1}{4}$ of the length of the costal margin, in the ♂ in the basal half with rather long pectinations, in the terminal half just as long or shorter, in the ♀ short pectinated, at the base with a hair-tuft. Body and legs strongly haired, abdomen above with hair-tufts on the 3 or 4 first rings or also without them, hind tibiae and tarsi very long-haired. Forewing broad with slightly roundish costal and distal margins, apex rounded or, particularly in the ♂, more pointed. Vein 2 rises very near the base, about midway between 2 and 4, the latter with 5 from the lower cell-angle together or slightly separated; the cross-vein is very feebly developed; 6 rises on a stalk with 7 from the upper cell-angle, more or less near the margin 8 rises from the latter; 9 and 10 on a long stalk shortly before it, 11 separated from them from the centre of the upper edge of the cell, being later on coalescent with 12, at about its centre. On the hindwing the costal margin is very convex, or only at the base convex, behind it occasionally concave, sometimes also before the produced apex with a concavity, the distal margin often dentate. The cross-vein is very feebly developed, the lower angle usually very much produced. 2 rises from the centre of the cell, 3 midway between 2 and the veins 4 and 5 rising from the lower cell-angle; 6 rises together with 7 from the upper cell-angle or the latter shortly before it, 8 and 9 close together near the base, shortly behind the latter a short, strongly bent vein 10 proceeds; the basal loop is very indistinct.

The small group assembled around the type of the genus is distinguished by black hair directed towards the costal margin, in the basal half of the inner margin.

Type: *E. claudia* *Stoll*.

E. claudia *Stoll* (= *marginalis* *Wkr.*). Forewing light reddish-yellow like the body, but this colour *claudia*. remains pure only at the inner margin and distal margin as well as in a larger, obliquely quadrangular spot at the anal angle extending to the upper median branch; the whole basal half is in the same way as in the 6 following species darkened by black and single white hairs turned towards the costal margin, the basal quarter being the darkest, separated by white wavy lines from a median area which is edged by somewhat darker lines; at the cell-end two dots obliquely below each other; behind the median area projecting twice pointedly the upper two thirds of the postmedian area are darkened grey as far as the broadly whitish dusted subterminal area in which there are greyish-black undulate linear spots, the spot between the upper radials projecting far inwards. Hindwing greyish-brown, at the distal margin reddish-yellow, at the costal margin traversed by several angular white lines, and with a dark median line, the subterminal row of spots being also here distinct. The type is from Surinam, WALKER's type from Pará. The species is very variable, southern specimens (St. Catharina) are mostly more darkened, so that there remains hardly any trace of the reddish-yellow colour which has turned more yellowish-grey, and the bordering of the median area is more or less extinct, too: — **f. conspersa** *nov.* (82 d). The ♀ is duller and more monotonous. — **folia** *Schs.* (82 d) is very similar and probably *conspersa*. *folia*. not specifically different; it differs in the absence of the dark median line on the hindwing.

E. aleria *Drc.* (82 d) is very similarly marked as *claudia*, but larger and much more monotonously *aleria*. greyish-brown, the marginal area hardly lighter, the light anal spot is entirely absent, the two discal dots are changed into an oblique thick streak; the fine white undulate line, on the inside of which there are small greyish-black spots, is crossed by fine yellowish veins. On the monotonously greyish-brown hindwing there is a rather large, prominent, dark subapical spot at the costal margin. Brazil, Ecuador, Bolivia.

E. ocyroe *Dogn.* (82 d) is closely allied to the preceding ones, darker, more olive-grey, the inner- *ocyroe*. marginal half shaded by a darker longitudinal band, the thick black discal spot removed far inwards, the outer border of the median area indicated by short black vein-streaks at least in the costal-marginal half; the white undulate line as in the preceding species, though forming higher pointed arches, at the anal angle mostly a larger white spot. Hindwing in the basal half of the anal margin with a slight rust-brown tint. Mexico, Colombia, Ecuador.

- reversa.* **E. reversa** *sp. n.* (82 d) is very similar to *ocyroe*, with clearer markings and at once discernible by the reversedly coloured hindwing the costal-marginal half of which is broadly rusty brown, the anal-marginal portion being light whitish; also the body and the inner margin of the forewing are mixed with rusty red. According to 1 ♂ from the Rio Songo (FASSEL). Type in the Berlin Museum.
- sommeri.* **E. sommeri** *sp. n.* (82 c) is much smaller than the preceding species and much lighter, white, with the same characteristical upturned hairing being composed of black, rusty yellow, and white hairs; scheme of marking the same as in *ocyroe*, but the black discal spot removed very much farther outwards; the white undulating line as in *claudia*, with rounder arches than in *ocyroe*, the black spots before it as in *claudia*. Hindwing almost white, in the anal-marginal third powdered with brown, with a distinct subterminal line composed of small spots, and blackish fringes which are crossed by whitish on the ends of the veins. Thorax clad with long black and white hair, with a contrastingly bright copper or bronze coloured prothoracal tuft, also the strong abdominal tufts being bronze-brown, intermixed with thick bluish-black hairs. Described according to 3 ♂♂; type e Coll. SOMMER in the Berlin Museum, habitat not mentioned; a larger ♂ with somewhat brighter colours, which we figure, in the Coll. W. HOPP. Charlottenburg, from São Paulo.
- submarginalis.* **E. submarginalis** *Wkr.* (= *praxitheia* *Drc.*) (82 e) belongs yet to the same group, being the most closely allied to *ocyroe*, larger, darker and much more monotonously olive blackish, marking entirely obliterated, only the white pointed arches of the undulating line with a larger white anal spot are distinct, the rest of the marking being composed of very indistinct darker wavy lines. The ♀ is much larger and more monotonous, more scantily scaled, the very large dorsal tufts on the abdomen intermixed with thick steel-blue spatulate hairs. Mexico to Colombia and Brazil, everywhere common.
- catenifera.* **E. catenifera** *sp. n.* (82 c) is likewise allied with the preceding ones; forewing greyish-brown, the erect hair shorter, blackish, with a large triangular velvety blackish-brown basal spot not reaching the costal and inner margins, with a thick round discal spot; the median area is shaped as in *claudia*, not darker, edged by faded darker transverse bands; the undulate-linear spots as in *claudia*, but representing thicker and rounder black spots, the two situate between the radial branches combined forming a large, inwardly removed triangular spot, outside with a hardly lighter border, without the white arches of the undulating line of the preceding species. Hindwing duller brownish-grey, the spots of the undulating line feebly darker, in the centre of the costal margin with a large black spot distally edged with whitish. According to 1 ♀ from Sarayacu (East Peru). Type in the Berlin Museum in the Coll. STAUDINGER; also from Macas (Ecuador).
- princeps.* **E. princeps** *Dogn.* (82 f) as well as the following *riphea* are distinguished by orange-red and chalky white strewing with peculiar thick scales in the basal half between the submedian and cell. Forewing brown, in the basal two thirds darker; antemedian line only indicated by whitish double streaks at the costal and inner margins, the white postmedian line being double; subterminal line composed of white lunar streaks which are inwards shaded with blackish. The brown hindwing with a strongly notched subterminal line and half double postmedian line. Abdomen with dark and light rings. Guiana; Amazons.
- riphea.* **E. riphea** *Stoll* (82 f). This beautiful species is evidently very similar to *princeps* and exhibits the same orange colouring of the submedian base and chalky white scales strewn on it. Forewing lighter reddish-brown, marked as *princeps*, but unmistakable by the median area in the disc being filled with a deep brownish black. Surinam; 1 ♂ which we figure from São Paulo, in the Berlin Museum. The species seems to be uncommonly rare.
- rivulosa.* **E. rivulosa** *Dru.* KIRBY considers this very questionable species to be synonymous with *riphea*, but SCHAUS is of a different opinion. The figure is too indistinct, and the species will probably never be identified. Surinam.
- lucilla.* **E. lucilla** *Stoll* has remained unknown to me. The figure represents a large species, the marking and whole habitus undoubtedly recalls *princeps*, but with much broader wings. Blackish-brown, forewing particularly at the base strewn with black, with 3 light yellowish-brown postmedian transverse bands, the subterminal band inside bordered with blackish spots; on the hindwing two transverse bands and a broad blackish, distally whitish subterminal band are indicated, extending to the anal margin. Surinam.
- ornata.* **E. ornata** *Stoll* (= *phidonia* *Stoll*, *ornanda* *Hbn.*) (82 f). Distinguished by the long narrow shape of the wings. Forewing greyish-white, with fine brown veins, with a darker irroration and 3 transverse lines, the two first of which are mostly indistinct, the subterminal line forming very high pointed dents on the veins. Abdomen and anal-marginal half of hindwing red-brown, the hindwing with a sharply notched subterminal line distally bordered with whitish. Costa Rica; Guiana to Brazil.
- phedonioides.* **E. phedonioides** *Schs.* is very similar to *ornata*, but smaller, lighter, and with less long forewings. Whitish-grey, finely strewn with brown; postmedianly with short white vein-streaks, before them dark brown, the deeply dentate subterminal line dark grey, the brown fringes feebly speckled with white, in the centre of the inner margin with a blackish-brown spot. Abdomen and hindwing ochreous brown, the latter with a feeble dark median line. Expanse of wings: 37 mm. Costa Rica.

E. revincta *sp. n.* (82 f) exhibits still somewhat longer forewings than the other species, darker greyish-white, strewn with brown, with similar transverse lines, the antemedian line distinct, at the upper edge of the cell projecting far distad in an acute angle, on the veins notched as far as the inner margin; in the lower cell-angle there is a fine black dot; the postmedian line is double, the interior portion complete, on the veins inwardly notched, between them projecting outwards with round arches, the exterior portion only distinct on the veins; subterminal line forming regular dents, though not such high ones as in *ornata*, parallel to the margin. Hindwing as in *ornata*; in the basal portion of the forewing a few yellow scales are intermixed, as in the basal portion of the costal margin on the hindwing. Described from 1 ♂ from Peru (type in the Berlin Museum). *revincta.*

E. durtea *Schs.* (82 f). Anterior body grey, abdomen light red-brown, basally with black dorsal tufts. Forewing dark grey, with black veins; subcostally at the base of the cell, above the submedian, and between 5 and 6 with brown stripes; the anterior and posterior dark transverse lines double, the dentate subterminal line black, at the cross-vein a black line. Hindwing light brown, costal margin and apex as on forewing, with a short dark postmedian line and a subterminal line, and black veins in the marginal portion. French Guiana. *durtea.*

E. supertheresa *Dogn.* is very near to the following *theresa*, somewhat larger, lighter, more greenish grey, with a brown longitudinal shadow through the disc as far as the distal margin; on the hindwing the two colours grey and brown are sharply separated. Guiana to Peru. *supertheresa.*

E. theresa *Schs.* (82 f) is on the forewing grey, strewn with brownish, with black veins particularly towards the margin, and with 2 black cellular dots; antemedian line indistinct, postmedian line with round arches, subterminal line projecting on the veins in very pointed dents, the area before it somewhat lighter. Hindwing in the interior half brown, with a dentate dark grey subterminal line and traces of a median line. The nomenclatural form described from Brazil (Rio de Janeiro). — More to the north, in Mexico, the species occurs in a much darker, intensely black-strewn form, with distinct white dots in the notches of the postmedian line: **mexicana** *f. n.* (82 g). The ♀ is much larger and more monotonous, with feebler markings. *theresa.* *mexicana.*

E. albiserrata *sp. n.* (82 g) is the most closely allied to *theresa*, but larger and much darker, on the forewing olive blackish, with black veins, between the deep dents of the single antemedian and postmedian lines filled with white, before the very long and deeply dentate subterminal line there is whitish irroration. Hindwing red-brown, in the costal-marginal portion on both sides bordered with whitish. Colombia and Amazons. ♂ type from São Paulo de Olivença in the Berlin Museum in the Coll. STAUDINGER. *albiserrata.*

E. teresina *Schs.* (82 g) shows the colouring of *supertheresa*, but it lacks the brown longitudinal shadow through the disc, and the postmedian line is less deeply dentate; the dentate antemedian line is double. It also resembles *revincta* to some degree, but it is smaller, the forewing less elongate, the subterminal line is not quite parallel to the margin, but between 4 and 6 it recedes slightly towards the base. From French Guiana. *teresina.*

E. geminata *Dogn.* is allied to *teresina*; anterior body and forewing whitish-grey, strewn with brown; both the transverse lines are double, the anterior one submedianly angular, the posterior one regularly dentate, between them two cell-end dots; subterminal line single, deeply dentate, behind it and on the transverse lines the veins are marked with black. Hindwing and abdomen light reddish yellowish-brown, the latter with a whitish anal tuft, the former with a double postmedian line, before and behind it in the light costal portion strewn with blackish; near the margin there is a complete subterminal line. Fringes speckled black and white. Described from 2 ♂♂ from the Amazons (Obidos). *geminata.*

E. viridescens *Dogn.* (81 f). Forewing strewn with greenish, black and white scales, producing a moss-greenish tint, in the ♂ the postdiscal and inner-marginal areas are more intensely strewn with white; the two transverse lines are conspicuous by white vein-dots, the black subterminal line is strongly dentate. Abdomen and anal-marginal half of hindwing rusty brown, hindwing with a black, dentate subterminal line, in the costal-marginal half bordered with white, and here besides with a white, not dentate median line. Peru (Yahuarmayo). *viridescens.*

E. napala *Schs.* (82 g) is marked as *theresa*, but the ground-colour is a dull olive brown, with darker veins; anterior transverse line only shadow-like; posterior line only double at the costal margin; on the hindwing the costal-marginal portion is strewn in a darker colour, therein with a double postmedian line, the subterminal line extends to the anal angle. Guiana. *napala.*

E. insuta *sp. n.* (82 h) is similar to *napala*; ground-colour more rusty brown, head, collar, and patagia with whitish-grey hairs. Basal portion of forewing and costal-marginal portion of hindwing strewn with white, antemedian line double in the costal-marginal portion, the postmedian line single, deeply dentate, on the veins dotted white; postmedian area somewhat lighter, subterminal line very deeply dentate, slightly receding on 5, the veins behind it black. Hindwing with a black median line extending to vein 5, and a black subterminal line extending to the anal angle. Described from 1 ♂ from São Paulo. Type in the Berlin Museum. *insuta.*

E. napalona *sp. n.* (82 h) is likewise similar, somewhat larger, more slender, with a longer abdomen, bright red-brown, without the whitish strewing of *insuta*, veins fine black, the antemedian line is entirely absent on the forewing, the postmedian line at the costal margin indistinctly double; the median area below the cell slightly powdered with purple, with thick black veins; postmedian area below the costal margin and between *napalona.*

3 and 4 somewhat lighter; the subterminal line recedes between 4 and 6, and is replaced here by two black longitudinal patches. Hindwing in the costal portion coloured like the rest of the wing, the subterminal line farther remote from the margin. According to 1 ♂ from Chanchamayo (Peru). ♂ type in the Berlin Museum in the Coll. STAUDINGER. ♀ type from Medina (Eastern Colombia) in the Coll. BANG-HAAS. According to SCHAUS also in the U. S. National Museum, without any denomination.

napaloides.

E. napaloides Dogn. is larger than the very similar *napala*, on the brown forewing strewn with white, the double antemedian line only extends to the median, the double postmedian line is hardly undulating, the strongly notched subterminal line receding between 4 and 6. The brown hindwing is strewn with white in the costal-marginal half, here with a double postmedian line; the subterminal line as in *napala* and its allies. French Guiana.

napalita.

E. napalita sp. n. (82 h) is most closely allied to *napalona*, but smaller and somewhat darker, without the postmedian brightenings, the antemedian line double in the costal-marginal portion, subcostally very long dentate towards the margin, like the single postmedian line and the subterminal line, the former without the white vein-dots, the latter in the costal-marginal portion double, filled with a somewhat lighter colour and very long and obliquely projecting towards the margin on 9. Hindwing monotonously dark brown, in the costal portion not contrasting, the subterminal line nearer to the margin than in *napalona*. ♂ type from Iquitos in the Berlin Museum in the Coll. STAUDINGER.

sordida.

E. sordida Schs. (82 h) is brownish on the forewing, strewn with grey, only the dentate postmedian line and the deeply dentate subterminal line being visible, the narrow subterminal area slightly lighter, in the marginal portion the veins very fine black. Hindwing brown, costally strewn with grey, with a feeble subterminal line not reaching to the anal angle. Brazil.

maria.

E. maria Schs. (82 h) likewise belongs yet to the *theresa*-group. Anterior body and forewing yellowish reddish-brown, densely strewn with black as far as the posterior transverse line, the latter with white vein-dots, the anterior line more or less indistinct, between them a small black cell-end spot; behind the deeply dentate subterminal line with black vein-streaks ending white on the brown fringes. Abdomen and hindwing brown, hindwing in the costal-marginal portion as on the forewing, the subterminal line together with the black vein-streaks forms round, somewhat lighter, small marginal spots. From Costa Rica.

marissima.

E. marissima Dogn. is very similar, on the forewing more chestnut-brown, with darker veins, only traces of the transverse lines, the postmedian line with vein-dots; the dentate subterminal line hardly contrasting with the ground-colour. Hindwing brown, in the anal-marginal half lighter and more monotonous, the dentate subterminal line only apically visible. French Guiana.

gurda.

E. gurda Dogn. (83 a) is allied to *maria*, somewhat larger, brownish ashy-grey, basally and before the subterminal line strewn with whitish, with indistinct dentate transverse lines, the posterior one with white vein-dots, between both a sharply angled black discal streak; the sharply notched subterminal line incurved between 4 and 6, the black vein-streaks behind it terminate on the fringes with white dots. Hindwing brown, in the costal-marginal portion more greyish-black, with the beginning of a whitish median line; subterminal line not very strong, behind it the distal margin is somewhat lighter. Prothorax with whitish hair, the brown abdomen above with whitish-grey hair and black dorsal tufts. Peru and Colombia.

interula.

E. interula Dogn. (81 f). Head and thorax blackish-grey, frons and abdomen brown. Forewing lustrous light reddish-yellow, strewn with white, the median area black, strewn with white, bordered by the very indistinct transverse lines, the posterior line double with vein-dots; behind the strongly dentate subterminal line with black veins of the marginal area, fringes speckled black and light. Hindwing brown, in the costal-marginal portion on the reddish ground strewn with black, with 2 black short lines bordered with white, the subterminal line almost to the anal angle, the veins behind it black. Expanse of wings: 37 mm. São Paulo.

mucida.

E. mucida sp. n. (83 a) has much broader forewings with a rounder apex; greyish-brown, strewn with blackish, antemedian line double at the costal margin, postmedian line likewise double, the latter filled with light, so that a light line is produced from the costal margin to the inner margin, before it a black cell-end spot; the subterminal line forms inwards black sagittary streaks, in contrast with the other species it is outside bordered with light, not inside; fringes speckled. Hindwing brown, costal-marginal portion strewn with black, here with a short light median line; behind the subterminal line reaching to the anal angle the margin is lighter. Head and thorax covered with greyish-white hair. Type: 1 ♂ from South Brazil in the Berlin Museum.

congruens.

E. congruens Dogn. is more red-brown than *gurda*, the postmedian line is stronger, with short dents, subcostally not angular, hardly rounded; the subterminal line forms on 4 a large spot of the ground-colour, the space before it is whitish, excepting the costal portion. Forewing and costal area of hindwing with red hairs. South-Eastern Peru.

canescens.

E. canescens Dogn. (81 f) belongs to the *adusta*-group; forewing grey with a faint red-brown tint, apically and terminally lighter whitish; transverse lines darker, the anterior line irregular, close behind it the cellular dot, the posterior line subcostally angular, hardly dentate, outside bordered with whitish, straight to the inner margin, the subterminal line feebly dentate, subcostally and between 3 and 5 inwardly angular,

dying away on 2; the grey fringes on the ends of the veins white. Hindwing white, costally grey, disc and anal margin with reddish-yellow hair, costally with a median line and a dentate subterminal line; the latter between 3 and 5 inwardly removed. Ends of veins grey, on the fringes white. Thorax reddish-grey. Expanse of wings: 39—41 mm. Merida (Venezuela).

E. filispinosa *sp. n.* (83 a) is allied to *gurda* by the angular cell-end streak; anterior body greyish-white, intermixed with black hairs, abdomen brown with black dorsal tufts and grey anal hair. Forewing greyish-white, in the disc light brownish with thick black transverse lines, the anterior line notched, at the costal margin double, the posterior line double, below the costal margin obliquely distad, then almost vertical to the inner margin, the interior portion of black dents, the exterior portion more composed of brown diffuse spots; subterminal line deeply notched with black vein-streaks behind it, before the grey-speckled fringes with a white marginal line. Hindwing light brown, in the costal-marginal portion grey with a white postmedian line and a notched subterminal line which extends to the anal angle and behind which the marginal area is whitish. Type: 1 ♂ from Joinville (Brazil) in the Berlin Museum.

E. sulga *Schs.* (83 a). Head and thorax whitish-grey. Abdomen above dark grey, mixed with brown, beneath reddish-brown. Forewing grey, strewn with brown, both the transverse lines are quite absent, at the cell-end a black dot; at the base of the costa there is an oblique, light reddish-brown patch, at the centre of the inner margin an oblong light grey spot, distal area somewhat lighter reddish; veins fine black, subterminal line notched. Hindwing brown, in the costal-marginal portion like the forewing, which colour extends behind the entirely extinct subterminal line as small spots between the fine black veins almost to the anal angle. Guiana.

E. simia *Dogn.* (83 a) is allied to *sulga* by the marking of the forewing; ashy grey with a faint pinkish tint, strewn with black, both the transverse lines extremely feeble, the posterior one only marked at the costal margin, the acute angles of the subterminal line more distinct, the veins very fine black. Hindwing very light brownish-white, at the anal margin with yellowish hair, in the costal-marginal portion pinkish-grey, behind the feebly indicated subterminal line with fine vein-streaks. Abdomen yellowish reddish-brown. From Merida (Venezuela).

E. simiola *sp. n.* (83 a) resembles *simia* by the light hindwing. Forewing on the whitish ground strewn with light cinnamon-reddish, veins finely cinnamon-brown, the anterior transverse line absent, the shadow-like posterior line is double, extending obliquely outwards from the costal margin, then pointedly broken in a slight bend obliquely inwards to the inner margin; at the cell-end a small dark spot; the subterminal line is only indicated by blackish-brown wedge-shaped diffuse spots situate inwards to it; fringes on the ends of the veins crossed by white. Hindwing almost white, at the anal margin feebly haired yellowish, in the costal-marginal portion light cinnamon-reddish, with a pointedly notched subterminal line extending to vein 5, behind this line the margin is white; fringes speckled with cinnamon-brown. Body cinnamon-brown. Head and thorax intermixed with yellowish-white hairs. According to 1 ♂ from Venezuela. Type in the Berlin Museum.

E. plana *Wkr.* (83 b) is a smaller species, brownish-white, strewn with a darker colour, at the costal margin almost pure white, strewn with black, anterior transverse line quite indistinct, posterior line dentate, the veins before it fine black; the long dents of the brown subterminal line extending outside as far as the fringes, inside as far as the postmedian line. Hindwing light cinnamon-brownish, in the costal-marginal portion greyish-white, the subterminal line only extending to vein 5. The ♀ is but little larger and not so distinctly marked. Espiritu Santo (Brazil).

E. planita *Schs.* (83 b) is very similar, but the forewing entirely lacks the long subterminal dents, on the hindwing the subterminal line, however, extends to the anal angle, behind it the distal margin it strewn with white. Villarica (Paraguay).

E. adusta *Wkr.* (= *rubiginosa* *Fldr.*) (83 b) is a large species. Anterior body greyish-white, intermixed with single black hairs, abdomen brown with black dorsal tufts. Forewing greyish-white, strewn with black, with cinnamon brownish-pink longitudinal stripes subcostally, through the cell and submedianly; with the same colour the marginal area is strewn; veins black, transverse lines as in *gurda*, the anterior line distinctly double, also the discal streak is angular. Hindwing light brown, in the costal-marginal portion as on the forewing with a short double postmedian and subterminal line. The ♀ is very much more intensely strewn with red. Anterior body darker grey. Distributed in Brazil.

E. dicax *sp. n.* (83 b) is allied to *adusta*, smaller, without the pink stripes, the whole basal area as far as the antemedian line darkened with brown and jet-black hairs, the median area narrower than in *adusta*, the veins therein thickly scaled chalky white, so that particularly the costal-marginal portion appears all white; instead of the angular streak at the cell-end there are 2 black short longitudinal streaks above each other, connected by brown shading; the area between the double postmedian line on the veins white-spotted; the veins in the marginal area are not thickly marked with black, but only feebly brown. Hindwing light fawn-coloured in the costal-marginal portion and in the inner-marginal portion of the forewing thickly scaled white. According to 1 ♂ from Campo Bello (Rio de Janeiro, Brazil); type in the Coll. W. Hopp, Charlottenburg.

E. zikani *sp. n.* (83 c) differs from *dicax* in its broader forewings. Thorax black mixed with single white hairs, on the shoulders with brown hairs. Abdomen red-brown, the black hairs of the dorsal tufts at the tips white, anal hair grey. Forewing in the basal portion chalky white strewn with large black scales, otherwise on the brownish-white ground strewn with white and particularly in the median area thickly strewn

with black, the veins black; transverse lines double, the subterminal line as in *adusta*, receding far on 5 in the shape of a blackish diffuse spot; the black fringes on the veins broadly crossed by light brown. Hindwing light coffee-brown, in the whitish costal-marginal portion thickly strewn with black, with a white postmedian line; the subterminal line extends to the anal angle, behind it the margin is lighter. According to 1 ♂ from Passa Quatro (Sul de Minas), South-Eastern Brazil (Zikan leg.); type in the Coll. W. HOPP, Charlottenburg.

gibea. **E. gibea** Drc. (= *macasibia* Strd.) (83 c) is very near to *adusta*, the forewing lighter greyish-white, almost without any strewing, the transverse lines in the costal-marginal portion indistinct, the subterminal line also less prominent, its dents outside filled with rosy red; of the same colour are the longitudinal stripes. Bolivia, Peru.

agresta. **E. agresta** Stoll has remained unknown. The ♂ is described as rusty brown, on the forewing with 2 whitish transverse bands and on the hindwing with a costal-marginal spot of a whitish colour, the hindwing partly bordered with blackish-brown. Surinam.

nebulosa. **E. nebulosa** Maass. is likewise unknown to me; thorax and forewing brownish-grey, strewn with brown and grey, at the distal margin lighter, in the disc on the veins striped brown. Antennae, abdomen, and hindwing light yellowish-brown, hindwing at the costal margin dark greyish-brown, along the distal margin with whitish-grey spots, parted by the dark brown veins, the subterminal line indicated by the contrast of the colours. Expanse of wings: 20 mm. Described and figured from 1 ♂ from Colombia.

crepuscularis. **E. crepuscularis** sp. n. (83 c) is evidently closely allied to *nebulosa*. Anterior body and forewing light grey, strewn with brownish, with 4 shadow-like darker transverse bands, somewhat distally angular below the costal margin, the veins near the bands partly finely marked with black; behind the undulatingly dentate subterminal line, which is inside feebly shaded with a darker colour, there are somewhat more distinct dark vein-streaks ending whitish on the dark grey fringes. Hindwing and abdomen light brown, the costal-marginal portion of the hindwing coloured as on the forewing, with shadow-like beginnings of transverse bands. According to 1 ♀ from Mt. Tolima (Colombia) in the Berlin Museum.

elena. **E. elena** Schs. (83 c). Anterior body greyish-white, with dark brown hair, abdomen light brown. Forewing grey strewn with white, towards the margin feebly brownish, in the median area below the cell strewn with black; anterior transverse line partly double, dentate, the posterior line likewise so, with white vein-dots, the veins in the median area partly black; behind the subterminal line likewise black vein-streaks, those on 2, 3 and 5 extending farther inwards. Hindwing light brown, at the costal margin as on the forewing, the subterminal line extends almost to the anal angle. Costa Rica.

herberti. **E. herberti** Schs. (= *palumba* Dogn.) (83 c). Colour and marking somewhat similar to *elena*, but the antemedian line, which exhibits in the cell a pointed tooth towards the base, is much nearer to the base, and the much straighter postmedian line is removed farther into the centre of the wing, its distal double portion is but very indistinct; subterminal line more pointedly dentate and more remote from the margin, also on the hindwings on which there are but very indistinct beginnings of the postmedian lines. South-Eastern Peru: Bolivia (Rio Songo).

mya. **E. mya** Schs. (81 f). Body above blackish with grey and yellowish-red hair. Forewing blackish-brown, at the distal margin broadly whitish-grey with a very thick black subterminal line in it, the distal margin strewn with a darker grey; instead of the postmedian line white vein-dots before which there are velvety black vein-streaks, also at the margin black vein-streaks. Hindwing dark brown, at the costal margin blackish with a whitish-grey apical area enclosing the dentate dark subterminal line, and the whitish postmedian line. Expanse of wings: 37 mm. French Guiana.

roseonigra. **E. roseonigra** Dogn. (81 g) is allied to *mya*. Forewing blackish-grey with darker veins, the submedian area, the space between 5 and 7 in the proximal section, a subterminal band and a marginal band, the latter two faded and dentate, rusty brownish mixed with pink; the black fringes with white vein-dots. Hindwing blackish-brown, in the costal-marginal portion blackish-grey, the dentate subterminal line only partly present. Described from a ♀ from French Guiana.

laverna. **E. laverna** Schs. Head, collar, and patagia yellowish lilac pink mixed with brown, thorax and dorsal tufts on the light red-brown abdomen black and dark brown. Forewing yellowish pink, densely strewn with red-brown; the black anterior transverse line is irregular, before it a fine red-brown line; postmedian line black, dentate as far as 4, then undulating to the hindmargin, outside shaded with greyish-brown, broader between 7 and 9; a subterminal greyish-brown dentate shadow. Hindwing yellowish-pink, in the costal-marginal portion strewn with red-brown with a dark postmedian and subterminal shadow, the latter only as far as the anal angle. Expanse of wings: 37 mm. Allied with *adusta* Wkr. Costa Rica. (Banana River).

senecis. **E. senecis** Schs. (81 g) is a small species, body dark olive-brown mixed with white, abdomen laterally red-brown. Forewing dark olive brownish, suffused with yellowish-red, before the centre in the cell mixed with black with white irroration which extends also across the median area; veins in the distal half black, at the margin thickened; at the cell-end there is a black dot; postmedian line blackish-brown, at the costal margin double and distally angular, then with white vein-dots almost vertical to the inner margin; subterminal line

incurved between 6 and 4, between 4 and 3 inwardly dentate; fringes on the ends of the veins speckled with white. Hindwing light reddish ochreous, at the anal margin with darker hair, at the costal-marginal portion as on the forewing, with a dark subterminal line and vein-streaks behind it. Expanse of wings: 27 mm. *Villarica* (Paraguay).

E. melca Schs. Body above grey, beneath light brown. Forewing light grey, strewn with brown and black, with a black cellular dot and an indistinct postmedian row of white vein-dots; before the grey dentate subterminal line powdered with whitish, behind it black vein-streaks ending white on the dark grey fringe. Hindwing similar, in the anal-marginal area broad light brown, behind the subterminal line with small lighter spots. Expanse of wings: 40 mm. Merida (Venezuela).

E. horriifer Schs. (81 g). Body above blackish-brown, beneath reddish-brown; forewing brown; in the basal two thirds powdered with black; veins black; a postmedian row of white vein-dots, the black subterminal line lunularly dentate. Hindwing brown with black veins, in the costal portion powdered with black and with traces of a double black postmedian line and a dark brown subterminal shadow. Expanse of wings: 36 mm. French Guiana.

E. melaina sp. n. (83 c) is an entirely sooty black species, in the basal two thirds of the forewing powdered with a deeper black, the darkest in the median area which is bordered by darker transverse lines being lighter on the averted sides; at the cell-end a light dot; the subterminal line is marked by the distally lighter powdering. Hindwing slightly lighter, behind the subterminal line which is only indicated by the contrast of the colours, likewise lighter. Described from the 1 ♂ without a habitat from the Berlin Museum.

E. tosticrista sp. n. (83 d). Forewing light reddish-brown as far as the posterior transverse line excepting an area behind the cell-end strewn with slate-colour, with blackish transverse lines, the anterior line dentate, the posterior line forming between the veins distally convex lunulae, receding at the cell-end; subterminal line composed of blackish wedge-shaped or angular streaks, being the thickest between 3 and 6, receding between 5 and 6. Hindwing reddish-brown, costally more whitish, strewn with slate-colour, transverse lines continuous to the anal margin and slightly angular in the centre, subterminal line distally bordered with light. Abdominal tuft on the 3 first rings very brightly contrasting chestnut-red. According to 1 ♂ from Rio de Janeiro from the Berlin Museum.

E. faeculenta sp. n. (83 d) is somewhat similar, smaller and more slender, forewing more greyish-brown, in the distal area lighter, with fine blackish veins, the blackish transverse lines of a similar shape as in *tosticrista*, but more interrupted, the subterminal line of smaller spots, forming small angles. On the similarly coloured hindwing only the subterminal line extends to the anal angle; dorsal tufts on the abdomen not contrastingly coloured. According to 1 ♂ from Mt. Tolima in the Berlin Museum.

E. vitripuncta Schs. (= *cloe* Drc.) (83 d) is light cinnamon reddish-brown, in the basal portion feebly darker, distally bordered by a fine light line being obtusely angled below the costal margin; a subterminal row of small whitish, feebly hyaline spots, the lower ones of which are inwardly feebly pupilled blackish. Hindwing with a subterminal row of whitish hyaline spots the 3rd of which, counted from the apex, is very large and inwardly removed almost as far as the cell-end, Venezuela.

E. fenestrata Dogn. is considerably smaller, the colouring more ochreous brownish-white, forewing strewn with brown, in the marginal area broadly strewn with lilac grey and white, besides the postmedian line there is also a whitish antemedian transverse line, the subterminal hyaline spots are more irregular, single spots receding somewhat; the blackish fringes are dotted white on the ends of the veins. Hindwing at the anal margin clothed with long white and pink hairs; subterminally only 3 small hyaline spots, two between 3 and 5, and a smaller one between 6 and 7; behind it before the margin small white lunular spots. Expanse of wings: 24 mm. São Paulo de Olivença (Amazons).

E. punctulata Dogn. Forewing light ochreous brown, in the costal half of the median area darker brown, with black transverse lines and discal spot; the antemedian line is double, the posterior line likewise dentate, with black and white vein-dots; instead of the subterminal line there is a row of black internerval dots which are inwardly removed between 5 and 6 and between 9 and 10; fringes black, on the ends of the veins ochreous. Hindwing light brown, costally ochreous with the beginning of a postmedian line, subterminal line as on the forewing, the dot between 5 and 6 extinct. Expanse of wings: 37—38 mm. Cañon del Tolima (Colombia).

E. punctigera Dogn. (83 d) is similar, less ochreous, darker brown, the transverse lines broken up into dots or small hazy spots, the postmedian line between 4 and 3 distally curved, the discal spot which in *punctulata* touches the antemedian inner line, is here situate farther outside; the subterminal area lighter, the round distinct subterminal dots surrounded by light, the dot between 9 and 10 is absent. Expanse of wings: 36 mm. Rio Songo (Bolivia), Venezuela.

E. ozora Drc. I only know this species from the brief description and from a photograph of the entirely damaged type kindly sent by Mr. TALBOT; judging from it, it seems to be slightly similar to the two pre-

ceding species. Ground-colour light brownish; a shadow-like antemedian transverse line and a similar postmedian one accompanied by darker vein-dots; the subterminal line being composed of conspicuous, blackish, small round spots recedes rectangularly between 5 and 6; the small spots seem to be situate in lighter rings. Hindwing much lighter, whitish, at the margin with very feeble spot-like darkenings between the veins. From Sarayacu (Ecuador).

maculata. **E. maculata** Dogn. (81 g). Body brown mixed with ochreous. Forewing blackish-brown, strewn with brownish ochreous, at the inner-margin more densely than at the costal margin; the 3 blackish-brown transverse lines die away more or less in the ground-colour, both the median ones being accompanied by white vein-dots; subterminal line lighter yellowish ochreous, distally receding below the costa and between 2 and 3. Hindwing rusty brown, in the costal area blackish-brown, behind the median line yellowish ochreous, and also behind the subterminal line. Expanse of wings: 39 mm. Yahuar Mayo (Peru).

tornipuncta. **E. tornipuncta** Schs. Head and thorax dark greyish-brown, abdomen light brown. Forewing dark brown, at the costal margin broadly strewn with grey, both the transverse lines marked by white vein-dots, at the cell-end a small dark spot, the dentate subterminal line is indistinctly darker and terminates at the inner angle in a white spot. Hindwing light brown, in the costal portion broad white strewn with blackish, whereby indistinct lines are produced. Expanse of wings: 35 mm. French Guiana.

necopina. **E. necopina** Dogn. (83 d) entirely resembles *tornipuncta*, but the white inner-marginal spot is absent; the costal area of the forewing is still more extensively whitish, also at the base white irroration. Peru, Colombia.

necopinella. **E. necopinella** Dogn. is allied to *necopina*, the brown thorax intermixed with white and yellowish hairs; forewing light brown, costally strewn with white, the base of the cell pure white, below it light yellowish, both the transverse lines whitish, dotted on the veins, the dentate subterminal line feeble; the fine dark veins terminate on the fringes in white dots. Hindwing white, in the larger anal-marginal portion light yellowish-red. Expanse of wings: 30 mm. French Guiana.

lascoria. **E. lascoria** Drc. (83 d) is rather variable in size and marking. Forewing wood-brown, costal margin broadly strewn with white, particularly in the basal half, below it densely scaled and haired blackish-brown; both the transverse lines are double, filled up with somewhat whitish, below the costal margin distally angular, the anterior line then dentate, mostly dying away in the dark irroration, the exterior line in its inner portion dentate, the outer portion more brownish, forming a slight distal bow from 5 to the inner margin; subterminal line very thick black, pointedly dentate, receding between 5 and 6 and between 3 and the inner margin. Hindwing light brown, in the costal portion whitish with several beginnings of lines and the strong subterminal line extending to the anal angle. Type from Sarayacu (Ecuador); also from Costa Rica. The distinctness of the black transverse lines and the denseness of the black inner-marginal irroration in the basal half varies exceedingly. — **cariacica** (Stgr. i. l.) f. n. (81 f), from the Rio Grande and Espiritu Santo (Brazil) is such a form being somewhat smaller, indistinctly marked, intensely and uniformly irrorated. Type in the Berlin Museum.

sulcata. **E. sulcata** Dogn. is very similar to *lascoria*; forewing light brown, the two first submedian thirds much darker brown with a purple gloss, containing 5 fine lilac white parallel lines; the antemedian line is only distinct at the costal margin, double, the outer portion extending through the cross-vein, behind it the costal margin is strewn with light; postmedian line strongly dentate, angular on 8, behind it from 5 to the costal margin white vein-streaks, subterminal line uniformly strongly dentate, receding a little on 5. Hindwing light brownish ochreous, in the abdominal half with coppery brown hair, with 2 dentate blackish-brown lines, the postmedian line short, the subterminal line as far as 3. French Guiana.

semita. **E. semita** Schs. (81 g). Anterior body grey, strewn with brown, mesothorax and abdomen above brownish-black, beneath light red-brown. Forewing in the costal portion grey; in the cell and below 4 brownish black, with still blacker veins, above 4 yellowish-red with a pink tint, strewn with black and with black veins, near the cell also strewn with white; from the costal margin to 5 a fine undulating dentate black subterminal line. Hindwing light brown, costally greyish brown, with an irregular darker subterminal line. Expanse of wings: 37 mm. French Guiana.

onesca. **E. onesca** Schs. Head and thorax blackish-brown, abdomen light brown with darker transverse bands. Forewing basally and below 4 blackish-brown, the rest light grey, scantily strewn with a darker colour, at the cell-end with a small dark spot, below it with a dark undulating line to the inner margin; from the costal margin to 6 with fine dark postmedian vein-streaks and a dentate dark subterminal line from the apex to 4, at the interior angle with a grey spot. Hindwing brown, at the costal and distal margins as far as 4 grey with darker irroration, a straight dark postmedian line and a dentate subterminal line. Expanse of wings: 40 mm. British Guiana.

vithersi. **E. vithersi** Schs. (83 e) is very similar to the two preceding species. Head reddish-brown, collar grey, thorax blackish, abdomen brown, above darker. Forewing dark grey, with black veins, costal margin and a large round spot at the cell-end light grey, the latter distally with velvety black vein-streaks, close behind it with the fine darker postmedian line; subterminal line only marked at the apex. Hindwing brown, in the costal portion light grey, here with a double median line, subterminal line black. Expanse of wings: 30 mm. French and Dutch Guiana.

E. barda Schs. is allied with *vithersi*. Anterior body brown mixed with black. Abdomen brown, *barda*, above darker. Forewing in the costal portion and in a postcellular spot whitish, the cell spotted black, otherwise dark grey, strewn with black and brown, with a black streak near the base of the cell; at the costal margin 3 oblique light brown lines are indicated; postmedian line double, the interior portion from the costal margin to 4 intensely dark velvety brown; distal margin broad lighter and browner with the very irregular blackish subterminal line, behind it with dark brown veins. Hindwing costally greyish white, inside light brown, subterminal line interrupted, the short postmedian line double. Expanse of wings: 38 mm. Costa Rica.

E. bardina Dogn. (81 g) is very similar to *barda*; body reddish-yellow, abdomen above red-brown, *bardina*. Forewing light brown, with black veins, in the basal half of the costal margin whitish, also behind the cell as far as 4; basal area in the centre blackened as far as the antemedian line which is angular on 4; postmedian line angular on 7, almost straight, only below 4 feebly undulating, with white vein-dots, outside accompanied by a light indistinct line; subterminal line deeply dentate, receding from 6 to 4 and below 3; fringes on the ends of the veins speckled with white. Hindwing yellowish-red, in the costal portion white, traversed by fine black lines, subterminal line almost to the anal angle. 37 to 38 mm. Rio Songo (Bolivia).

E. medioclara Schs. (81 g). Head yellowish reddish-brown, thorax blackish mixed with violettish *medioclara*, grey, abdomen reddish-brown, above darker. Forewing basally and at the distal margin light brown; in the centre of the inner margin a broad light lilac area, at the cell-end a large white area containing a black spot, blackish shadow-like antemedian and postmedian bands are confluent between the white and lilac area; the black subterminal line is dentate. Hindwing light brown, in the costal portion broadly black strewn with lilac, apically turning whitish, with a dark subterminal line. Expanse of wings: 39 mm. French Guiana.

E. tamila Schs. (83 e). Head and collar light grey, thorax blackish, abdomen dark greyish-brown, *tamila*. Forewing light yellowish-red, below the cell and 4 shaded with dark brown, with a large light grey spot in the centre of the inner margin, before which there is a velvety black rudiment of the antemedian line; veins, excepting the costal ones, striped black, at the cross-vein two black dots, behind them a fine brown double postmedian shadow; subterminal line receding somewhat between 5 and 6. Hindwing in the interior half light brown, in the costal portion light grey, scantily strewn with black, with a black, partly double median line being dotted on the veins, and a dark subterminal line. Expanse of wings: 39 mm. French Guiana.

E. signifera Dogn. (♀ = *tomisigna* Dogn.) (81 g). Body and wings dark brown, forewing with *signifera*, black irroration at the costal margin and in the cell before the centre; postmedian line very feebly marked with light dots on the veins, beginning with dark costal spots just like the subterminal line which is composed of small, distally light internerval lunulae, at the anal angle a larger one. In the ♂ along the inner margin a fine white double streak from the base of the cell to the margin above the inner-marginal vein and rectangularly to it near the base of the inner margin another one to the inner margin; from the centre of the double streak mentioned first another single streak extends to the inner margin. Hindwing lighter brown with traces of a subterminal line. Expanse of wings: ♂ 30, ♀ 40 mm. Peru.

E. albiochrea Kaye is grey on the head and thorax with yellowish ochreous hairs. Forewing light *albichrea*, brown, strewn with grey, with a black basal streak and above it an irregular grey spot which is outside bordered at the costal margin by 2 short curved lines; transverse lines very indistinct, fine, the veins somewhat darker. Hindwing in the costal third whitish-grey with the beginnings of 2 or 3 lines, the two anal-marginal thirds reddish-brown, at the margin lighter. Abdomen reddish-brown, dorsal tufts blackish. Expanse of wings: 42 mm. Trinidad.

E. cinerea Dogn. Forewing monotonously ashy grey, without any marking, only in a certain light *cinerea*, there are very feeble traces of transverse lines and of a discal spot; hindwing in the costal portion as on forewing, otherwise somewhat browner with traces of a subterminal line. Meida (Venezuela).

E. iresca Schs. (81 h). Anterior body and forewing as well as the costal portion of the hindwing grey, *iresca*, rather densely strewn with brown; on the forewing the brown transverse lines are finely dentate, at the cell-end a fine brown streak; subterminal line incurved between 4 and 6. Abdomen and hindwing light brown, the hindwing with traces of darker lines at the costal margin and a feeble undulating subterminal line. Expanse of wings: 36 mm. Dutch Guiana.

E. vistorica Schs. (81 h). Anterior body and forewing wood-brown, strewn with whitish, in the basal *vistorica*, area liver-brown, in the median area the scales are erect; veins and inner margin narrowly yellowish-reddish, strewn with brown, both the transverse lines are whitish, fine, feebly marked, the subterminal line composed of whitish, inside dark-spotted lunae. Hindwing dark brown, in the costal portion as on the forewing with a white short postmedian line and a white undulating subterminal line which is spotted in the costal-marginal portion. Expanse of wings: 39 mm. Described from 1 ♂ from Las Quigas, Venezuela. Larger than the very closely allied *fusconigra* Dogn. which lacks the postmedian line beneath.

E. fusconigra Dogn. is above blackish-brown, strewn with white, with a darker discal spot and feeble *fusconigra*, white vein-dots instead of the two transverse lines, the light subterminal line receding between 4 and 6. Hindwing rusty brown, in the costal portion like on the forewing with an apically white-spotted subterminal line. Beneath

rusty brown with traces of the light subterminal line. Anterior body blackish-brown, abdomen rusty brown with 2 intense red dorsal tufts. Expanse of wings: 35 mm. French Guiana.

- funerea.* **E. funerea** Schs. (81 h). Head and thorax dark grey, strewn with white, abdomen brown. Forewing and costal portion of hindwing dark brown, finely and densely strewn with grey; shadow-like indistinct traces of the transverse lines and subterminal line, the rest of the hindwing brown. Expanse of wings: 47 mm. São Paulo (South-Eastern Brazil).
- deformis.* **E. deformis** Schs. Forewing above brown with a large round black cellular spot and a series of small black spots along the distal margin, which are the largest and most distinct at the anal angle and are smaller towards the apex. Hindwing brown, in the costal-marginal area lighter with a few small black spots near the apex. Expanse of wings: 36 mm. A smaller species, according to 1 ♀ from Paso de San Juan, Veracruz, Mexico.
- naraxa.* **E. naraxa** Schs. (83 e). Body greyish-brown, base of abdomen darker. Forewing brown, particularly at the costal margin and in the median area strewn with whitish, with finely dentate blackish transverse lines, the anterior one double, filled with whitish, the posterior line single with grey vein-dots, between both a black cellular dot; the dark subterminal line recedes between 4 and 6. Hindwing light brown, in the costal portion whitish-grey with a dark grey undulating subterminal line. Castro, Paraná.
- narceta.* **E. narceta** Schs. (83 e). Anterior body and forewing grey, strewn with brown, forewing with an indistinct dark spot at the cell-end and traces of two transverse lines and a white postmedian spot at the costal margin; the dark subterminal line is fine, behind it somewhat darker vein-streaks, the dark grey fringes feebly speckled with yellowish-red. Abdomen and hindwing brown, the latter in the costal-marginal area grey with a dark subterminal line. In the ♀ the postmedian line is more distinct as a white line, the subterminal line being less distinct. Castro; Rio de Janeiro (Brazil).
- nocens.* **E. nocens** H.-S. (83 e). The type of this species which has been mistaken for a long time, as well as another specimen, are from the Berlin Museum. The ♂ is very similar to *narceta*, smaller, much less strewn, lighter yellowish-brown, the antemedian line indistinctly double, subcostally and on the median receding acute-angularly, the postmedian line subcostally produced very far towards the margin in 2 long dents, outside bordered with light; the subterminal line is composed of small dark sagittary spots, behind it the marginal area is decidedly darkened; fringes speckled. Hindwing red-brown, in the costal-marginal portion yellowish-grey with a distinct subterminal line and a dark median shadow. Brazil.
- lignosa.* **E. lignosa** Wkr. (83 e) is likewise very closely allied to *narceta*, larger, the ground-colour whitish, strewn with light brown, in spite of the strewn particularly towards the margin somewhat glossy, at the cell-end an indistinct darker angular streak; transverse lines of ♂ distinctly somewhat dentate, on the averted sides bordered with white, in the ♀ very indistinct, the white more prominent, the subterminal line divided into very feeble, darker, small spots, in the ♀ almost absent; fringes not speckled. Brazil (Rio de Janeiro).
- schadei.* **E. schadei** Schs. Anterior body mouse-coloured, mixed with brownish olive. Abdomen sand-coloured brownish. Forewing light drab, finely strewn with olive brown, in the basal third somewhat strewn with blackish, with smoky blackish transverse lines, the subterminal line divided into small spots, receding on 5, below it somewhat dentate. Hindwing in the interior portion sand-coloured brownish with a black median line from the costal margin to the lower cell-angle and a fine subterminal line. Expanse of wings: ♀ 54 mm. Villarica (Paraguay).
- mollis.* **E. mollis** Sepp (81 h) is allied to *narceta* and *lignosa* from which it differs in more distinct undulating blackish transverse lines and above all in the basal area being darkened by blackish, only the costal-marginal portion being strewn with a lighter colour; the postmedian line is double at the costal margin, where it is filled with a somewhat lighter colour. Abdomen and hindwing pinkish brownish, the postmedian line extends almost to the lower cell-angle, the dentate subterminal line not as far as the anal angle. Surinam. The larva, according to SEPP, is rosy red with a yellowish lateral stripe being above shaded with dark brown, with fine white hairs. It lives on *Anona muricata* and changes into a brownish pupa.
- grammophora.* **E. grammophora** Fldr. (81 h) I do not know. The figure shows a cinnamon brownish body and wings, the forewing costally in the median area broadly lighter flesh-coloured; transverse lines fine, blackish, at the costal margin thicker, on the averted sides bordered with light, the posterior line angular below the costal margin; subterminal line whitish; also on the hindwing three feebly darker, outside lighter transverse lines are visible, extending almost to the anal margin. Brazil.
- elongata.* **E. elongata** Dogn. (81 h). This species described from 1 ♀ shows very long, almost oval forewings: above brown, hindwing somewhat lighter and more yellowish; forewing with a submedian black basal streak and a large oval spot filled with light, the base of it on the cross-vein, the end of it at the margin on vein 6, the posterior double transverse line is only indicated at the costal margin, the subterminal line is dentate; distal margin somewhat lighter, undulating, the fringes between the veins blackish. Hindwing with a median line extending to the disc, and a dentate subterminal line. Loja (Ecuador).

E. roseimaculata Dogn. (81 h). Forewing above reddish blackish-grey, the course of both the transverse lines marked by white vein dots, in each angle of the cross-vein with a black dot; two subterminal light reddish spots between 5 and 7, outside bordered with black, the ends of the veins white. Hindwing and abdomen blackish. Cali (Colombia). *roseimaculata*.

E. nardina Dogn. (81 h). Body and wings dark chestnut brown, in the median area lighter and towards the margin turning light yellowish-brown, the colours distinctly separated, but without a separating line; at the cell-end a dark streak, behind it a feebly convex line distally slightly strewn with white; subterminal line twice angular, composed of small black spots. Hindwing chestnut-brown, in the costal portion darker with the beginnings of two transverse lines. Yahuar Mayo (Peru). *nardina*.

E. scaptia Dogn. (81 i) is a very small species, the ♂ with an expanse of but 25 mm. Above dark brown, the two double transverse lines only marked by scattered whitish atoms, at the cell-end a darker dot; subterminal line composed of black lunulae distally bordered with white and inwardly removed between 5 and 6, as well as 9 and 10; fringe with white dots on the ends of the veins. Hindwing somewhat lighter brown, in the costal-marginal portion darker, the subterminal line strewn with white. Lino, Panama. *scaptia*.

E. skaptiodes Dogn. is still smaller, above reddish-brown, basally darker; two rows of white vein-dots instead of the lines enclose a somewhat darker median area; a subterminal dark undulating line, outside bordered with a lighter colour, veins somewhat darker, on the fringes light. Hindwing lighter brown, in the costal-marginal portion darker with the beginnings of two distally lighter lines, the subterminal line as far as the anal angle. On the whole darker and more contrasting than *scaptia*. From the Rio Madeira (Amazons), taken in July, August. *skaptiodes*.

E. incopiosa Dogn. (81 i). Above light brown, thorax and base of the wings somewhat darker, distal area and hindwing lighter; transverse lines somewhat darker, feebly undulatingly dentate, without a discal spot, behind the postmedian line with a shadow; followed by two more, partly indistinct lines. On the hindwing with two somewhat whitish-strewn lines, the subterminal line almost to the anal angle. Expanse of wings: 28 mm. According to 1 ♂ from the Rio Hingu (Amazons). *incopiosa*.

E. rages Drc. Above very light reddish yellowish-brown, the veins somewhat darker, also the basal half somewhat more strewn with dark, with faint traces of a postmedian line being angular below the costal margin, and a subterminal line composed of lighter lunae, inwardly very feebly shaded with a darker colour. Hindwing still lighter brownish, only in the costal portion feebly strewn with a darker colour. Amazons. *rages*.

E. corcyra Drc. (82 f) is smaller than *rages*, loam-coloured brownish, in the basal half somewhat darker with feebly darker transverse lines and discal streak, the postmedian area as far as the grey shaded subterminal line lighter with a darker shadow-like band in it, receding between 4 and 6. Abdomen and hindwing lighter, at the costal margin darkened, the subterminal line not quite reaching the anal angle. From the Chiriqui (Panama). *corcyra*.

E. ragesina sp. n. (83 f) is somewhat similar to *rages*; forewing light reddish-brown, strewn with black, without any marking except a very indistinct postmedian line which is angular on 6 and behind which the strewing is slightly scantier. Hindwing only with traces of a subterminal line. Type: 1 ♀ from Venezuela in the Berlin Museum. *ragesina*.

E. libella Dogn. (81 i). Body above brown, beneath yellowish ochreous; forewing brown, in the distal half lighter with 2 quite indistinct transverse lines and a subterminal line of internerval dots, being strongly incurved between 5 and 7; the transverse lines are accompanied by faint whitish strewing, particularly the subterminal line; fringes brown, speckled with light. The brown hindwing shows in the distal costal half three dentate white lines, the two outer ones of which enclose a black subterminal line. Expanse of wings: 33 mm. Described from 1 ♂ from French Guiana. *libella*.

E. magnaevia Dogn. (81 i). Reddish yellowish-brown, head and collar reddish ochreous; basal half of forewing somewhat lighter, the interior half of the hindwing and the body monotonously brown. Forewing with a large black discal dot and double dentate blackish transverse lines, the subterminal line parallel to the postmedian line; the blackish margin is undulatingly dentate, on the veins interrupted by light. Hindwing with a short median line and a dentate subterminal line. According to 1 ♀ from Chanchamayo (Peru). *magnaevia*.

E. melancholica Btlr. (= *perosa* Dogn.) (83 f). Forewing on the light brownish ground densely scaled blackish-brown, only feebly strewn with whitish, feebly darker transverse lines marked by white vein-dots, the subterminal line by small black internerval spots; the ends of the veins before the fringes with one white dot each. Hindwing reddish-brown, in the costal portion like the forewing with white-dotted lines. Widely distributed and common from Mexico to Brazil. *melancholica*.

E. rapina Dogn. is allied to *melancholica*. Forewing light yellowish-brown, thorax and abdominal dorsum somewhat darker; the transverse lines similar as in *melancholica* marked by white vein-dots, the anterior line double, the posterior line only at the costal margin. Fringes brown and white; in the costal portion of the hindwing there are three yellowish-white dentate lines. Expanse of wings: 33 mm. Described from 1 ♂ from São Paulo de Olivença. *rapina*.

- amathuria*. **E. amathuria** Drc. is similar to *melancholica*, lighter, more reddish, distinguished by a very large roundish black discal spot; the postmedian line is composed of more contiguous white lunae, the veins before and behind it black, particularly towards the inner margin, and the subterminal line composed of small black wedge-shaped spots; the white dots before the fringes are absent, the fringes speckled dark and light. Costa Rica; Sarayacu (Ecuador).
- cassida*. **E. cassida** Dogn. (81 i). Body reddish yellowish-grey, abdomen above blackish. Forewing yellowish earth-coloured, strewn with white, with blackish-brown transverse lines, the antemedian line thick, double, regularly dentate, — the basal portion before it is somewhat darker — the double postmedian line strongly angular on 6, the interior part distinct and dentate, the exterior part hazy and straight, between both strewn with white; subterminal line dentate, incurved between 4 and 6, the veins behind it black. Hindwing in the anal portion reddish yellowish-brown, the subterminal line only distinct as far as 6. Rio Songo (Bolivia).
- alumnata*. **E. alumnata** Dogn. resembles *amathuria*, but it has no discal spot. Forewing brown, in the basal half and subcostally darker, veins and transverse lines darker, blackish-brown, the latter with white vein-dots, the subterminal line with short dents; from 6 to the inner margin the subterminal area is strewn with dark brown; the ends of the veins on the fringes light. Hindwing brown, in the costal portion darker with a complete dentate subterminal line. Expanse of wings: 41 mm. Loja, Ecuador, described from 1 ♂.
- distincta*. **E. distincta** Btlr. is above uniformly light reddish-brown, the lines similarly arranged as in the preceding species, but without the white vein-dots and very well distinguished by a large black spot at the base of the forewing. From the Rio Juruá (Amazons).
- putrida*. **E. putrida** Schs. (83 f). Body blackish brown with reddish brown dorsal tufts on the base of the abdomen; on the forewing the base and the inner-marginal area below 5 dull blackish-brown, the rest dull velvety brown, at the base a white dot; the antemedian line is on both sides bordered with a brownish sand-colour; at the cross-vein 2 black dots; the postmedian line is dark in the light costal-marginal portion, in the dark interior area of a light brown sand-colour; the spotted subterminal line recedes far between 5 and 6; veins in the marginal area light. Hindwing blackish-brown with irregular dark median and subterminal lines. From French Guiana.
- circumducta*. **E. circumducta** Dogn. (81 i). Yellowish-brown, hair on the head and thorax with white tips; base and costal margin of forewing lighter, the veins partly black; a thick oblique black antemedian band, close behind it at the cell-end an angular streak; posterior transverse line similar as the anterior band, appearing double by a shadow following behind it; a dentate blackish subterminal shadow; ends of the veins on the fringes white. Hindwing in the anterior costal half yellowish, distally blackish with a dentate subterminal line. Villavicencio (Colombia).
- juliana*. **E. juliana** Schs. is larger than the following *giulia* with more indistinct transverse lines on the forewing; above dark blackish-grey, with a feeble brown tint; hind tarsi whitish. Forewing above with a black spot at the cell-end, the fine dark transverse lines at the costal margin bordered with yellowish-red, the posterior line also at the inner margin; a similar light shadow at the anal angle. Hindwing greyish white with fine dark grey veins, at the costal and anal margins broad dark grey with a brown tint, with a lighter postmedian shadow. Expanse of wings: 42 mm. Costa Rica.
- giulia*. **E. giulia** Schs. (83 f) is dark greyish-brown on the body and forewing; the forewing with a black spot at the cell-end, and darker postmedian and subterminal bands which are fused below 3. Hindwing brownish greyish-white, costal and anal margins and fringes dark greyish brown. Expanse of wings: 38 mm. French Guiana.
- morens*. **E. morens** Schs. (83 f) is larger than the preceding species, the colour dull black with 2 velvety black dots in the cell-angles and feeble traces of postmedian and subterminal lines which are not fused below. Hindwing in the disc white, costal and anal margins broad, distal margin narrow black. French Guiana.
- roxana*. **E. roxana** Schs. (81 i). Head and collar yellowish whitish-grey, thorax blackish-brown, abdomen light brown with a darker basal tuft. Forewing light yellowish-grey, scantily strewn with brown with blackish-brown streaks at the base of the costal margin, below the base of the cell, and at the inner margin as far as the postmedian line which is fine, undulatingly dentate, brown, indistinct, and with a large blackish-brown cellular spot; subapically at the costal margin a dark brown shadow; distal-marginal veins with fine black stripes; fringes speckled with brown. Hindwing light brown, at the apex yellowish greyish-white with a dark brownish-grey irregular subterminal shadow, fringes on the ends of the veins dotted white. Expanse of wings: 33 mm. French Guiana.
- salandria*. **E. salandria** Schs. is smaller than the similar *roxana*. Head and collar grey, thorax blackish-brown, abdomen brown. Forewing grey, strewn with brown, with a faint dark cellular spot and a brown subapical spot at the costal margin, and another one in the centre of the inner margin; the finely dentate transverse lines are double, the brown submarginal line is undulating, the veins behind it black; between 3 and 4 near the cell a brown shadow. Hindwing similar, in the disc and at the anal margin light brown. Expanse of wings: 31 mm. Dutch Guiana.
- propinqua*. **E. propinqua** Wkr. is unknown to me. The ♂ is described to be yellowish reddish-brown, on the meta-thorax grey. Forewing whitish, densely strewn with yellowish-red and rusty brown, with an unstrewn antemedian

transverse band, the interior side of which is bordered by a blackish line, behind the centre with two indistinct, darker yellowish-red, notched lines, one of which is postmedian, the other subterminal. Hindwing in the costal portion whitish, densely strewn with yellowish-red. Expanse of wings: 18 lines. Bogotá (Colombia).

E. marna Schs. (83 g) is an unmistakable species, forewing on the yellowish-white ground densely strewn with reddish-brown and blackish, with a somewhat darker shaded discal spot and a broad steel-grey inner margin which extends subterminally up to vein 4, in the marginal area with 4 undulating reddish-yellow transverse stripes, interrupted by the light veins, the second before the margin darker brown or blackened, often also visible in the steel-grey area as far as the inner margin. Hindwing cinnamon-red, in the costal portion coloured like the forewing. Widely distributed in Brazil. *marna*.

E. vittabunda Dyar exhibits the colours of *marna*, but the marking rather of *lankesteri*: thorax and inner margin of forewing violettish-brown, the rest of the wing loam-coloured brown, strewn with red-brown, with the 4 transverse lines of *marna*. Hindwing suffused with reddish-brown, at the costal margin with the beginning of brownish loam-coloured lines. Expanse of wings: 36 mm. Panama. *vittabunda*.

E. namora Schs. (83 g). Body above light lichen-coloured grey, beneath yellowish. Forewing brown, strewn with black, inner and distal margins as far as 4 light lichen-coloured; the darker brown postmedian line is distally bordered by yellowish reddish, from the costal margin feebly curved as far as 4, then undulating and extending above the submedian line to the base; a series of darker brown subterminal spots is distally bordered with yellowish-red as far as 4, below 4 there is a larger brown spot and below it another smaller one farther towards the base; an undulating yellowish-red limbal line is distally shaded with dark grey. Hindwing light red-brown, at the costal margin darker brown with traces of yellowish-red lines. Expanse of wings: 31 mm. French Guiana. *namora*.

E. lankesteri Schs. (83 g). Forewing yellowish-red, densely strewn with dark brown, inner and distal margins as far as 4 like the thorax light grey, upwards in the basal half bordered with white, distally more dark brown, spotted; above 4 with a subterminal row of small brown spots which are outside bordered with yellowish-red. Hindwing light brown, with a slightly darker median shadow and behind it the beginnings of yellowish-red lines; fringes spotted grey. Costa Rica. *lankesteri*.

E. thyatira Drc. (= *albiplaga* Schs.) (83 g). Body creamy white, only the head and palpi brownish. Forewing brown with large creamy spots at the costal margin, apex and inner-margin, the latter spots being connected. Hindwing in the disc light brown, a large quadrangular apical spot, the inner and distal margins narrow yellowish-white. The type originates from the Chiriqui, Panama; Costa Rica. — **taminata** f. n. (83 h) is a form from Colombia (Villavicencio), which is not rare and very much darkened. Abdomen, excepting the anal hair, dark brown, on the forewing the apical spot is smaller, the two small costal-marginal spots are almost entirely absent, hindwing nearly quite blackish-brown. The grey larva with broad black lateral bands, according to FASSL, resembles a wood-louse, on touching the leaf it raises its anterior and posterior ends. Pupa in a yellow web which is intensely powdered with white. *thyatira*.

E. cariosa Schs. Body brown, collar and patagia outside white. Forewing at the inner margin below the submedian, at the distal margin, and postmedianly below 4, besides in a preapical spot at the costal margin light brown, the rest greyish-white, strewn with brown; the postmedian line is accompanied by white vein-dots from 5 to the inner margin; the subterminal line is composed of small brown spots which are bordered with white below 4. Hindwing brown, costal portion and postmedian area behind the cell white, scantily strewn with brown. Expanse of wings: 35 mm. Costa Rica. *cariosa*.

E. braganza Schs. (83 h) is whitish on the forewing, on the head, collar and shoulders, whilst on the inner margin and three quarters of the distal margin inclusive of an inner-marginal third of the postmedian area and of a subapical spot at the costal margin it is light brown. Hindwing brown, at the costal margin almost to the apex white. The ♀ is larger and lighter, the white colour particularly on the hindwing more extensive. Colombia, Brazil, Ecuador, apparently not rare. — f. **sordida** Dogn. is a somewhat smaller form from French Guiana in which the white colour turns dingy yellowish, the spots not being distinctly defined, smaller and darker brown. *braganza*.

E. branzoides Schs. is very similar to *braganza*, the collar only laterally white, the forewing more marked, above the cell strewn with brown, with double, partly interrupted, brown transverse lines, and 2 dark dots in the cell-angles, the subterminal brown crescents distinct. Fringes brown with white dots on the ends of the veins; also on the forewing the white costal-marginal area is strewn with brown and crossed by brown lines. Costa Rica. *branzoides*.

E. spurcata sp. n. (83 h) is very similar to the two preceding species, but with much narrower and more pointed wings. Forewing greyish-white, with fine black veins, scantily strewn with black, predominantly in the discal area, the brown marking as in *braganza*, but much lighter and narrower, but at the distal margin up to the apex; the postmedian line only visible from the inner margin to 4, with fine black vein-dots, the subterminal lunae inwardly shaded with grey, outside broadly bordered with white. Hindwing light reddish-brown, strewn with black, at the costal margin whitish with a double postmedian line and a subterminal line which

is outside bordered with white. Body, also head and collar brown. According to an unlabelled ♂ from the Coll. WEYMER in the Berlin Museum.

obliterata. **E. obliterata** Schs. (83 h) is the most closely allied to *braganzoides*, but the ground-colour is a soft slate-colour strewn with red-brown; the brown spots are similarly arranged as in the preceding species, of a more Pompeian red colour, with distinct, double transverse lines, the two cellular dots distinctly black, the distinct subterminal lunae blackish grey, receding far between 4 and 6, then again below 4. Costa Rica; French Guiana; Brazil (Pará).

ampira. **E. ampira** Drc. (♀ = *pira* Drc.) (83 h, i). Body dark red-brown, patagia mixed with white. Forewing white, strewn with black, basally, in the basal half of the inner margin, at the distal margin as far as beyond 6, subapically at the costal margin, and in an irregular subterminal spot between 2 and 4 deep red-brown, between the indistinctly double black transverse lines with 2 black discal dots, the subterminal line undulatingly dentate; fringes between the veins spotted black. Hindwing lighter brown, in the costal-marginal portion white strewn with black, and blackish transverse lines. The ♀ is much darker, the deep red-brown colour more extensive, and the black irroration much denser. Ecuador, Amazons, Peru.

vecina. **E. vecina** Schs. Head and thorax dark brown, at the patagia somewhat grey, abdomen light red-brown. Forewing greyish-brown, strewn with brown, inner and distal margins as far as beyond 5 lighter and purer brown; the undulating antemedian line is united in a round bow with the oblique postmedian line above the submedian; discal spots absent, near the apex a light brown costal spot. Hindwing light red-brown, costal portion greyish-brown as far as the dark subterminal line. Expanse of wings: 33 mm. Cayenne, French Guiana.

rundala. **E. rundala** Schs. (83 i). Body brown; forewing steel-grey, inner and distal margins as far as 7 brown, an oblong subapical spot at the costal margin also brown; a quadrangular dark brown spot near the base of the costal margin before the double grey antemedian line, which is filled with brown; at the cell-end 2 black dots; the double light grey postmedian line is acute-angular below the costal margin, between 3 and 4 a brown spot which interrupts it; subterminal line interrupted, distally shaded with steel-grey. Hindwing brown, at the costal margin broad light steel-grey as far as the subterminal line, traversed by darker lines. Costa Rica; French Guiana.

laronia. **E. laronia** Drc. (83 i) is somewhat similar, more slender, the distal margin of the forewing more oblique, without any brown at the inner margin, lactean, the brown subbasal spot at the costal margin not darker, cellular veins fine black, at the cell-end a brown spot inside finely bordered with black; the white postmedian line is still more acutely angled, the dent extends almost to the margin, the subterminal line in the lower half notched. Hindwing darker, the subterminal line as far as the anal angle inwardly shaded with dark grey. Costa Rica, Panama.

laudia. **E. laudia** Drc. (= *laudissima* Dyar) (83 i). Forewing very dark brown, in the basal third of the costal margin the darkest, at the costal margin yellowish-white, also the two transverse lines which are close together, almost contiguous below the cell, and below the costal margin connected by a similarly coloured streak; veins partly yellowish-white, also the fine subterminal line. Hindwing with several yellowish-white beginnings of lines in the apical third of the costal margin. Panama to Ecuador and British Guiana.

cercina. **E. cercina** Drc. (83 i) is very similar to *laudia*; it is smaller, with rounder wings, forewing somewhat lighter brown, the white lines somewhat more parallel, between them a black discal spot, the costal margin not white. Hindwing more red-brown. Honduras.

charax. **E. charax** Drc. (83 i) is still smaller. Forewing lighter greyish-brown with a thick black discal spot, anterior transverse line not white, fine black irregular, posterior line outside bordered with white, above the inner margin double, representing 2 white parallel streaks obliquely extending distad; subterminal line composed of small black spots outside broadly bordered with white. Hindwing in the larger anal-marginal portion red-brown, in the grey costal-marginal portion with 2 white parallel streaks obliquely extending inwards; subterminal line as on forewing. Panama.

flatura. **E. flatura** Dogn. is much lighter than *charax*; body and forewing light yellowish-grey with a black, light-centred discal dot and indistinct darker transverse lines; the regular subterminal line is parallel to the margin and outside accompanied by whitish lunulae. Abdomen and hindwing light reddish-brown, in the costal-marginal portion coloured like the forewing, with short beginnings of lines in it. Expanse of wings: 34 mm. Venezuela.

serapion. **E. serapion** Schs. (83 i). Anterior body and forewing brown mixed with olive-grey, as far as the postmedian line strewn with blackish-brown, both the transverse lines, the anterior line only partly indicated by white vein-streaks, at the cell-end a small black spot; subterminal line composed of small dark spots, veins in the marginal area brown strewn with white. Abdomen and hindwing brownish sand-coloured, hindwing in the costal-marginal portion with darker shadowy bands and single white vein-dots. Distal margin finely undulatingly dentate. Costa Rica.

tanta. **E. tanta** sp. n. (83 i). Forewing olive-brown, in the median area slightly darker, edged by black transverse lines, before the antemedian line with a curved white band which is crossed by a second black line, the postmedian line composed of small black spots, which are outside bordered with white; at the cell-end a feeble

blackish spot; subterminal line composed of black roundish spots which are distally white-pupilled particularly in the apical half. Hindwing in the anal-marginal portion olive-grey with the beginnings of blackish, distally white-edged lines, subterminal line as far as 5 intense and broad, then finer. Fringes olive-blackish speckled with white. According to 1 ♂ from South Brazil in the Berlin Museum.

E. murina *Möschl.* is unknown to me. Forewing ashy grey, in the basal area excepting the red-brown *murina*, costal margin yellowish-grey, distally bordered by a dark brown arcuate stripe which is interrupted towards the costal margin and inner margin; at the cell-end an oval dark brown spot; the curved postmedian line is undulating, brown; subterminally at the costal margin and between 4 and 6 one red-brown spot each, behind it an arcuate row of red-brown indistinct small spots. Hindwing with the beginning of an indistinct red-brown antemedian line and a similar subterminal line as far as the anal margin. Expanse of wings: 44 mm. Surinam.

E. bochica *Schs.* (81 i). Forewing light grey, at the base brown with 2 coherent undulating antemedian *bochica*, transverse lines, at the cell-end a black spot, behind the cell another double transverse line and a subterminal row of brown spots; subapically at the costal margin a brown spot, the distal margin excepting the apex and anal angle brown. On the hindwing the costal and distal margins grey, the anal margin and disc brown with 2 undulating brown transverse lines. Expanse of wings: 38 mm. Peru.

E. audifax *Schs.* (85 g) as well as the two preceding species belong to the very large *ogenes*-group. Body *audifax*, light sand-coloured grey with a chestnut brown spot on the metathorax; forewing whitish, at the base densely strewn with chestnut-brown, bordered by a fine line which is inwardly angled below the cell; at the cell-end a brownish-black spot, the postmedian area between 3 and the costal margin suffused with grey sand-colour; posterior transverse line double with brownish scales, behind it at the costal margin a small square red-brown spot, and a similar double spot between 4 and 6 as an intersecting portion of the smaller subterminal spots; distal margin excepting apex and anal angle powdered with cinnamon brownish. Hindwing cinnamon brownish, the apical half of the costal margin, apex, and distal margin white with an angular subterminal line. Expanse of wings: 32 mm. Callao (Peru).

E. cinifax *sp. n.* (84 a). Body brownish, anterior body more mixed with grey; forewing whitish, *cinifax*, basally greyish-brown, the cross-vein hardly darker, the median area particularly towards the margin powdered with a light brownish grey, bordered by the feebly darker postmedian line which recedes very far on 5 and is very far produced on 4 and 8 to 10; subterminal line receding between 4 and 6, inwardly shaded by grey sand-colour, fringes speckled black and white. Hindwing light brown, basally defined by a darker greyish brown antemedian line which extends almost to the anal angle, and white behind the very irregular subterminal line which recedes far between 4 and 6 and comes close to the margin between 3 and 4, as well as 6 and 7; fringes as on forewing. Type: 1 ♂ from the Rio Songo (Bolivia), in the Berlin Museum.

E. palota *Schs.* (84 a) is very similar to *cinifax*, larger, purer white, body and basal area on both *palota*, wings blackish-brown, on the forewing the postmedian line extends after the angle below the costal margin almost straight and vertical to the inner margin, with fine black vein-dots; subterminal line quite indistinct; the distal half of the median area and the marginal area feebly shaded with grey. Hindwing in the anal-marginal portion broadly covered with brown hairs, the subterminal line inside shaded with a brownish grey. Brazil (Castro, Sa. Catharina). — **songoensis** *f. n.* (84 a), from the Rio Songo (Bolivia), still more approximates *songoensis*, *cinifax*, especially by the shape of the postmedian line which forms 2 similar projections, the subterminal line is more distinct, the hindwing greyer, the anterior body whitish.

E. albofusca *Dogn.* is allied to *palota* from which it only differs in the more scantily black-scaled *albofusca*, basal area which is therefore coloured like the rest of the wing and hardly darker; postmedian and subterminal lines dentately marked by dark scales. Hindwing light brown, in the costal portion white strewn with black, enclosing the short postmedian line; subterminal line broad and parallel to the distal margin, the white fringe slightly strewn with black. Expanse of wings: 43 mm. South-Eastern Peru.

E. albata *Dogn.* (85 g) probably represents *albofusca* in the Amazon District. Body white with a *albata*, few black hairs, at the base of the abdomen light reddish yellowish-brown; forewing white, very scantily strewn with black at the base, a black discal dot and faint black transverse lines, antemedian line double, posterior line also double, subterminal line only at the costal margin, below it projecting farther towards the margin, angular on 5; marginal veins fine black. Hindwing in the abdominal half light yellowish-red, in the white costal portion with the beginnings of the lines. Expanse of wings: 34 mm. São Paulo de Olivença.

E. semifunebris *Schs.* (84 a) is very similar to *palota*, the blackish-brown basal area is much more *semifune-* extensive, at the cell-end there are 2 black dots or an angular streak; postmedian line almost as in *palota*, *bris*, subterminal line composed of small black sagittary spots which recede far between 4 and 6; fringes less speckled. Widely distributed in Brazil.

E. ogenes *H.-Schöff.* (84 a) is similar to the preceding species, the white surface is more irregularly *ogenes*, strewn with brown, the blackish-brown basal area strewn with white, at the cell-end with a thick black spot, close behind it the sometimes distinctly double postmedian line strewn with brown; the small subterminal sagittary spots are very long at the costal margin, at the inner margin and between 4 and 6 stronger,

the margin behind it broadly shaded with a brownish grey. Hindwing extensively light brown. in the costal portion greyish white, with a dark antemedian line and an irregular subterminal line. Brazil.

genesæ. **E. genesæ** Schs. (84 a) is very similar, with longer wings, duller, the basal portion, body, and hindwing brownish-grey, the white colour not so irregularly strewn, powdered more with a grey sand-colour, the discal spot dull, postmedian line very distinctly double, subterminal line less strong, nearer to the margin, its 2 costal spots very long. Hindwing in the apical half of the costal margin white, the subterminal line recedes very far inwards between 5 and 6. Brazil (Castro; São Paulo).

victoris. **E. victoris** Dogn. (84 a) is very similar to *genesæ*, it is of a darker ashy grey ground-colour, the basal area dull brownish grey, the discal spot entirely absent, the postmedian line outside only accompanied by an indistinct shadow, the distinct coherent subterminal line farther removed from the margin. According to a bred ♀ from Loja (Ecuador).

deusta. **E. deusta** H.-S. (84 b) belongs to the same group as the preceding species, the ground-colour is a soft ashy grey with a slight lilac tint, the basal area strewn with red brown, outside defined by a distinct, notched, blackish-brown line, with a thick round discal spot, the blackish-brown notched postmedian line outside accompanied by a fine red-brown shadow; subterminal line beginning with a red-brown costal-marginal spot and receding between 4 and 6 in the shape of 2 thicker spots. Hindwing in the anal-marginal portion only slightly darkened by brownish, with a distinct fine postmedian line as far as beyond the cell, without or with a subterminal line which recedes between 4 and 6 in a large bow and comes very close to the margin between 4 and 3. A most variable, common species from Costa Rica to Brazil.

certina. **E. certina** Drc. (84 b) is very similar to *deusta*, much smaller, darker violettish-grey, the basal area more extensive, so that it extends near to the discal spot, the postmedian line single, extending from 6 almost straight to the inner margin. On the hindwing characterised by the straight median line beginning from the centre of the costal margin and narrowing down into the anal angle; the subterminal line extends only to 3. From the Chiriqui (Panama).

contubernalis. **E. contubernalis** sp. n. (84 b) is very similar to *deusta* and may be a Colombian form of it. Ground-colour violettish grey, basal area dark brown, intensely mixed with black, the proximal half of the median area light silvery grey, between the discal spot and basal area almost white, behind the discal spot between 3 and 6 with a large dark grey spot, the postmedian line outside bordered with light rusty yellowish and strewn with red-brown; subterminal line composed of small black sagittary spots, almost parallel to the margin, between 4 and 6 transformed into a large blackish-grey spot which, however, hardly recedes; before the fringes being very brightly speckled black and light ochreous, there is on the light yellow ground a rusty brown marginal line. Hindwing in the basal and anal-marginal area light brown, in the apical portion of the costal margin and at the distal margin violettish-grey, the median line as in *certina*, the subterminal line composed of very thick blackish-grey spots, very irregular, before the fringe with a light yellow marginal line. Prothorax almost whitish. Type: 1 ♂ from Villavicencio (Colombia) in the Coll. BANG-HAAS.

efferata. **E. efferata** sp. n. (84 b) may be another form of *deusta*; the marking is the same as in *certina*. Forewing brownish-grey, densely strewn with dark brown, so that the basal area is but slightly darker; discal spot very small; postdiscal line single, shaped as in *deusta*, at the costal margin behind it a white brightening, the subterminal line rather indistinct, receding a little between 4 and 6 as a large spot, the veins in the subterminal and marginal areas distinctly black. Hindwing lighter violettish-grey, only towards the base darkened brown by the median line which is shaped as in *certina*; subterminal line slightly curved, more regular than in the similar species, inside shaded by a brownish grey, outside narrowly bordered with light, the dark fringes on the ends of the veins hardly lighter, slightly speckled with yellowish, at the tips whitish. Type: 1 ♂ from Rio Grande do Sul in the Coll. WERNICKE, Dresden.

praedicabilis. **E. praedicabilis** sp. n. (84 b). Forewing light bluish ashy grey, basal area rusty yellow, strewn with black and edged by a black dentate line, behind it with some silvery grey scales, discal spot black, angular close behind it, the outermost costal margin narrow light yellow, the postmedian line hardly indicated, only at the costal and inner margins better visible, subterminal line likewise only composed of very feeble, small wedge-shaped spots of a slightly darker brownish-grey colour, of the same shape as in *deusta*; the light yellowish-white fringes between the veins blackened. Hindwing very similar to some *deusta*, basal area light brown, anal margin broadly covered with blackish-brown hairs, the postmedian line in the costal portion very thick, the subterminal line feeble, receding in a flat bow between 4 and 6. Body ashy grey, the abdomen particularly at the base somewhat more brownish. Type: 1 ♂ from Campo Bello, Rio de Janeiro (Brazil) in the Coll. W. HOPP, Charlottenburg.

divulsa. **E. divulsa** sp. n. (84 b). Near to *varma* Schs. Forewing on the whitish ground densely strewn with a violettish pink and chestnut-brown, in the basal area blackish-grey intermixed with white scales like the thorax; discal streak small, between it and the basal area a small white spot; veins fine red-brown, strewn with black and white, postmedian line quite shadow-like, intensified by fine black vein-dots, particularly at the costal margin outside feebly powdered with whitish; subterminal line just as shadow-like, outside somewhat more distinctly bordered with whitish; fringes blackish-grey. Hindwing producing the same impression as

forewing, in the anal-marginal area with light brown hairs, in the basal half of the costal margin densely strewn with black, outside bordered by the thick black median line which extends from the cell more indistinctly brownish-grey to the anal angle; subterminal line and fringes as on forewing. The ♀ is on the whole greyer, more monotonous, the subterminal line on both wings more distinct. Types: 1 ♂, 1 ♀ from Sa. Catharina (Brazil) in the Coll. WERNICKE, Dresden.

E. combusta *sp. n.* (84 c) is similar to the ♀ of *disulsa*, larger, more distinctly red-brown with a slight pink tint, the basal area strewn with black, with some white scales particularly at the inner margin, the border-line black, double, the discal spot thicker, the postmedian line much more notched, outside with white vein-dots; subterminal line shaped as in *genesia*, beginning with long costal spots, pointedly notched, before the fringe a fine dark marginal line. Hindwing somewhat lighter, in the basal and anal-marginal portion brown, the median line only extending to the cell, the subterminal line very deeply and irregularly notched. According to 1 ♀, habitat unknown. Type in the Coll. STAUDINGER in the Berlin Museum.

E. taedia *sp. n.* (84 c) is similar to *combusta*, lighter, more greyish-brown, without the pink tint, the basal area not strewn with black and white, only slightly darker greyish-brown, lighter towards the antemedian line which does not form the border; discal spot very thick, quadrangular, jet-black; the finely notched postmedian line is greyish-brown, also the irregular subterminal line which projects far towards the margin between 3 and 4, as well as 6 and 8. On the hindwing the larger anal-marginal portion is greyish-brown, the distal margin remains behind the subterminal line of a lighter ground-colour like the costal-marginal portion. Median line very short. Type: 1 ♀ from an unknown habitat in the Coll. STAUDINGER in the Berlin Museum.

E. spectans *sp. n.* (84 c) is another member of this confused group, and is also allied to *distincta spectans*. *Btlr.* Forewing greyish-brown, basal area not darker, lines similarly arranged as in the preceding species, but the median area is much narrower, the brownish-grey, feebly dentate lines on the averted sides bordered with whitish, also the thick round black distal dot is in a lighter ring; the subterminal line is inwardly broadly shaded with dark. Hindwing in the apical costal portion very light, behind the short black median line almost whitish, subterminal line pointedly notched. Type: 1 ♀ from Joinville in the Berlin Museum.

E. cinerulenta *Dogn.* (84 c) is similar to *spectans*; the median area is broader, the transverse lines are more distinctly bordered with white, the posterior line with vein-dots, the discal spot smaller, not in a light ring, behind the subterminal line the marginal area is lighter. Hindwing more unicoloured, subterminal line differently shaped, not notched, only on 3 approaching the margin. From Chanchamayo (Peru).

E. chera *Schs.* (84 c). Forewing greyish-brown, in the basal area somewhat darker, two black border-lines being distinct in the ♂ at least at the costal margin, a thick black discal dot behind it, and a finely notched postmedian line behind which there is an indistinct double line; subterminal line shaped as in *combusta*, outside feebly lighter. Hindwing copper-brown, in the costal portion narrowly coloured as on forewing, median line short, subterminal line near the margin, distally bordered with a lighter colour. In the ♀ the lines are more indistinct, the basal portion is darker, on the hindwing the apical costal half lighter whitish-grey. Brazil, Colombia.

E. varma *Schs.* (= *yoha Schs.*) (85 g). Anterior body violettish-grey and brown, intermixed with black hairs, abdomen brown. Forewing violettish-grey, strewn with brown, in the basal third blackish-brown, outside bordered by the black antemedian line behind which the ground-colour is somewhat lighter grey; before the cell-end a white spot, outside with the black discal streak; the shadow-like feeble postmedian line is intensified by white vein-dots or streaks, the very feeble indistinct subterminal line blackish. Hindwing dull lilac-brown, at the costal margin as on the forewing with a thick black median shadow. Costa Rica, Guiana.

E. intuta *Dogn.* (84 d). Forewing pinkish-grey, feebly strewn with ochreous, particularly on the veins; basal portion black with yellowish hairs, outside bordered by a black line which projects deeply submedianly; the postmedian line is extremely feeble, composed of fine vein-dots; the feeble subterminal line is composed of small greyish-black wedges; before the cell-end there is a small whitish spot. Hindwing as forewing, in the basal half of the costal margin black with yellowish hair, defined by a median line which is shaped as in *certima*; subterminal line feeble, deeply incurved between 4 and 6. Guiana; Colombia.

E. directilinea *Schs.* (85 g). Body dull brown, the darker thorax intermixed with grey. Wings brownish-grey, forewing in the basal third brown, bordered by a velvety brown straight line, postmedian line absent, of the subterminal line only traces are present. Hindwing as forewing, the border-line of the dark basal portion is irregular and is expanded at the costal margin into a blackish-brown spot. Expanse of wings: 37 mm. French Guiana.

E. rectidivisa *Dogn.* (85 g) is very similar to *directilinea*, but much larger, the median area grey, towards the dark grey base whitish, the marginal area behind the postmedian line reddish-brown; the line bordering on the basal area is just as straight as in *directilinea*, the postmedian line is brownish ochreous, in the lower half only composed of vein-dots, the blackish subterminal line outside bordered with light. Hindwing brownish, the median line outside bordered with light. Expanse of wings: 47 mm. Yahuarmayo, Peru.

- maha*. **E. maha** Schs. (84 d). Body brown; forewing in the basal third brown, distally strewn with whitish and traversed and defined by two fine black parallel lines; the proximal half of the median area is white, distally turning sandy brown, at the cell-end a black dot; the darker shaded postmedian line exhibits white vein-dots, like the subterminal line. Hindwing in the basal costal portion darkened, behind the postmedian broad darkening lighter whitish; subterminal line feeble, irregularly shaded. Brazil.
- temblora*. **E. temblora** Schs. (84 d) is smaller, darker, the white colour in the median area narrower; on the hindwing the border-line of the dark basal portion is removed more into the centre, and not oblique, but vertical to the anal angle, the subterminal line is much more indistinct, in the dark ground of the hindwing more extinct. Size stated in the original description 29 mm. but from the Berlin Museum there is a specimen before me identified by SCHAUß, which is as large as *maha* and served us as our figure.
- renesca*. **E. renesca** Schs. is still much smaller. Expanse of wings: 26 mm. Head and thorax blackish, at the shoulders mixed with whitish, abdomen light brown. Forewing dark grey, basally slightly strewn with black, with a fine blackish antemedian line which is distally bordered with white; discal spot absent; the fine postmedian line is dark with white vein-dots; the dark subterminal shadow is almost straight, outside above 5 shaded with grey. Hindwing light brown, costal portion and apex grey with a dark median shadow which is distally bordered with white; subterminal line in the grey part white; below 4 dark. French Guiana.
- mendosa*. **E. mendosa** sp. n. (84 d) is very similar to *maha*, larger, more slender, forewing longer, more pointed with a more oblique distal margin; basal third dark brown, before the black antemedian line with 2 broad white, twice angular transverse lines; the proximal half of the median area is white with a thick black discal dot, outside turning blackish-brown, defined by the black postmedian line which is angular on 4 and 9 and distally bordered with white and followed by a second black parallel line; before the subterminal line, which is shaded with greyish-black, at the costal margin a dark spot; hindwing greyish-brown, in the costal portion white with a brownish median line therein; subterminal line very irregular, on 6 projecting to the margin. Described from 1 ♂ without the habitat being mentioned; type in the Berlin Museum.
- prodiga*. **E. prodiga** sp. n. (84 d) is another species from the *maha*-group; larger, with broader and rounder wings. Body grey intermixed with black hairs, above at the base of the abdomen with a brown tuft. Forewing in the basal third blackish-brown, distally strewn with white, towards the fine deep black antemedian line all black, in the centre traversed by another broad white line; median area white, towards the black postmedian line, the lower part of which is almost vertical, strewn with blackish-brown; discal dot black. Distal third brown, shaded with black, the subterminal line, the upper portion of which is spotted, outside, in the upper half also inside light brown; fringes slightly, on the hindwing more distinctly speckled, the latter light chocolate brown, in the apical costal portion broad white, bordered by a short deep black line; subterminal line more regular than in *maha*. According to 1 ♂ from Minas Geraes (Brazil); type in the Berlin Museum.
- obtusa*. **E. obtusa** H.-S. (= *morosa* Btlr.) (84 d) is likewise allied to the *maha*-group. Body and wings brownish sand-coloured, with a faint pinkish tint; basal third of forewing deep blackish-brown, outside bordered by a black double line, behind it the thick black discal dot; the fine dark postmedian line likewise double, subterminal line composed of small greyish-black wedges. Hindwing at the apex whitish, before the median line bordering on the apex darker brown; subterminal line feeble, shaded with grey. Brazil. In the Berlin Museum 1 ♂ with the manuscript name: *albomacula* Maassen.
- exotérica*. **E. exotérica** sp. n. (84 d) is somewhat like *obtusa*, smaller, darker, more red-brown, the dark basal area outside more roundly defined, the discal spot coincides with the antemedian line, the median area is much narrower, the veins in it partly black. On the hindwing the light apex is much smaller, the border-line much obliquely, extending towards the centre of the anal margin, in *obtusa* to the anal angle. Type: 1 ♂ in the Berlin Museum, habitat not mentioned, with the manuscript name: *exotérica* Maassen.
- discorica*. **E. discorica** Dyar is similar to *obtusa*, but the median area is narrower, whiter, the transverse lines stronger and distinctly double; basal area suffused with black, in the white median area with the large oval black discal spot. Expanse of wings: 25 mm. Panama (Taboga Island).
- lepta*. **E. lepta** Schs. (85 g). Body and wings brown, forewing basad particularly in and below the cell clouded with black, enclosing a fine white irregular line, at the cell-end a small light spot; behind it follows a yellowish-red band distally bordered by the double postmedian line with white vein-dots; subterminal line very feebly darker. Hindwing with a blackish-brown median stripe at the costal margin, behind it at the apex lighter with the dark subterminal line. Costa Rica.
- parepa*. **E. parepa** Schs. (84 d) is allied to the preceding *obtusa*-group. Forewing dark brown, at the base darkened by blackish, in the median area lighter yellowish-reddish white, towards the inner margin strewn with red-brown enclosing the oval black discal spot; both the transverse lines are double, filled with whitish, subterminal line composed of small blackish spots, receding as usual between 4 and 6. Hindwing very dark brown, at the costal margin behind the median line lighter whitish, subterminal line rather indistinct. Brazil (Castro: São Paulo).

E. chamicuros Schs. (84 e) is somewhat larger than *parepa*, the light median area divided into two *chamicuros*, large spots at the costal and inner margins; the transverse lines disappear more or less; subterminal line as in *parepa*, hindwing the same. Peruvian district of the Amazons.

E. resarta sp. n. (84 e) is still smaller than *parepa*, the whitish median area reduced to a roundish *resarta*, inner-marginal spot; the anterior transverse line is distinctly double, filled with grey, the posterior line single with white vein-dots; subterminal line inside shaded with grey, receding far between 4 and 6; before the fringe there is a fine black limbal line dotted white on the ends of the veins. Hindwing in the costal-marginal portion hardly lighter with the beginning of a subterminal line before the apex. According to 1 ♂ from Thomar, type in the Berlin Museum in Coll. STAUDINGER.

E. petrovna Schs. (85 g). Body light brown, thorax somewhat darker. Forewing light brown, basal *petrovna*, area dark brown, outside bordered by the double black antemedian line, at the cell-end a small brown spot; the dark brown posterior transverse line is likewise double; the subterminal line is reduced to some blackish apical dots. Hindwing blackish-brown, in the costal portion broad light brown with a dark median line and subterminal shadow, the latter distally bordered with greyish-brown. Expanse of wings: 31 mm. Brazil (Petropolis).

E. larunda Drc. (84 c) is the chief representative of a small group of similar species with a more *larunda*, or less white median area. Basal area deep red-brown, strewn with black, narrowly lighter towards the double antemedian line which borders on it; in the cell with a small discal spot, the narrow median area variably strewn with grey, the postmedian line single with short black vein-streaks which are distally dotted white; in the marginal area, which is densely strewn with greyish-brown, there is before the notched subterminal line another greyish-brown shadow-like band. Hindwing light brown with a white apex, inwards defined by a thick brownish-black median line. Thorax blackish-brown, abdomen light brown. Costa Rica to Peru and Brazil. On plate XXII of the Biologia the signatures of *larunda* and *laronica* have been exchanged, which gave rise to many errors.

E. consolabilis Dyar (84 e) is similar, the basal area much lighter, light ochreous, strewn with *consolabilis*, blackish-brown, the discal and marginal areas uniformly light grey, the former only somewhat lighter, the markings as in *larunda*, but finer. Hindwing much lighter, apex and a great part of the marginal area whitish-grey. The much larger ♀ is more uniform, in the basal area brownish, also in the postmedian area and at the margin. Mexico; Costa Rica. — f. **colombiensis** (84 e) is somewhat browner, particularly the hindwing more *colombiensis*, extensively red-brown, the antemedian line more excurved, more distinctly dentate, a white discal dot is distinct, the median area narrower and greyer, the marginal area browner. Villavicencio (Colombia); type in the Coll. BANG-HAAS.

E. larundina Schs. (84 f) differs from the preceding species in its browner wings; the whole median *larundina*, area is of the same colour as the marginal area, reddish greyish-brown, at the cell-end a small white spot, the posterior transverse line with white vein-dots, the brown subterminal shadow dentate. Hindwing light brown, in the basal half of the costal margin dark brown, at the apex and distal margin somewhat lighter grey. Costa Rica to Colombia (Villavicencio).

E. gundlea Schs. (85 g). Described from 1 ♀ from Rurrenabaque (Bolivia). Anterior body claret- *gundlea*, coloured yellowish-brown, mixed with grey and white, abdomen wood-coloured. Forewing greyish sand-coloured, in the basal area, which extends at the costal margin to the centre of the wing, at the inner-margin to the first third, claret-coloured brown, distally bordered by the double antemedian line; postmedian line likewise double, subterminal line dark grey, partly bordered with white. Hindwing brown, at the apex sand-coloured grey. Expanse of wings: 32 mm.

E. unda Dogn. (85 h) is in the basal area of the forewing yellowish-brown, the antemedian line *unda*, bordering on it form two bows and is sinuate before the brown discal streak; the rest of the wing is reddish-grey with a fine double postmedian line, angular below the costal margin and with small subterminal brown wedges. Hindwing light yellowish-brown, at the costal margin apically grey with a median border-line and a subterminal line, both of which are only distinct at the costal margin, then hazy and indistinct. Expanse of wings: 24 to 26 mm. French Guiana.

E. albidifascia Wkr. (84 f) has more stretched wings, the basal area is red-brown, the black notched *albidifascia*, antemedian line is double, the median area powdered with grey, without a distinct discal dot; the distal area is reddish-brown or reddish-grey, the postmedian line composed of vein-dots or streaks, often with an indistinct brown shadow behind it, the grey subterminal line being distally bordered with light is sharply notched. Hindwing light brown, in the basal half of the costal margin red-brown, at the apex whitish-grey, which colour extends behind the irregular subterminal line along the distal margin. Costa Rica, Panama.

E. rivulosa Möschl. (84 f) is intermediary between *consolabilis colombiensis* and *albidifascia*, darker *rivulosa*, than the former, the wings not so stretched as in the latter. Basal area of forewing more strewn with blackish-brown on the dark red-brown ground, with a distinct white discal spot behind the antemedian line, the median area proximad narrowly reddish-brown, then violettish-grey or lead-coloured; postmedian line double, the interior portion composed of black vein-streaks, the exterior portion of a red-brown shadow-like line. Marginal area lighter brownish than in *albidifascia*, subterminal line distally not bordered with white. Hindwing darker brown. Guiana to Colombia.

- poasia*. **E. poasia** Schs. (84 f) is a much larger species, the base of the forewing is light brown, costally darker, the rest of the surface greyish-white strewn with red-brown, discal dot absent; the almost straight interior postmedian portion dotted on the veins, behind it a red-brown shadow-like stripe, at the costal margin more remote than at the inner margin, discally incurved. Described from Costa Rica.
- egra*. **E. egra** Schs. (84 f). Here the basal area is light yellow, the double dark brown antemedian line filled with red-brown, the median and marginal area light bluish-grey, subterminal area light yellow; discal streak small, black; subterminal line strongly curved. Hindwing very light reddish-brown, at the apex extensively white, in the basal half of the costal margin blackish-brown. The ♀ is much larger and darker, the basal and subterminal area dark ochreous, the median and marginal areas like the hindwing almost blackish-brown. Costa Rica to the Amazons (São Paulo de Olivença), here darker, greyer.
- gera*. **E. gera** Schs. is very similar, basal area of forewing yellowish-reddish, strewn with brown, the double blackish antemedian line filled with light brown, the whole distal area mouse-coloured; postmedian shadow light brown, inside bordered with a darker grey, and crossed by a darker line; subterminal line whitish-grey. Hindwing light red-brown, basally at the costal margin brown, defined by the dark brown postmedian line against the light grey apex, subterminal line darker grey. Costa Rica; Guiana; Venezuela.
- limba*. **E. limba** Drc. is browner on the forewing, in the basal area lighter, the antemedian line is double, the median area darker brown, outside behind the single postmedian line bordered by a somewhat lighter colour. Subterminal line irregularly dentate, shadowy grey, distally not bordered by a lighter colour. Hindwing monotonously slate-coloured brown, at the apex hardly lighter. The ♀ is much larger, more monotonous, more reddish-brown, the antemedian line only single. Costa Rica.
- canities*. **E. canities** Schs. (85 h). Body olive-brown. Forewing from the base to the dark discal streak whitish, strewn with yellow and olive-brown as far as the fine double, almost straight antemedian line; distal half of the wing olive brown, behind the discal streak with an almost straight darker line and behind it an irregular dark shadow; subterminal shadow very broad, at the apex distally curved. Hindwing olive brown, in the costal-marginal half whitish, strewn with olive-brown, with a dark median shadow and broad darker subterminal shadow. Costa Rica.
- lanea*. **E. lanea** Schs. (85 h). Body dull brown, thorax grey; forewing at the base white strewn with black, the median area of a purer white, the distal half thickly strewn with brown; antemedian line black, almost straight from the costal margin to 2, then inwardly interrupted and obliquely to the centre of the inner margin, the dark brown fine postmedian line forms 3 small bows below the costal margin, between 3 and 5, and below 2; subterminal shadow brown, irregular. Hindwing dull brown, at the costal margin broad grey, at the distal margin narrow grey with dark median and subterminal lines. Expanse of wings: 33 mm. Costa Rica.
- mediana*. **E. mediana** Schs. (85 h) is somewhat smaller, head and thorax grey, abdomen brown. Forewing brown, at the base a small dark spot; the whitish median area on each side bordered by a grey shadow; the dark subterminal line is undulate. Hindwing brown, at the costal margin broad whitish with traces of dark median and subterminal shadows. Expanse of wings: 31 mm. Rio de Janeiro.
- amida*. **E. amida** Drc. (84 g). Forewing in the basal and marginal areas light grey, strewn with brownish, at the margin with fine dark veins; the median area is white, very scantily — particularly towards the costal margin — strewn with grey, with a very feeble dark discal dot; antemedian and postmedian lines finely dentate black, the former line deeply incurved submedianly, the posterior line inwards prolonged to small fine black dents, with a feeble brownish-grey shadowy line behind it; subterminal line composed of small feeble dark wedges. Hindwing brownish, at the costal margin only slightly whitish, behind the fine dark subterminal line the margin is narrowly lighter. Ecuador.
- pseudamida*. **E. pseudamida** Dogn. is very similar to *amida*, the antemedian line is double, without the deep submedian inward tooth; postmedian line likewise double, but only the anterior portion is distinct and black, in the median area with a large black discal dot; subterminal line more deeply dentate, parallel to the margin; the white fringe blackened between the veins. Hindwing in the costal-marginal portion much broader white. French Guiana, also from Costa Rica and Colombia.
- argyphaea*. **E. argyphaea** Berg (= *varona* Schs.) (85 h). Anterior body and base of abdomen light brownish-grey, abdomen rusty brown. Forewing in the basal half silvery white, scantily strewn with grey, in the distal half brownish-grey, in the postmedian area darkened; antemedian line hardly visible, the postmedian line forms a large bow between 4 and 7, the subterminal line is strongly dentate; fringes on the ends of the veins interrupted by white; hindwing rusty brown, in the costal-marginal half white with a median line and a subterminal line. Expanse of wings: 27 to 33 mm. Brazil (Rio de Janeiro).
- albigrisea*. **E. albigrisea** Schs. (85 h) is allied with *argyphaea*; thorax dark greyish-brown, abdomen reddish-brown, dorsally at the base blackish-grey. Forewing white, on the veins strewn with grey and brown, at the inner margin narrowly dark greyish-brown as far as the centre, then expanded along the distal margin as far as 7, a dark undulating postmedian line separates both the colours, above 7 passing over into an irregular white apical patch. Hindwing white, at the anal margin broad light brown. Expanse of wings: 27 mm. Costa

Rica; British Guiana. — In v. **fusca** Dogn. all the white areas are replaced by rusty reddish with white irroration, *fusca*, the postmedian line being distally bordered with white; faint traces of a double antemedian line. Hindwing the same. According to 1 ♂, expanse: 26 mm, from French Guiana.

E. mus Dogn. described according to a single ♀ from Pacho (Colombia) is monotonously mouse-*mus*, coloured with fine darker veins; only in a certain exposure to light there appear faint traces of transverse lines and of a subterminal line, as well as a discal streak. Expanse of wings: 40 mm.

E. nebula Schs. (85 h). Anterior body dark brown, abdomen more brownish ochreous. Forewing *nebula*, whitish-grey, scantily strewn with brown, behind the postmedian line with dark brown veins; the olive-brown antemedian line is double, irregularly curved, the postmedian line likewise double, the exterior portion below 6 expanded into a shadow; the subterminal line is confined to small dull grey spots between 2 and 5, and 6 and 8. Hindwing whitish, veins in the marginal area brown, at the anal margin broadly covered with ochreous hair, with a fine dark median band. The ♀ is much larger, dark olive brown, the 3 last abdominal rings ochreous. The wings are much darker, basad olive brown, in the exterior half smoky brown, the median area very narrow, dingy white with a dark spot at the cell-end. Expanse of wings: ♂ 33, ♀ 47 mm. Costa Rica.

E. nubiplena Dogn. (= *nebulosa* Dogn.) is very closely allied to the following *fibra* from which it *nubiplena*, differs in entirely grey forewings on which only the costal margin as far as the cell, and the subterminal line remain whitish, the latter beginning with a white apical streak; marginal area slightly lighter. Hindwing white, at the anal margin with yellowish-red hair, in the costal-marginal portion with the beginnings of several lines. Expanse of wings: 31 mm. Colombia.

E. directa Schs. (85 h) is likewise closely allied with *fibra* which, however, exhibits a narrower white *directa*, median area. In *directa* the grey basal area is defined by a dark antemedian line which is angular below the costal margin and inwardly dentate above the submedian, and uniting at the inner margin with an oblique line from the cell, both the lines being double: the dark grey postmedian line is likewise double, almost straight; the subterminal shadow is much fainter and narrower, distally bordered with white; veins fine dark grey. Hindwing white, at the anal margin broad ochreous, the dark median line curved before the anal margin, a grey subterminal shadow only visible at the apex. Expanse of wings: 36 mm. Costa Rica.

E. fibra Schs. (= *lacinia* Drc.) (84 g) is a very common, widely distributed species. Forewing of *fibra*, ♂ in the basal half white, with fine blackish-grey veins, basally somewhat blackened, both the transverse lines double, the anterior line curved, the posterior line after an angle below the costal margin almost straight to the inner margin: subterminal shadow dentate, outside feebly bordered with whitish. Hindwing white, basally and at the anal margin broadly covered with ochreous hair, with a median line and a subterminal line, fringe grey. Abdomen with lateral ochreous hair. The very much larger ♀ is much darker smoky grey, the median area narrow, abdomen extensively covered with ochreous hair. Mexico to Brazil. — **cayennensis** f. n. (84 g) *cayennensis*, is more olive brownish, also the median area, the two transverse lines very close together, filled with white, the veins in the median area below the cell thicker black, the subterminal line somewhat differently shaped, forming a large bow below the costal margin, then on 4 a pointed tooth as far as the margin. From Cayenne. Arouary (Guiana).

E. ciniala sp. n. (81 f) is allied to the preceding species. Forewing thinly scaled, white, basally *ciniala*, and in the inner-marginal half and in the distal-marginal area, excepting the apex, on the brownish-grey ground strewn with greyish-black; veins blackish-brown, on the transverse lines interrupted by white; the latter double, the anterior line complete, broadly filled with white, before it below the cell densely clad with snow-white hair, the posterior line indicated by double vein-streaks; subterminal line only distinct in the upper half, composed of white lunae being inwardly dusted with a somewhat darker grey. Hindwing white, in the inner-marginal portion with rusty yellow hair, before the greyish-brown fringe with a blackish limbal line, at the costal margin with feeble beginnings of lines. Thorax blackish-brown, abdomen browner, under surface covered with lustrous rusty brown hair. According to 1 ♂ from Humbo near Muzo (Colombia); type in the Coll. W. HOPP, Charlottenburg.

E. abolla sp. n. (81 f). The whitish ground is so densely powdered and strewn with a brownish greyish-*abolla*, black that but faint traces remain of the transverse lines which are bordered with whitish; the most distinct are the small lunular spots of the subterminal line and a conspicuous roundish spot behind the postmedian line between 5 and 6; small discal spots feebly darker; veins particularly in the disc finely dark brown. Hindwing at the costal margin somewhat darker, containing the beginnings of 2 lighter lines. According to 1 ♀ from Sa. Catharina in the Coll. WERNICKE, Dresden.

E. ochropyga Fldr., the type of which is no more to be found, I only know from the figure in the *ochropyga*, Biologia, according to which it can only be a ♀ of *fibra*, though the subterminal line is quite straight, parallel to the margin; any other essential differences are not to be seen from the evidently not very true figure. Amazons. Thus the name *ochropyga* would have to replace *fibra*.

E. salebrosa sp. n. (84 g) is not quite dissimilar to a *fibra*-♀. Forewing brownish-grey, strewn with *salebrosa*, a darker colour, at the extreme base and in the median area lighter brownish; transverse lines single, only the posterior line shows below the costal margin traces of a doubling, and it projects far distally on 4 and 8; the

dark subterminal line is notched, outside narrowly bordered with white. Hindwing brownish, at the costal margin narrowly strewn with white, with a notched subterminal line and a short postmedian line. Thorax ashy grey, abdomen absent. According to 1 ♀ from Rio de Janeiro, type in the Berlin Museum in the Coll. STAUDINGER.

viridiflava. **E. viridiflava** Schs. (84 g) is very light greenish sulphur-coloured, with shadow-like brownish antemedian and postmedian transverse bands, and a brownish discal shadow between them; the subterminal line is composed of a curved row of small greyish-brown spots, the margin behind it being likewise darkened by greyish-brown, the broadest in the centre. Hindwing in the larger anal-marginal portion, in the yellowish apical and costal-marginal portion with shadow-like lines. French Guiana.

chlorobasis. **E. chlorobasis** sp. n. (84 h) is coloured as *viridiflava* in the basal half of the forewing, as well as on the thorax and the dorsum of the 3 first rings, the rest of the body as well as the distal portion of the forewing and the hindwing dark greyish-brown; the anterior transverse line is punctiform, the posterior line with vein-dots behind it and a whitish filling between them, in the distal half of the median area strewn with black, with a fine black cell-end streak; subterminal line inwardly shaded by a darker colour, outside bordered with light. Hindwing at the costal margin and behind the subterminal line somewhat lighter, at the costal margin with shadow-like beginnings of lines. According to 1 ♂ from Villavicencio (Colombia) in the Berlin Museum.

fulvago. **E. fulvago** sp. n. (84 h) almost resembles a *Tolyte* from the *hella*-group; light ochreous white with darker ochreous, almost straight transverse bands, 3 each before and behind the centre, at the cross-vein a short ochreous transverse streak, the marginal area behind the subterminal line somewhat greyer; the veins around the transverse bands and particularly at the distal margin finely darkened. Hindwing lighter, in the costal-marginal portion with the beginnings of 3 shadow-like darker transverse bands. According to 1 ♀ from Macas, Ecuador, in the Coll. BANG-HAAS.

lyso. **E. lyso** Drc. (84 h). Wings light reddish-yellow, forewing with dark brown transverse lines, the antemedian line only visible in the costal half, double, the postmedian line very thick, at the costal margin double, at the cell-end with a black discal streak; the undulating subterminal line reddish-brown, behind it the marginal area is darkened by a greyish brown; fringes undulating. Hindwing as forewing. From the Chiriqui (Panama); type in the Coll. STAUDINGER in the Berlin Museum.

banghaasi. **E. banghaasi** sp. n. (84 h) shows a certain resemblance to *lyso*, but it is much more closely allied to the *ogenes-deusta* group. Forewing pale yellowish loam-coloured, scantily strewn with blackish-brown, at the costal margin and the transverse lines more whitish; basally more densely strewn with brown, chiefly in the cell before and behind the antemedian line which is notched, only in the upper half distinct, with hazy double shadows before it, the postmedian line the same, particularly below the costal margin filled with white; at the cell-end with a thick blackish-brown spot; the subterminal line is composed of small feeble brown spots, parallel to the distal margin, interrupted between 4 and 6, receding far at the costal margin with an intense dark brown triangular spot. Hindwing in the larger anal-marginal portion excepting the distal margin somewhat more reddish brown like the abdomen, at the costal margin with the beginnings of brown, outside white-edged lines, the subterminal line being shaped as on the forewing; fringes on both wings spotted black between the veins. According to 1 ♀ from Macas (Eastern Ecuador), type in the Coll. BANG-HAAS.

inflata. **E. inflata** Schs. (85 i) is yellowish-reddish on the body and wings, the abdominal tufts are violettish-brown, the very long anal hair reddish-brown; the two light transverse lines are united above the anal margin and enclose here a reddish-brown spot, the median area above it is powdered with grey; at the cross-vein there is a very thick dark red-brown oval spot; small subterminal spots very feeble and only better visible by the light exterior border, terminating apicad with 2 small red-brown spots; at the distal margin between the veins small white lunular spots outside bordered with brown. Hindwing somewhat darker. Costa Rica to Brazil.

amazonica. **E. amazonica** Btlr. (84 h) is somewhat smaller, more brownish, the median area above the inner margin darker brown, the posterior transverse line distinct, double, the subterminal line more distinct, especially in the lower half very much notched; the discal streak is feebler, the white marginal lunae particularly analwards very strong. Hindwing lighter than forewing; fringes analwards on both wings mixed with white. Panama to the Amazons.

torrida. **E. torrida** Schs. (84 h) is a small, more common species. Forewing dark brown, transverse lines very indistinct, only better visible by the lighter grey spots on the averted sides; from the discal streak a blackish shadow extends to the apex, below this shadow a subterminal brightening expands in the upper two thirds; the subterminal line itself is composed of a series of small grey spots almost parallel to the margin; before the fringe a light limbal line. Hindwing almost monotonously brown, at the margin behind the shadow-like, indistinct subterminal line somewhat lighter. Costa Rica to Brazil (Joinville).

pompilus. **E. pompilus** Dogn. (84 i) is very similar to *torrida*; forewing dark chestnut-brown, basal and in the large crescentiform subterminal spot light reddish-yellow; the two transverse lines more distinct than in *torrida*, feebly double, without small light spots; subterminal line dark, undulately dentate. Hindwing monotonously light red-brown. Loja (Ecuador).

moisa. **E. moisa** Dogn. (85 i) is on the forewing in the basal half blackish-brown, outside light brown, subapically turning whitish; the basal dark colour extends along the costal margin to shortly before the apex.

the two transverse lines are indicated by light vein-dots, and there is a subterminal row of small dark internerval dots. Hindwing brownish ochreous, at the costal margin somewhat darker. South-Eastern Peru.

E. albidula Dogn. In this species being closely allied with *torrida* and *pompilus*, the large subterminal crescentiform spot is of a pure white, not yellowish or brownish; the two transverse lines are marked by white vein-dots; the white spot passes towards the inner margin over into the chestnut ground-colour in which there are small light grey subterminal internerval spots. Hindwing lustrous red-brown. Expanse of wings: 29 to 30 mm. French Guiana.

E. amisena Drc. (85 i). Forewing dull brown with 3 undulating darker brown transverse lines and an oblong reddish-brown spot near the apex. Hindwing brown with 3 short white inner-marginal streaks; body yellowish-brown. The ♀ is much larger and darker, the forewing intensely strewn with grey, hindwing likewise blacker. Ecuador (Sarayaçu).

E. castalia Drc. (84 i) is brown, both the transverse lines composed of black and white vein-dots, both below the costal margin distally angular, subterminally with a large whitish crescentiform spot which gradually passes over inwards and below into the brown ground-colour; the subterminal line consists of small blackish-brown internerval spots being distally bordered with light. Hindwing and abdomen somewhat lighter. Panama (Chiriqui).

E. flumentana Dogn. is also very similar to the preceding species: forewing chestnut-brown, the two transverse lines shadow-like darker brown, faded, the posterior line with whitish vein-dots; subterminally there is a white band being broad at the costal margin, getting very narrow from 5 to the inner margin, outside of it small black, outside white internerval spots; at the cell-end there is a small black spot. Hindwing lighter brown. Expanse of wings: 32 to 33 mm. Colombia, Cañon del Tolima.

E. erebina Btlr. is unknown to me, but it seems to me to belong also to this group; forewing very dark brown, towards the inner margin somewhat lighter, with a crescentiform very light apical spot, crossed by a feebly undulating, centrally angular blackish subterminal line; the two transverse lines are marked by white vein-dots, the anterior line is indistinct. Hindwing lighter brown and somewhat glossy. Costal margin at the apex blackish, enclosing a whitish spot. Expanse of wings: 1 inch 1 line. Cupari, Rio Negro (January 19th 1874).

E. obsessa Dogn. is above greyish-brown, the base, costal margin, and veins blackened, between the transverse lines being composed of white vein-dots there is a black discal spot, with a dentate dark subterminal line which recedes as usual between 4 and 6; hindwing lighter and greyer in the costal-marginal portion, the rest of the wing red-brown with a subterminal line extending but little beyond the centre. Expanse of wings: 28 mm. French Guiana.

E. lacrimosa Schs. (84 i). Forewing brown, both the blackish transverse stripes double, filled with grey, behind the distal line the marginal area is lighter, subterminally almost white, enclosing the small internerval spots of the subterminal line. Hindwing lighter brown, in the costal-marginal portion blackened with the beginnings of lighter lines, the subterminal line extending almost to the anal angle. Brazil, a more common species.

E. sobrina Schs. (84 i) is very similarly marked, but without the subterminal and marginal brightenings, the transverse lines are double but not filled with grey, only the posterior line at the costal margin somewhat lighter yellowish-red. Hindwing lighter brown, at the costal margin but little darkened brown, with a feeble double postmedian shadow and a feeble light subterminal line. The ♀ is larger, darker, the transverse lines more faded, the posterior line with lighter vein-dots. Costa Rica.

E. phyllis Schs. (84 i). Body brown, at the thorax blackish; forewing light brown, in the costal portion blackened, the broadest in its centre; the two transverse lines indistinctly double with white vein-dots, with a subterminal row of small blackish internerval spots, apically with one more spot behind them. Hindwing duller brown, in the costal-marginal portion blackened with dark brown, partly grey-edged lines. Costa Rica.

E. capillata Schs. (84 i). Forewing uniformly brown, only in the basal costal-marginal half feebly darker, the two transverse lines consisting of somewhat extinct double rows of small blackish lunular spots, the distal line receding between 4 and 6; the subterminal spots in a single row as in *lacrimosa*, but nearer to the margin. Costa Rica.

E. binuba Dogn. Forewing red-brown, feebly strewn with whitish, the markings of the same colour, but not strewn and thereby distinctly prominent; between the two dentate double transverse lines with one black dot each in both the cell-angles, the single dentate subterminal line shaped as in the preceding species. Hindwing red-brown, in the costal-marginal portion strewn with white, enclosing the beginnings of two darker lines. Expanse of wings: 30 to 32 mm. São Paulo de Olivença: Rio Xingu, Amazons.

E. zurcheri Drc. (84 i) is similar to the preceding ones, but blacker with a slight purple tint, the double transverse lines deep black, basally and subterminally between 4 and 6 as well as before the apex at the costal margin somewhat blackened; hindwing brownish-black, with 3 short lines, the last, subterminal one extending almost to the anal angle. Costa Rica.

E. scripturata Dogn. is very similar to *zurcheri* which, however, is larger and blacker. Body and wings reddish-brown, with brownish-black markings: a basal shadow, a double antemedian line, before which

there are 2 black submedian dots, at the cell-end 2 dots, behind them double postmedian and subterminal lines composed of internerval lunae. On the hindwing at the costa the beginnings of 3 lines. Expanse of wings: 25 mm. Lino (Panama).

deceana. **E. deceana** Drc. (84 i, k). Forewing blackish-brown, basad and in the marginal area somewhat lighter yellowish, before the antemedian line especially at the costal margin intermixed with whitish-grey scales; the two transverse lines are double, black, undulating, between them a blackish discal spot; subterminal line feeble, undulatingly dentate. Hindwing monotonously blackish-brown. The ♀ is slightly larger, much more monotonous, the lines quite indistinct, before and behind the subterminal line at the apex greyish-white irroration. Mexico.

orgyia. **E. orgyia** sp. n. (84 k) almost recalls an *Orgyia*; it is much smaller than *deceana* and much more monotonous and deeper brownish-black, only near the interior angle of the forewing somewhat lighter reddish-brown, and apically at the costal margin behind the hardly noticeable subterminal line with some greyish-white scales. Hindwing apically at the costal margin with a small grey spot. According to 1 ♂ from Sa. Catharina (Brazil); type in the Coll. WERNICKE, Dresden.

lola. **E. lola** Schs. (= *dormia* Schs.) (85 i). Body reddish-brown, collar and patagia darker. Forewing light reddish-brown, below the cell basad with a blackish spot; anterior transverse line double, partly filled with whitish, posterior line composed of black, outside white vein-streaks, between both a black cell-end spot; a subterminal row of large black spots. Hindwing light brown with 3 dark grey lines at the costal margin. Expanse of wings: 25 mm. Aroa (Venezuela).

incivilis. **E. incivilis** Wkr. Forewing reddish-brown, short and broad, with white marginal dots, along the costal margin blackened with 3 brown transverse lines; antemedian and postmedian lines with white vein-dots, subterminal line composed of spots. Hindwing reddish-brown, at the costal margin marked like the forewing, with a subterminal line of spots behind which the distal margin is lighter. Expanse of wings: 30 mm. Rio de Janeiro.

similavis. **E. similavis** Kaye is brown with black irroration, forewing with a brown basal hair-tuft and a broad black costal margin as far as behind the median band which is distally sharply defined, proximally faded, containing a small black discal spot: the postmedian line is composed of white vein-dots, the subterminal line of black dots; fringes speckled. Hindwing brown, at the costal margin black with a light median area with 1 or 2 black dots, behind the subterminal line with black dots. Expanse of wings: 30 mm. Trinidad.

celebris. **E. celebris** Schs. (84 k). Forewing brown, in the costal half strewn with greenish greyish-black, with fine dark veins and shadow-like indistinct transverse lines beginning double at the costal margin, filled with whitish; subterminal line as in all the preceding species; fringes on the ends of the veins crossed by light. Hindwing like the forewing, the subterminal line broader, behind it the margin is somewhat lighter. The ♀ is strewn with a redder tint, with still more indistinct markings, hindwing greyish-brown with yellowish-reddish marginal spots. Costa Rica.

nystamma. **E. nystamma** Dyar (84 k) is extraordinarily similar to *celebris*, lighter, more uniformly strewn with dark, the two transverse stripes more distinctly double, between them a discal spot; subterminal area somewhat more whitish, containing larger internerval blackish spots; fringes reddish yellowish-brown; also on the hindwing the subterminal line is spot-shaped. Mexico.

nigropunctata. **E. nigropunctata** Schs. is another similar, smaller species. Body and wings light reddish-brown; forewing with a black spot at the cell-end, only the posterior transverse line is marked by double black vein-streaks with a blackish shadow between them from the costal margin to vein 3; apical veins black, subterminal spots as in *nystamma*, but blacker. Hindwing as in *nystamma*. Expanse of wings: 29 mm. Central Brazil.

nysaea. **E. nysaea** Dogn. (85 c) from the same group is larger, the forewing more flesh-coloured white, with basal and subcostal black clouds, submedianly strewn with yellowish-red, and in the distal area strewn with black, with ochreous veins and a black discal dot; basal and antemedian transverse lines double, the posterior line single, dentate, with white vein-dots, at the costal margin outside bordered with white, behind it with a feeble ochreous line; subterminal line dentate, on both sides powdered with white, the veins speckled black and white. Hindwing flesh-coloured white, in the costal-marginal portion with black, at the anal margin with yellowish-red hair, the margin behind the subterminal line white. Expanse of wings: 35 to 36 mm. Rio Songo (Bolivia).

boresa. **E. boresa** Schs. (85 i). Forewing yellowish-red, in the disc and broadly at the costal margin with smoky blackish clouds, the veins in the distal half reddish-brown; transverse lines absent, excepting the undulate smoky blackish subterminal shadow. Hindwing lighter, at the anal margin with brown hair, with a large blackish area at the apex, from which the subterminal shadow extends to the anal margin. Expanse of wings: 22 mm. Aroa (Venezuela).

venalia. **E. venalia** Schs. (84 k) is on the body and wings light yellowish-red, basally darkened, with double blackish undulating transverse lines filled with whitish, and a black discal dot between them; subterminal line composed of small blackish wedges. Hindwing white, at the costal-marginal portion yellowish-red with the beginnings of grey lines, partly bordered with whitish. Aroa, Venezuela.

E. guttivena Wkr. (85 i) is all white, with black dots on the veins arranged as in *venalia*, and a brown *guttivena*, spot at the anal angle of the hindwing. Thereby it resembles an *Artace*. Rio de Janeiro.

E. pygma Schs. (84 k). Forewing scantily scaled blackish-brown with fine darker veins and a black *pygma*, discal spot, in the disc at the costal margin and behind the subterminal line lighter whitish, the broadest apically and at the inner angle; transverse lines shadow-like darker, indistinctly double. Hindwing at the costal margin broad whitish with feeble darker lines therein. Brazil.

E. vandrilla Schs., described from a ♀ from Villarica, Paraguay, has an expanse of but 28 mm. Body *vandrilla*, and forewing sand-coloured brownish, excepting the transverse lines strewn with drab, the latter lines feebly double, the posterior line almost vertical; at the cell-end there is a dark dot; a subterminal row of small brownish spots. Hindwing only at the apex and margin strewn with drab.

E. casimir Schs. (85 i). Body and wings brown with dark brown irroration, at the inner margin as *casimir*, well as on the head and palpi cinnamon-coloured orange; at the cell-end 2 black dots; only a double white subterminal line is distinct, parallel to the margin. Hindwing brown, at the margin and apical fringe a few white hairs. Expanse of wings: 30 mm. French Guiana.

E. castrensis Schs. (84 k). Palpi yellowish; anterior body and forewing bluish ashy grey with double *castrensis*, dentate transverse lines, the anterior line very strong, deep blackish red-brown, the posterior line much feebler and finer, filled with light yellowish-red; discal spot thick, blackish-red; subterminal shadow feeble, grey. Hindwing white, at the costal margin in the basal half brown, distally grey with grey fringes. Castro; Sul de Minas. (Brazil).

E. spreta sp. n. (84 k). Anterior body and forewing whitish violettish-grey, strewn with red-brown, *spretu*, the most densely at the base and in the median area in the costal half, the double transverse lines filled with greyish-white, between them with a grey discal spot; small subterminal, feeble, red-brown internerval spots. Hindwing like the abdomen reddish-brown, hindwing in the apical portion of the costal margin whitish with feeble beginnings of lines. Described from 1 ♀ from Paraguay, in the Berlin Museum.

E. quercifolia sp. n. (85 a) is bright coppery brown, in the costal half as far as behind the postmedian *quercifolia*, line strewn with blackish-brown; transverse lines black, double, punctiform, with white vein-dots between them, the subterminal line composed of a curved row of black dots partly exhibiting outside a few white scales: before the fringe a fine black limbal line, on the ends of the veins white dots being especially distinct before the somewhat undulating fringes of the hindwing. Hindwing somewhat duller brown, in the costal-marginal portion darkened, the postmedian line powdered with whitish, and with a feeble dark subterminal line. Described from a ♂ from Huayaba, in the Berlin Museum.

E. temperata sp. n. (85 a) resembles *quercifolia*, but it is duller brown, the transverse lines are single, *temperata*, undulatingly dentate with white vein-dots on the averted sides: the subterminal line is fine, darker; the limbal line and white dots on the ends of the veins are absent. Hindwing monotonously red-brown without markings. According to 1 ♂ from Novo Friburgo in the Berlin Museum.

E. bipuncta Schs. (85 i) is a small species with a lilac brown body and blackish dorsal tufts at the *bipuncta*, base of the abdomen; the brown forewing at the base darkened with a grey shadow through the cell and at the costal margin, with 2 black dots at the cell-end; the antemedian line is fine, undulating, the posterior transverse line in the upper half composed of dark vein-dots, in the lower half of white ones; subterminal line dark grey, undulatingly dentate, partly bordered with white. Hindwing light brown, at the costal margin grey with a dark grey subterminal shadow at the apex. Expanse of wings: 25 mm. French Guiana.

E. lixa Dogn. (85 k). Above yellowish-grey with a blackish submedian shadow at the base and double, *lixa*, dentate transverse lines with a thick discal dot between them; behind the postmedian line with dark dusting subcostally and between 2 and 5; small subterminal internerval lunae bordered with white. Hindwing yellowish-grey, at the apex blackened with 2 subterminal dots between 6 and 7. Expanse of wings: 19 to 21 mm. French Guiana.

E. minuta Dogn. is monotonously light ashy grey, on the forewing only with a subterminal row of *minuta*, very feeble brownish internerval dots. Expanse of wings: 25 mm. According to 1 ♀ from Paranapanema (São Paulo, Brazil).

E. guttularis Wkr. (85 a) is again allied to the *zurcheri*-group. Above brown, in the costal portion *guttularis*, as far as the whitish subterminal band darker with fine black double lunular transverse lines and double black discal dots; subterminal line composed of ashy grey small internerval spots. Hindwing brown, costally somewhat darkened by grey with the beginnings of whitish lines. A common species widely distributed from Mexico to Brazil.

- subguttularis*. **E. subguttularis** Dogn. (85 a) is very similar, larger, somewhat more slender, the posterior transverse line treble, the area behind the discal dots lighter, the broad white subterminal band only very feeble. Venezuela, Colombia.
- laurena*. **E. laurena** Schs. (85 a). Forewing brown, at the costal margin beginning from the second quarter and at the apex grey or flesh-coloured white, the median vein and its branches black; in the light apical portion the veins are brownish; transverse lines in the dark portion of the wing indistinct, in the light portion more distinct, partly double with dark vein-dots, the most distinct is the notched subterminal line. Hindwing brown, at the costal margin and apex lighter greyish-white with nebulous beginnings of lines. From Guiana and the Amazons, before me from Pebas.
- brumosa*. **E. brumosa** Dogn. (85 k). Body and wings light ochreous, forewing at the costal margin brown, the cross-vein and postmedian spots between 3 and 5 likewise brown, behind them follows a white angular line; the white subterminal line disappears before the inner angle, before it between 6 and 7 a white spot. Hindwing at the costal margin likewise brownish. Expanse of wings: 24 mm. São Paulo de Olivença (Amazons). —
- tripunctata*. f. **tripunctata** Dogn. shows below the white subterminal spot 2 more white spots, the white postmedian line already terminates below the costal margin. Monte Christo (Amazons).
- fallacia*. **E. fallacia** Dogn. Anterior body and forewing brown, abdomen more yellowish-red; on the forewing a subterminal stripe, the veins and cross-vein excepting 5 are black, the subterminal stripe and vein 6 thicker and thereby parting the wing in its length; the anterior transverse line is black, a posterior line white; a postdiscal pale yellowish-red brightening between 4 and 6 as far as the margin; the real postmedian line is double only at the costal margin, then interrupted and only appearing again between 4 and 6 and at the inner angle; a white marginal line is thickened at both its ends. Hindwing light brown, at the costal margin blackened, with the beginning of a light marginal line. Expanse of wings: 27 mm. French Guiana.
- falsifica*. **E. falsifica** Dogn. (85 k). Forewing yellowish red-brown with a black longitudinal stripe on the submedian fold as far as the subterminal line; the cell and behind it between 5 and 6 strewn with black, these veins as well as 8 and 9 likewise black; the double subterminal line is filled with light yellowish and is bent to the centre of the inner margin; apex blackened; the anterior transverse lines only marked at the costal margin; Hindwing blackish-brown with the beginnings of a few lines. Expanse of wings: 30 mm. Venezuela.
- marginata*. **E. marginata** Schs. (85 a). Brown, forewing scantily scaled, with dark veins, between 5 and 6 behind the cell strewn with blackish, with a postmedian double, undulatingly dentate line interrupting the veins with light and extending in a large bow to the centre of the inner margin; subterminal line parallel to it, blackish, outside finely bordered with light yellowish, at the margin a light, then a black fine line. Hindwing brown, the light subterminal line almost extends to vein 4. Very common and widely distributed from Mexico to Panama, at the latter habitat somewhat lighter.
- libnites*. **E. libnites** Drc. is allied to *marginata*, the forewing is scantily scaled light reddish-brown with but one black stripe from the cell-end to the subterminal line, below the cell-end with a large yellowish-white spot, a smaller one nearer to the distal margin, the undulating lines as in *marginata*. Hindwing light yellowish-red, apex and distal margin darker brown. From Teapa (Mexico).
- jeba*. **E. jeba** Schs. is very closely allied to the preceding species, but much darker. Body reddish-brown. Forewing brown, at the base, between 2 and 3 near the cell, in the cell and between 5 and 9 as far as the subterminal line thickly strewn with black and brown, the brown anterior transverse lines only visible at the costal margin; postmedian line as in *marginata*, but between 5 and 6 interrupted by a light spot, behind it between 3 and 5 a lighter area; the lunular blackish subterminal shadow is bordered with lilac grey, the broadest at the apex. Hindwing brown, at the distal margin shaded with black, with a white subterminal line which is the most distinct at the apex. The ♀ is less black, more smoky. Expanse of wings: 23 mm. ♀ 30 mm. Costa Rica.
- sylpha*. **E. sylpha** Dogn. (85 k). Body and wings yellowish red-brown, mesothorax and abdomen above browner; the veins in some places, especially at the margin darker brown; of the anterior transverse line only a brown spot at the costal margin is visible, the postmedian line dentate with yellowish vein-dots behind it; subterminal line pointedly dentate, the dents receding far on 5 and 9, before it at the inner margin between 3 and 5 as well as between 6 and 9 one light spot each; fringes on the veins crossed by light. Hindwing reddish-yellow with the beginnings of lines at the costal margin, the subterminal line dentate as far as the anal angle, the strongest dents between 6 and 5, and 3 and 2. Rio Tapajoz (Amazons).
- indentata*. **E. indentata** Schs. (85 k) also belongs yet to the same group. Body and wings light yellowish reddish-brown; forewing with a whitish antemedian spot and a dark brown stripe from the base along vein 2 as far as the centre; the dark antemedian line is double and extends from the costal margin to 2; the exterior half of the cell and the space between 2 and 6 as far as the postmedian line lilac brown, the space between 5 and 6 behind the cell is still darker; the dark postmedian line is strongly incurved on 2 as far as the dark longitudinal stripe, and it is directly followed by an undulating line and behind it a dark shadow, both

of which are interrupted between 5 and 6; a subterminal grey shadow in a whitish area. Hindwing with a curved grey subterminal shadow. Expanse of wings: 26 mm. Costa Rica.

E. farina Schs. Forewing light brown, basally darker, the fine antemedian line at the costal margin *farina*, bordered by reddish-grey, the cross-vein and vein 6 as far as the postmedian line dark brown, the velvety brown posterior transverse line double, above 3 filled with reddish-grey; near the apex an oblique velvety brown costal-marginal streak; subterminal line shaded with dark, near the apex fine and dentate, at the anal angle a white spot. Expanse of wings: 29 mm. French Guiana.

E. farinula Dogn. (85 k) is somewhat smaller, above more brownish-ochreous, the bases of the costal *farinula*, margin and of the submedian broad black, at the cross-vein 2 black dots, the upper one thicker; transverse lines fine black, the anterior line irregular, rather indistinct, the posterior line double, the subterminal line dentate. Hindwing more brownish, only at the costal margin ochreous with the beginnings of 2 lines. Expanse of wings: 27 mm. French Guiana.

E. cacopasa Dyar (85 b). Forewing brown, before the double antemedian line, behind the cross-vein *cacopasa*, between 4 and 6, and at the distal margin lighter, the submedian somewhat strewn with white; at the cross-vein a black angular streak; postmedian line indistinct, somewhat darker brown, double with vein-dots, the interior dot between the costal margin and 7 being a very oblique black streak; subterminal line black, the thickest below the costal margin. Hindwing very long and narrow with a somewhat extended anal angle, before the light brown margin with a jet-black, inwardly faded marginal shadow, the dark subterminal line extends to 5. Mexico.

E. suramis Schs. (85 b) has still narrower forewings with a pointed apex and very oblique margin; *suramis*, brown, basally darker, with black veins strewn with white, the anterior transverse lines curved, composed of small brown spots, a chestnut-brown dentate median line despatches in the cell a streak to the cross-vein, the area behind it as far as the postmedian line liver-brown, between 5 and 6 and at the inner margin apricot-coloured reddish; postmedian line indistinct, between 5 and 2 bordered with a lighter reddish tint; apical third of the costal margin dark brown; behind the dark subterminal shadow the margin is yellowish-red. Hindwing as in *cacopasa*. Expanse of wings: 30 mm. Guatemala, also 1 ♀ from Sa. Catharina (Brazil).

E. aldegondes Schs. (85 k). Forewing cinnamon reddish-brown, at the cell-end and before the subterminal *aldegondes*, line lighter claret-coloured, transverse lines indistinct, more rusty brown, the median line with black vein-dots; the postmedian line consists of short black and white vein-streaks, between 6 and 4 as a straight black line, below 4 undulating to the inner margin, outside accompanied by a rusty brown line; subterminal line very thick, black, behind it a rusty brown marginal line. Hindwing at the costal margin, apex and distal margin as far as 3 mixed with greyish-white, with a thick black undulating subterminal line. Expanse of wings: 30 mm. Rurrenabaque (Bolivia).

E. daltha Schs. Forewing dark brown, finely strewn with white, with a blackish-brown streak at *daltha*, the base of the cell and a similar spot in the upper cell-angle; the double transverse lines finely dentate, double; the undulatingly dentate subterminal line is bordered with white at the apex, at the anal angle there is a small white spot. Hindwing dark brown with a blackish-brown subterminal line at the apex and traces of a postmedian line. Expanse of wings: 27 mm. Dutch Guiana.

E. sura Schs. (85 b) is rather scantily scaled, unicoloured dark smoky grey with a darker cell-end *sura*, streak and traces of very faint whitish transverse lines, the posterior line with diminutive white vein-dots; small, faint, lighter, diffuse subterminal spots. Hindwing with traces of a darker median shadow. Castro, Parana (Brazil).

E. retritita sp. n. (85 b). ♂: body brown, thorax and anal hair blackish. Forewing scantily scaled, *retritita*, grey with a dark cell-end streak and feeble darker oblique transverse lines. Hindwing with a whitish spot at the apex. The ♀ is still lighter, with shadow-like markings, also on the body light grey. According to a couple from Sul de Minas (♂) and Casa Branca (♀), Brazil. Types: ♂ in the Coll. HOPP, Charlottenburg, ♀ in the Berlin Museum, in the Coll. STAUDINGER.

E. centuncula sp. n. (85 b) is very closely allied to *sura*, but smaller, of a much stronger structure, *centuncula*, with a very stout abdomen, on the body and wings smoky grey with somewhat more brownish veins, darker cell-end streaks and a broad, feebly darker postmedian shadow which is only more distinct at the costal margin. Hindwing not marked. According to a ♂ the habitat of which is not stated, in the Coll. STAUDINGER in the Berlin Museum.

E. captiosa (85 b) is larger than *sura*, body blackish-grey, wings somewhat lighter, rather scantily *captiosa*, scaled, with slightly darker veins and a black cross-vein streak; the two median transverse lines are only noticeable as very faint darker shadows; subterminal line more distinct as a dark, undulatingly dentate nebulous line, interrupted between 5 and 6, this space beginning from the cell-end darker. Hindwing with traces of the beginnings of 2 shadow-like lines at the costal margin. According to 1 ♂ from South Brazil in the Berlin Museum.

E. pastica Schs. Forewing dark grey, the veins feebly strewn with light brown, at the cell-end a small *pastica*, red-brown spot with a black dot therein; white postmedian vein-dots, at the margin between the veins small

white lunae. Hindwing dark greyish-brown, at the costal margin strewn with white, with an irregular whitish subterminal line. Expanse of wings: 23 mm. French Guiana.

falsaria. **E. falsaria** Dogn. (85 k). Body and wings light brown, the blackish transverse lines on the averted sides strewn with white, the posterior line dentate, between them at the cell-end 2 black dots; at the margin there are black small internerval spots outside bordered with white. Expanse of wings: 22 mm. Sao Paulo de Olivença (Amazons).

terranea. **E. terranea** Btlr. is unknown to me. Wings light reddish-brown, powdered with a dull grey. Forewing with a postmedian row of black vein-dots forming two bows, at the base of the fringe with a light line. Hindwing basally lighter brownish-white. Expanse of wings: 1 inch. Serpa.

subterranea. **E. subterranea** Dogn. Forewing light yellowish-brown with 2 black discal dots and a subterminal row of black vein-dots, between 5 and 6 removed inwards, besides with traces of a postmedian line. Expanse of wings: 24 to 25 mm. French Guiana.

debilis. **E. debilis** sp. n. (85 c) is larger, very pale yellowish-brown, with fine darker veins and an oblique dark cross-vein streak; antemedian line almost vertical to the inner margin, postmedian line feebly curved, outside lighter, the subterminal line feebly traceable at the apex. Hindwing somewhat lighter, body somewhat more yellowish. According to 1 ♂ from Colombia in the Coll. STAUDINGER in the Berlin Museum.

detrita. **E. detrita** sp. n. (85 c) is much larger than *debilis*, the apex of the forewing more pointed, the colouring the same, the antemedian line slightly curved, the postmedian line less curved, but more distinctly angular on 8, outside not lighter; the subterminal line is somewhat more distinct. Hindwing somewhat darker, the body also darker, more brownish. According to 1 ♂ from São Paulo (Brazil) in the Berlin Museum.

falsa. **E. falsa** Schs. Body and wings light brown, forewing basally feebly darker and with a broad shadow through the cell; at the cell-end a black dot, behind it the double angular postmedian line, between the cell-end and apex some black striae, at the margin a row of black internerval dots. Expanse of wings: 22 mm. Castro, Parana (Brazil).

exigua. **E. exigua** Btlr. Wings sooty brown, towards the margin lighter, forewing with 2 parallel transverse lines between which the median area is darkened by blackish-brown above the median, with 2 parallel, undulatingly dentate, brown postmedian lines; a subterminal row of black spots, behind them at the margin brown dots. Hindwing at the apex blackened with the beginning of a whitish line. The ♀ is lighter, excepting the dark spot of the median area more indistinctly marked. Expanse of wings: ♂ 21, ♀ 22 mm. Rio Jutahi, Rio Purus (Amazons).

zemira. **E. zemira** Dre. (85 c) is a small brown species, easily discernible by the very strong, round, velvety black discal spot of the forewing, the costal-marginal portion of the forewing being lighter brown, at the apex almost whitish; the veins especially in the median area striped black, the anterior transverse line rather indistinct, the posterior line double, broken up into dots; below the cell there is a black basal ray; undulate line composed of small, feeble, darker internerval spots. Hindwing lighter, at the apex with blackish spots. Colombia.

mizera. **E. mizera** sp. n. (85 c) is very similar to *zemira*, darker, the costal margin only in the median area little lighter, the apex not lighter at all; the double antemedian line pointedly projects on the median very far towards the margin, the interior portion of the postmedian line is thick black, coherently undulatingly dentate, the exterior portion much feebler and brown; discal spot punctiform; the feeble subterminal line likewise represents a coherent brown line. Hindwing as in *zemira*, before the small black apical spot with the beginning of a double postmedian line filled with a lighter colour. Described from 1 ♂ from Thomar in the Coll. STAUDINGER in the Berlin Museum.

kotzschii. **E. kotzschii** sp. n. (85 c) is somewhat larger than the two preceding species, with the same thick velvety black discal spot as in *zemira*, but by the scheme of markings more similar to *marginata*. Forewing brown, costally somewhat lighter, with a black submedian stripe and an undulatingly dentate double antemedian line, the veins in the disc partly black, the double postmedian line feeble, only below the costal margin more distinct and deeper blackish-brown; the undulating line consists of small black internerval spots situate between 6 and 10 in a white halo, the uppermost black spot forming a large subapical spot; before the fringe a fine red-brown limbal line. Hindwing in the anal-marginal portion with somewhat more reddish hair, apically at the margin blackened, before it at the costal margin with the beginning of a feeble light postmedian line. According to 1 ♂ from Sa. Catharina (Brazil), type in the Coll. WERNICKE, Dresden.

lanceolata. **E. lanceolata** Dogn. is on the forewing reddish yellowish-brown, with double transverse lines which are parallel and very pointedly dentate, particularly the postmedian line in the shape of very long „points of lances“; they are darker brown, in the upper half more distinct by whitish irroration, all with their points turned outward between the veins; the fifth subterminal line is less pointedly dentate; at the cross-vein there is a very thick black dot. Hindwing with 3 apical darker lines situate in white-strewn surroundings. Expanse of wings: 25 mm. French Guiana.

E. palma Schs. (85 k). Forewing light brown, a large triangular area at the base of the costal margin *palma*. strewn with metallic scales, at the cell-end with a large velvety black spot, behind which a dark brown shadow extends to the double partly dotted undulating postmedian line; the dark brown subterminal line is undulate dentate, surrounded by whitish from 5 to the costal margin. Hindwing light brown with traces of a dark subterminal shadow. Expanse of wings: 21 mm. French Guiana.

E. attenuata Schs. (85 k) has dark brown forewings with a small dark brown spot below the base of *attenuata*. the cell and a round velvety black cell-end spot, anterior transverse line double; shaded with grey, posterior line single, very fine with a yellow-reddish shadow behind it, the postmedian area is lighter with a broad grey subterminal shadow in which there is a row of blackish-brown spots, before the uppermost of which a dark brown shadow is to be noticed. Hindwing dark brown with a whitish subterminal stripe at the costal margin. Expanse of wings: 21 mm. Variable in the more or less light ground-colour, also in the distinctness of the marking and the size of the discal spot which may be reduced to a streak.

E. tenuata Dogn. is allied to *attenuata*; forewing brown, basally blackened and strewn with white, with *tenuata*. fine irregular transverse lines and 2 black discal dots; posterior transverse line angular, inside shaded with black, outside bordered with white, behind it with a fine black, undulately dentate line; subterminally the veins 7—10 and the cellular spaces between them are blackened; the subterminal line is composed of small black spots bordered with white and, between 5 and 2, on both sides dusted with black. Hindwing lighter brown, at the apex blackened. Expanse of wings: 22 mm. Sao Paulo de Olivença (Amazons).

E. fasciolata Btlr. has remained unknown to me; forewing red-brown, in the discal area and a subapical *fasciolata*. stripe brown strewn with white, and at the cell-end with a brown streak bordered with black; postmedian line double, dentate and filled with whitish, the subterminal line is also composed of a row of black, white-edged small spots, as in the preceding species. Hindwing somewhat greyer with a dark-shaded subterminal line. Amazons.

E. bibiana Stoll is a not identified species from Surinam; dark brown, with 3 black antemedian transverse *bibiana*. lines, at the cell-end with a black discal streak, the slightly curved postmedian line is outside bordered with a somewhat lighter colour, before the subterminal line composed of small black internerval lunae at the costal margin with a short black subapical spot. The larva is figured by STOLL as brown with yellow longitudinal stripes with numerous bristles set with small black hairy knobs at the ends. It is reported to live on Guayava like the processionary caterpillars, jointly pupating in roll-shaped webs.

E. dentilinea sp. n. (85 c) resembles the figure of *bibiana*; browns trewn with purple grey, basally below the *dentilinea*. cell with a short black longitudinal streak, behind it with a double notched antemedian line, the postmedian line being fine, undulately dentate, slightly projecting between 3 and 4 and between 7 and 9, at the cell-end with a black thick discal streak; subterminal line composed of small black outside light-edged internerval spots receding far between 4 and 6 and being separated below the costal margin by white irroration from a black subapical spot before it. Hindwing at the costal margin lighter purple grey with a short black median line, subterminal line irregular, extending to the anal angle. Described from 1 ♀ from Sao Paulo in the Berlin Museum. Connected by *combusta* with the *ogenes*-group.

E. onoba Drc. (85 c) is a peculiar species not being allied with any other species. Rust-brown, strewn *onoba*. with a somewhat darker colour, especially in the basal two thirds of the forewing; no transverse markings except the postmedian border towards the somewhat lighter marginal area; at the cell-end 2 thick white dots finely surrounded by a darker colour, separated by an orange patch crossing the cell-end. Hindwing in the costal portion whitish dusted with a bluish-grey, with the beginnings of 2 lines of the ground-colour therein. fringes yolk-colour, basally mixed with orange; Peru; Colombia, from Mocoa in the Coll. HOPP.

E. inconspicua Schs. has a dark brown body, on the thorax feebly mixed with dark grey; forewing dark *inconspicua*. brown, at the cell-end with 2 black dots above each other, with a postmedian row of small dark greyish-brown, very indistinct spots; of a similarly coloured subterminal line only traces are visible. Hindwing blackish-brown, at the costal margin dark brown. The inner margin of the forewing projects rounded, the costal margin of the hindwing is straight as far as vein 9, then angular and oblique, at the distal margin rounded. Expanse of wings: 35 mm. Panama, Chiriqui.

E. definita Schs. Head and thorax dark grey, tegulae outside reddish-brown, abdomen dark brownish- *definita*. grey. Forewing very dark violetish-brown, basad with a reddish-brown spot, median area below the cell and the inner margin light yellowish red-brown; the irregular interrupted antemedian line is reddish-yellow, the similarly coloured postmedian line very fine, finely undulate, hardly visible in the costal half, in the light portion of the wing before it with a darker line; subterminally between 3 and 6 there are 3 small white spots with fine white lunulae behind them; at the ends of the veins with light reddish-yellow dots. Hindwing dark slate-colour, in the costal marginale portion dark violetish-brown with a feeble light median line to the inner margin above the anal angle; the costal margin of the hindwing is deeply concave, then it extends obliquely to 7. Expanse of wings: 33 mm. Costa Rica (Juan Vinas; Sixola).

- sigurda*. **E. sigurda** Schs. is a much smaller species with an almost straight costal margin of the hindwing, then obliquely as far as below 7, below it the distal margin is rounded. Body lilac brown, only the thorax reddish-brown. Forewing dull reddish-brown with yellowish-red lines, the anterior line straight, the thick discal streak blackish, the postmedian transverse line is outside accompanied by a fine, more oblique line extending from above 5 to the apex; the fine moon-spotted subterminal line runs from 6 to the inner margin near the anal angle. Hindwing lilac brown, at the costal margin dull reddish-brown with a faint light subterminal line. Expanse of wings: 28 mm. Costa Rica.
- modesta*. **E. modesta** Drc. (85 c). Forewing reddish-brown, strewn with violettish-grey, especially basad and at the inner margin, with a postmedian line composed of very fine blackish dots, and with thicker subterminal spots, both receding between 4 and 6. Hindwing somewhat lighter, at the costal and distal margins dark violettish-grey with a fine darker spotted subterminal line. Costal margin of hindwing at the apex pointedly extended, at the costal margin before and behind the middle with 2 pointed dents. Panama; Colombia.
- sonia*. **E. sonia** Schs. Body brown, on the head and thorax strewn with reddish-yellow, abdomen with a darker dorsal tuft. Forewing brown, strewn with reddish-yellow, in the median area and at the distal margin darkest, with small whitish basal spots and dark small spots at the costal and inner margins behind it; the dark brown transverse lines are undulate, on the averted sides bordered with whitish, the posterior line finely dentate, with a yellowish-reddish lunular line behind it, at the cell-end an irregular black spot; between veins 4 and 5 a reddish-yellow stripe, with subterminal dark brown spots outside bordered with reddish-yellow, before them between 5 and 7 lilac-white spots, above 7 a dark streak. Hindwing brown, in the costal portion strewn with grey and with dark brown spots, a short whitish subterminal line at the apex. Costal margin of hindwing short, concave, then oblique as far as 6, below it rounded. Expanse of wings: 28 mm. Costa-Rica.
- talma*. **E. talma** Schs. is a tiny species, with dull smoky grey body and wings, on the forewing with a darker spot at the cell-end and an indistinct darker postmedian line and subterminal line. Fringes with small reddish-yellow dots at the ends of the veins. Expanse of wings: ♂ 27 mm, ♀ 43 mm. French Guiana.
- carola*. **E. carola** Schs. is brown on the body and wings, with darker brown, white-spotted transverse lines, behind the postmedian line with a feeble lilac grey shadow near the costal margin, at the cell-end with a hardly visible darker streak; the dark subterminal line is distantly remote from the margin and does not reach to the inner margin. Hindwing with darker fringe. Expanse of wings: 33 mm. Costa-Rica.
- umbrosa*. **E. umbrosa** Dogn. is somewhat like *carola*. Forewing chestnut-brown, at the base of the costal margin dusted with blackish, also in the cell and on the first half of the submedian fold, from here in a straight oblique shadow to the costal margin before the apex and a parallel subterminal one behind it. Hindwing lighter and less reddish, at the costal margin with long hairs. Expanse of wings: 37 mm. Cali (Colombia).
- brunnea*. **E. brunnea** Schs. is a very small species described as *Ocha*. Above dark brown, on the forewing with 2 indistinct, feebly white-dotted transverse lines and an irregular submarginal row of small black spots, very feebly bordered with grey. Expanse of wings: 20 mm. Castro, Parana.
- casia*. **E. casia** Dogn. described from but 1 ♀ from the Songo (Bolivia) with an expanse of 54 mm. Above light lilac-grey, on the forewing strewn with reddish cinnamon-colour, especially in the basal area, at the inner margin and postmedianly, with darker lilac-grey transverse lines, behind the antemedian line with a fine, hardly visible cinnamon-brown parallel line; the subterminal line recedes as usually between 4 and 6. Hindwing lilac-grey, in the costal portion as far as the postmedian line strewn with reddish cinnamon-colour; veins feebly yellowish.
- rubrica*. **E. rubrica** sp. n. (85 d). Cinnamon reddish-brown, basad and at the costal margin feebly dusted with lilac grey, with 3 fine blackish transverse lines, the first extending through the black discal dot, the postmedian line receding towards the cell-end, the subterminal line composed of small black spots which are outside partly white-pupilled. Hindwing with a feeble blackish postmedian shadow behind which it is somewhat lighter. From 1 ♂ from Thomar in the Coll. STAUDINGER (Berlin Museum).
- quassa*. **E. quassa** sp. n. (85 d) is not dissimilar, but darker brown, the transverse lines very fine double, at the cell-end 2 black dots above each other, the subterminal line forming more an undulately notched line. Hindwing blackish-brown. From 1 ♂ from Sul de Minas (Southern Brazil). Type in the Berlin Museum.
- artata*. **E. artata** sp. n. (85 d) is still smaller than the preceding ones, more greyish-brown, the transverse lines double, as in *quassa*, but the portions, especially the postmedian ones, distantly separated, between both another indistinct median line; subterminal line more in the shape of small spots, outside edged with whitish. Hindwing in the anal-marginal portion lighter. 1 ♂ from Thomar in the Coll. STAUDINGER (Berlin Museum).
- canifascia*. **E. canifascia** Wkr. I had unfortunately no access to the description of this species which is neither present in Washington.
- confusa*. **E. confusa** Wkr. I only know from the insufficient description by WALKER, and can therefore not give my opinion upon its position. Forewing light reddish-brown, strewn with brownish red, with several incomplete.

undulating brown bands; fringes between the veins white-spotted. Hindwing along the veins reddish and with white fringe. Expanse of wings: 17 lines. Brazil.

20. Genus: **Nesara** Wkr.

This genus which is generally better known by the name of *Ocha* Wkr. is anatomically in no way separable from *Euglyphis* and therefore really not justified; nevertheless we keep it up as a habitual group; the species are at best to be separated by their small size, their relatively slender body and broad round wings. The species are mostly very similar, difficult to distinguish, and some of them may have to be cancelled as synonyms.

Genotype: *N. apicalis* Wkr.

N. casada Schs. (85 e). Forewing yellowish, above the median as far as the posterior transverse line *casada*, and at the distal margin shaded with violet, with a dark brown basal half of the cell; the 3 transverse lines are brown, the anterior line introangular above the inner margin, a median one turns lighter at the costal and inner margins, the postmedian line close behind it is double; at the cell-end 2 black dots; between 5 and 6 a dark brown shadow extends to the subterminal line, above it there is a purely yellow area; the subterminal line itself is dark brown only between 6 and 8, the rest of it irregular, at the costal margin inside shaded with brown, in the lower half only marked by violet shading. Hindwing light yellow with 3 brown costal-marginal lines. Expanse of wings: 24 mm. Costa-Rica.

N. fumicosta sp. n. (58 d) is similar to *casada*; forewing light ochreous, but at the costal margin only *fumicosta*, hardly as far as below the upper edge of the cell and from there along 9 to the distal margin dusted with violetish-grey, and narrowly the distal margin in the upper half; in the yellowish portion there are 5 feeble oblique brownish ochreous transverse lines visible, at the cell-end 2 black dots; fringe in the upper half speckled with brown; the dark spot between 5 and 6 is entirely absent. Hindwing yellowish-white, without markings. Peru. Type: 1 ♂ in the Berlin Museum.

N. pallida Btlr. (= *patara* Drc.) (85 d) is probably the same species as *casada*, but of a more gravel-yellow ground-colour without the lilac irroration, the postmedian transverse line reddish-white, the spot between 5 and 6 rusty red; inside shaded with black. Hindwing lighter; from the Rio Negro (Colombia); DRUCES *patara* probably refers only to a very pale whitish specimen; the latter originates from South East Peru: Santo Domingo.

N. caramina Schs. (85 e) is ochreous brown on the body and more yellowish on the abdomen. Forewing *caramina*, above the median and vein 4 smoky grey, below it ochreous brown, the whole wing strewn with white, more intensely so in the grey portion, with brown median and postmedian transverse lines; the whitish subterminal line incurved between 4 and 7 with a curved ochreous red spot behind it; a similarly curved white submarginal line, with a brown filling at the margin in the concavity; apical veins white, at the cell-end 2 black dots. Hindwing yellowish with a brownish-grey double apical shadow. The ♀ is more unicoloured yellowish red-brown, hindwing distally more intensely shaded with brown, with a lighter subterminal line. Costa-Rica.

N. lemoulti Schs. Anterior body and forewing light grey, scantily strewn with black, with a brownish *lemoulti*, longitudinal patch from the base through the cell and between 3 and 6 to the white subterminal line which forms 3 black-filled lunulae above 6; between the undulating transverse lines, the anterior one of which is double, with 2 black cell-end dots. Hindwing and abdomen reddish-yellow; hindwing with a grey costal-marginal portion with the beginnings of 2 brown lines and a dark apical streak. Expanse of wings: 23 mm. French Guiana.

N. dacasa Dogn. (85 e). Above reddish ochreous, between the two blackish transverse lines with the *dacasa*, usual two cell-end dots and a black basal shadow below the cell; right behind the postmedian line begins, between 5 and 6, a crescentiform black shadow ending pointed on 3 at the margin; subterminal line incomplete. Hindwing with an irregular blackish marginal shadow. British Guiana.

N. laurina Dogn. (85 e) is smaller than the preceding species, and lighter yellowish, the markings *laurina*, brownish with much more numerous transverse lines and bands covering the whole wing; a broad median band is divided below the costal margin into 2 large crescents enclosing the 2 black cell-end dots; the very broad subterminal band is interrupted between 6 and 8, from 3 to the anal angle much narrower; basal and in the cell 2 more black dots each; fringe between the veins blackened. Hindwing only with a short apical line. Expanse of wings: 21 mm. French Guiana.

N. gorgas Schs. (85 f). Body light lilac brown; forewing above the median and vein 4 grey; below it *gorgas*, light brown; of the 3 fine darker transverse lines only the posterior line is more distinct, followed by a light line which is curved behind the cell, the cellular spaces between 4 and 8 behind it darker grey; before the white subterminal lunulae between 5 and 6 there is an orange brown spot; fringe speckled with dark brown. The yellowish hindwing is shaded at the costal margin, with short apical lines. Expanse of wings: 25 mm. Joinville.

N. ocruma Schs. (85 f). Forewing reddish-yellow, strewn with light reddish-brown; with 2 black dots *ocruma*, at the cell-end; between the rather indistinct postmedian line and the subterminal line, between 4 and 6, a large

dark violettish-brown spot, the margin behind it is dark grey, between 6 and 7 a black subterminal spot; the subterminal line itself is composed of light grey lunulae. Hindwing lilac brown, basad and at the costal margin dusted with reddish-yellow. Expanse of wings: 27 mm. French Guiana.

lauda. **N. lauda** Drc. (85 d) is apparently very variable; in the typical form the forewing is yellowish-white, finely strewn with reddish-brown, especially in the discal area, the transverse lines only indicated by contrasting colours between strewn and not strewn areas; at the cell-end 2 black dots with a more or less distinct white discal streak between them; between 5 and 6 a subterminal red-brown oblong spot, here the unstrewn whitish subterminal line recedes a little and it is inwardly more intensely shaded with red-brown; veins 6 and 7 more distinctly set off white, the margin especially between 4 and 7 broader and shaded with darker red-brown; behind a white limbal line the fringe between the ends of the veins is brownish. Hindwing light yellow, at the costal margin strewn with brown, with the faint beginnings of lines, the subterminal line apicad shaded darkest. In many specimens the costal portion is above the median and 4 dusted with violettish-grey in variable intensity; the most conspicuous specimens may be named: **duala** f. n. (85 d), they resemble *gorgas* and *caramina*. Mexico, Guatemala.

robustior. **N. robustior** sp. n. (85 d). Farther to the south *lauda* is replaced by a very similar, though invariably darker and more unicoloured species which is somewhat larger and stronger. Besides it is extremely variable. The principal form is ochreous with dense red-brown irroration. Markings almost the same as in *lauda* though fainter, the subterminal spots between 5 and 6 and the subapical spot light orange, the latter outside bordered with light. Hindwing much darker, almost like the forewing, the subapical spot being very prominent in *lauda* *fuliginosa*. is here very feeble. Espiritu Santo; type in the Museum Senckenberg. — f. **fuliginosa** n. (85 d) is light loam-coloured on the body, the wings are all over suffused with a greyish brown. Type: 1 ♂ from Pacho (Eastern *quindiensis*. Colombia) in the Museum Senckenberg. — f. **quindiensis** n. (85 d), from the Quindiu Pass, is still much darker, on the forewing suffused with steel-black, the median area at the inner margin deep bronze brown, in the centre dusted with purple grey. Hindwing almost quite black. Body fox-coloured. Type: 1 ♂ in the Mus. Senckenberg.

pocila. **N. pocila** sp. n. (85 e). Scheme of markings also exactly as in *lauda*, but it is much larger and inversely coloured with respect to its form *duala*: in the costal half light ochreous, in the proximal half below the cell and as far as 6 purple blackish, in the median area deep chestnut-red, of the same colour a spot between 5 and 6 which passes over subterminally into an orange stripe; the bordering of the median area on the averted sides whitish. Subterminal line whitish, in the ochreous portion inside shaded with blackish. Hindwing light yellow, subapically with 2 black spots. Body light ochreous, on the metathorax chestnut brown. Moeoa, Colombia. Type: 1 ♂ in the Coll. W. Hopp, Charlottenburg.

famata. **N. famata** Schs. (85 f). Forewing above light reddish-brown, with a dark basal streak, white apical veins and fine dark double undulating transverse lines, the postmedian line outside bordered with whitish; between 4 and 7 from the cell to the margin a dark shadow in which 3 small red-brown spots border inside on the white marginal line; a small dark subapical spot. Hindwing dark brown, at the costal margin lighter, enclosing the beginnings of whitish lines; fringe speckled with dark brown. Expanse of wings: 25 mm. Castro, Paraná.

majorina. **N. majorina** Schs. is larger than *famata*, the wings are more whitish, the markings yellowish ochreous, the large subterminal spot and the subapical spot of a bright ochreous, inwards dusted with lilac. Hindwing of a yellowish-white sulphur-colour, at the costal margin feebly lilac. Expanse of wings: 30 mm. Esteban Valley (Venezuela).

francesca. **N. francesca** Schs. seems to me to be extraordinarily allied to the form *duala* of *lauda*, but the ground-colour is a light reddish-brown, above the median and 4 light grey, basad below the cell with a white spot; transverse lines double, between the posterior line and the subterminal line with another white undulating line between 5 and the inner margin. Hindwing behind a brownish median shadow with darker veins, the apical part of the costal margin reddish-brown with the beginning of a light subterminal line therein. Expanse of wings: 28 mm. Costa-Rica.

niveipunctata. **N. niveipunctata** Dogn. (85 f). Forewing yellowish-white, with a small dark brown discal dot and a postmedian line formed of brown irroration and receding far between 4 and 5; between 7 and 10 subterminal brown irroration, below it between 7 and 6 a quadrangular pure white spot, and 3 white dots between 6 and 3 below it; before the speckled black-brown fringe a white line. Hindwing lighter. Expanse of wings: 24 mm. Sao Paulo de Olivença (Amazons).

laxta. **N. laxta** Drc. (85 f), described as *Dalcera*, unknown to me. The insufficient description runs as follows: forewing brownish-grey, from the costal margin to the inner margin traversed by undulating fine brown lines. Hindwing dark grey, basally lighter. Beneath grey without markings; body light grey, antennae and legs light brown. Expanse of wings: $1\frac{1}{4}$ in. Sarayacu (Ecuador).

apicalis. **N. apicalis** Wkr. (85 c). Forewing light yellowish-white with slightly darker transverse lines and 1 or 2 black cell-end dots; a blackish apical spot is divided by the white subterminal line which is broadly bordered with ruddle-red between 4 and 7 on both sides; below it the fringe is speckled with blackish; the median vein

and its branches partly finely blackened. Hindwing light ruddle-red, at the costal margin broadly yellowish-white; before the subterminal line feebly strewn with a darker colour. Brazil. The species is apparently rare and has no more been found. The figured ♀ was before me from the Berlin Museum. Mr. SCHAUSS has substantiated the determination.

N. lasthenia Drc. (85 e) is marked very much like *lauda*, but of a pure white ground-colour, the markings *lasthenia*. are indicated by extremely feeble blackish and yellowish-ochreous irroration, the median area is very feebly set off darker in the disc; the spot between 5 and 6 is greyish-black; the darkest is the subapical spot on the hindwing. Mexico.

N. macerra Schs. Forewing all white, only basad with a small brown spot, apicad with a large one. *macerra*. Hindwing yellowish, basad white, at the apex with a small brown spot. Abdomen golden yellow. Expanse of wings: 20 mm. Paso de San Juan (Mexico).

N. filamentosa Dogn. (85 f) is allied to *macerra*, also white with a double undulating median line of *filamentosa*. rusty brown atoms and a similar apical spot. Hindwing likewise apicad strewn with rusty brown, very narrowly also at the distal margin. Sao Paulo de Olivença (Amazons).

N. mita Schs. (85 f). Body and wings white, forewing with light yellowish reddish-grey markings, *mita*. 5 transverse lines, and a marginal shadow; median area at the inner margin similarly darkened; at the cell-end 2 black dots and subterminally between 5 and 6 black irroration; fringe above 4 dotted black. Hindwing with a black apical spot. Expanse of wings: 21 mm. French Guiana.

N. dalceroïdes Schs. (85 f). White as *mita*, but with a very characteristic median line which is divided *dalceroïdes*. below the costal margin in order to enclose the 2 discal dots, uniting again below 3 and being again divided at the inner margin; the fine postmedian line is very indistinct; a dark grey apical shadow and dark dots in the fringe. Hindwing at the distal margin greyish-brown, at the anal margin with 2 small spots of grey irroration. Expanse of wings: 26 mm. French Guiana.

N. oroyana Dogn. (85 f). Body pinkish-yellow; forewing white; through the cell as far as the margin *oroyana*. between 6 and 10 a chestnut-brown longitudinal spot enclosing a black dot in the lower cell-angle, outside as far as the postmedian line spotted orange; the brownish transverse lines are partly interrupted, dentate, the posterior line beginning from 6 double; at the margin a pure white area ending inside between 6 and 4, outside at the margin between 7 and 4; between 4 and the anal angle the marginal area is orange-yellow; the fine white subterminal line is interrupted in some places. Hindwing light yellowish with a brownish costal-marginal area. Expanse of wings: 25—29 mm. Peru, Amazons.

N. drucei Schs. (85 e). Body yellowish-white; forewing light reddish-brown, along the inner margin *drucei*. whitish, the brown transverse lines double; at the apex and between 4 and 6 small spots strewn with brownish; fringe speckled brown. Hindwing yellowish-white, at the costal margin brownish irroration. Expanse of wings: 23 mm. Sao Paulo.

N. tremula Schs. (85 f) is reddish-ochreous on the body, lilac brown on the thorax; forewing lilac brown, *tremula*. basally and subterminally with a reddish-brown tint, with yellowish-white transverse lines, the two median ones being double; at the base of the cell a black spot and at the cell-end the usual 2 dots; before the subterminal line there are small dark brown subapical spots; fringe speckled darker. Hindwing reddish ochreous, at the costal margin strewn with grey and brown. Expanse of wings: 18 mm. Dutch Guiana.

N. parva Dogn. is one of the smallest species of but 17 mm expanse. Wings white with grey markings: *parva*. on the forewing 5 parallel transverse bands, in the costal half regular, in the lower half irregular; at the cell-end an indistinct black dot; between 5 and 6 a darker spot; veins 2—5 partly grey. Hindwing with 3 parallel bands. French Guiana.

N. plicistriga sp. n. (85 e). Forewing very pale brownish white, at the costal and inner margins broadly *plicistriga*. smoked yellowish, traversed by numerous very fine grey lines; the antemedian line is double, at the inner margin very oblique towards the base, the postmedian line between 4 and 5 forming a large inward bow, the median area at the inner margin darkened grey; on the discal fold from the postmedian line to the margin a black streak; apical veins feebly darkened, fringe speckled blackish. Hindwing white, at the costal and anal margins feebly yellowish. Body light ochreous. According to 1 ♂ from Villavicencio (Colombia); type in the Berlin Museum.

N. plagiata Wkr. is unknown to me; dull reddish brown, forewing with several oblique very fine blackish- *plagiata*. brown notched bands, a blackish-brown discal spot, and very fine whitish spots. Hindwing of a much brighter colouring, with a short darker subapical band. Expanse of wings: 12 lines. Brazil.

N. albida Wkr. is likewise unknown to me. Founded upon a damaged ♂: whitish, forewing with a few *albida*. narrow brownish angular bands which are partly spotted black. Hindwing feebly hued with light brown. Expanse of wings: 10 lines. St. Domingo.

N. turpis Btlr. Sooty brown, forewing with a narrow angular catenary median band bordered with *turpis*. white; apically scantily strewn with white; the light subterminal line is zigzag-shaped; the dark fringe with white vein-dots. Hindwing lighter with a shortened subterminal band at the apex. Expanse of wings: 1 inch. Rio Jurua (Amazons).

21. Genus: **Hypopacha** N. & D.

This North-American genus contains but one small species forming the transition between the *Euglyphis* and the following *Malacosoma*. Shape of wings broad, costal margin straight, distal margin of hindwing rounded; antennae of half the length of the costal margin, not very long combed, in the ♀ serrate.

Type: *H. grisea* Neum.

grisea.

H. grisea Neum. (86 a). Grey, strewn with a darker colour, with thick blackish-grey transverse stripes which are irregularly dentate, the anterior one double, the posterior one double only below the costal margin, both filled with light; the subterminal line recedes distally in an angle and is inwards bordered with a somewhat lighter colour. Hindwing and abdomen lighter. Apparently very rare, from Arizona.

22. Genus: **Malacosoma** Hbn.

The American representatives of this genus having been dealt with at large already in Vol. II, p. 150, by Dr. K. GRÜNBERG, offer such uncommon difficulties that we feel infinitely obliged to Dr. H. G. DYAR for having complied with our request to overtake the elaboration of these species. They are likewise chiefly middle-sized forms with variably brown and yellow tints, with mostly 2 light or dark transverse stripes on the forewings. Like the North-American *Tolyte*, these insects also exhibit so great an individual variability whilst being evidently very closely allied that their delimitation is almost impossible for those not being well versed in the matter. Therefore the trial has been made to facilitate the determination by an analytical table, though for the reasons mentioned above it can only be regarded as a general and summary sketch. The anatomical and biological conditions of the species are entirely the same as those described in the Palaearctic Volume, so that we need not enlarge upon this matter here.

Type: *M. franconica* Esp. (palaearctic).

ANALYTICAL TABLE OF SPECIES.

I. Forewing crossed by light lines, at least in the male.

- A. Reddish brown, sexes similar, white lines of forewing straight, rather broad or shaded *americana* Harr.
- B. Dark brown, sexes similar, white lines of forewing narrow, more or less erenulate *fragilis* f. *azteca* Neum.
- C. Variable; pale lines yellowish in male, often with dark edges, more or less crenulate; female paler, more or less suffused with luteous
 - a. Grey-brown; female of the same shade but paler *fragilis* Stretch.
 - b. Male bright red-brown, female yellow or brown suffused *pluvialis* Dyar
californica Pack.
ambisimilis Dyar

II. Forewing crossed by dark lines in both sexes.

- A. Male pale yellow, female dark brown *constricta* Stretch.
- B. Male and female both pale yellow; lines more or less brown shaded between *luteimargo* Dyar
- C. Sexes similar, not pale yellow
 - a. Brown lines of forewing distinct and rather broad
 - α Apex of forewing round; lines non-crenulate *disstria* Hbn.
 - β Apex of forewing acute; lines somewhat erenulate *onissa* Dyar
 - b. Brown lines narrow or obsolete, more or less crenulate
 - α " Male dark brown, female yellow *pluvialis* f. *recenseo* Dyar
 - β " Male yellow, female darker *tigris* Dyar
 - γ " Male clay-color with the dark lines distinct but narrow *texana* Beutenm.

americana.

M. americana Harr. (= *decepiens* Wkr., *frutetorum* Bsdv.) (86 a). Sexes similar, soft red-brown, the lines of forewing white, broad, often shaded whitish between in the male. Larva with narrow whitish dorsal stripe edged with orange streaks, and blue spots on the sides, on wild cherry and apple. The larvae spin a large communal nest in the forks of twigs in the spring. This is the „American text caterpillar“. Northern Atlantic States.

disstria.

M. disstria Hbn. (= *drupacearum* Bsdv., *sylvatica* Harr., *thoracicoides* N. & D., *erosa* Stretch, *sylvaticoides* N. & D., *thoracica* Stretch, *perversa* N. & D., *astriata* Reiff, *anita* Reiff) (86 a). Brown and yellow, with dark lines on forewing, very variable; the various varietal names proposed are superfluous, referring to individual

variation only. Male yellow to brown, variously shaded; female generally yellow, the veins often brown-lined. Larva with round, often double, white segmental dorsal spots. The larvae spin no nest, but will congregate in masses on the tree-trunks. Found on oak and various forest trees. Northern United States from Atlantic to Pacific.

M. texana *Beut.* (86 a). Described as a form of *disstria*, but lacks the habitus of that species. Forewing *texana*. pale clay-colour, irrorate; lines brown, clear cut, without pale edges. Only males before me. I think it may be a good species allied to *tigris*. Female and larva unknown. Texas.

M. tigris *Dyar* (86 b). Both sexes yellow, irrorate, female more heavily so; lines brown, slender. faint *tigris*. or obsolete in the male; hindwing brown-shaded with central band. Larva on dwarf oak, without web, brilliantly marked with orange, the double lateral line slightly obliquely dislocated on the segments. Colorado. — *inducta* *inducta*. *Dyar* is a form more heavily dusted with red-brown, also in the male more heavily than in the normal female of *tigris*; hindwing darker than forewing.

M. fragilis *Stretch* (86 a). Red-brown, seldom chocolate brown, very variable; female usually largely *fragilis*. luteous, the white lines fading into the ground and leaving their dark borders as dark lines across the wing. Arizona, Colorado, Montana, Utah, Nevada, Wyoming, California. — **azteca** *Neum.* (86 b) is more chocolate *azteca*. brown, the sexes similar; lines pale, narrow, more or less crenulate. Mexico, widely distributed. — **mus** *Neum.* *mus*. is similar to *azteca*, wings greyer, often markedly irrorate with white. Utah. — **incurva** *H. Edw.* (= *discolorata incurva*. *Neum.*) is chocolate brown as *azteca*, but the wing invaded at the base and outer margin more or less with luteous whitish. Arizona, Utah. — **constrictina** *N. & D.* (= *lutescens N. & D.*) is an aberration of the male *constrictina*. with the lines of the normal female of *fragilis*. Arizona. — **perlutea** *N. & D.* has a very light yellow male, but *perlutea*. the specimens may be faded. Utah. Larvae with blue markings predominating, the orange reduced. In webs on aspen and various trees and shrubs.

M. luteimargo *Dyar* (86 b). Both sexes with wings luteous, the lines brown, crenulate, more or less *luteimargo*. shaded across. Hindwing brown shaded at base. Mexico. Occurs with *azteca*, but very different in colour and apparently without transitions.

M. onissa *Dyar* (86 b). Known only in the male. Large, brown, irrorate, the lines dark with traces of *onissa*. pale edges, the forewing pointed at tip, fringe checkered with white. Hindwing dark, uniform. Mexico (Zacualpan).

M. pluvialis *Dyar* (86 c). Male red-brown with distinct pale lines; female pale with narrow dark lines. *pluvialis*. Oregon, Washington, British Columbia. Larva with much orange, little blue, in webs on alder and other trees or bushes. — **recenseo** *f. n. Dyar* (86 c). Male dark brown, forewing irrorate and with narrow dark lines; female *recenseo*. yellow with dark lines on forewing. This new race occurs on the mountains of California (Truckee and Siskyou). Larva intermediate between *fragilis* and *pluvialis*, both blue and orange nearly evenly developed.

M. californica *Pack.* (= *pseudoneustria Bsdv.*) (86 c). Markings of *pluvialis*. Female more or less brown *californica*. shaded, when heavily so the lines are pale instead of dark. Larva black with red hairs. On live oak. California.

M. ambisimilis *Dyar* (86 c). Markings of *californica*. Larva with red hair dorsally, white subventrally, *ambisimilis* the body marked with wavy red lines and blue-white spots laterally. On various shrubs, not oak. California.

M. constricta *Stretch* (= *strigosa Stretch*) (86 d). Male light clay-yellow with slender dark lines; female *constricta*. brown, more or less whitish dusted and with brown lines with pale edges. Larva with orange dorsal stripe and tufts, lateral blue area and subventral white tufts. On deciduous oak, the egg-masses white, not brown as in all the other species. California.

23. Genus: **Heteropacha** *Harv.*

Only one small species with relatively narrow wings, distinguished by hairy eyes, shorter pectinate antennae, and scantily scaled entire-margined wings. On the forewing 6 and 7 on a short stalk; cells in both wings open; on the hindwing 6, 7 and 8 rise close together in the basal third.

Type: *H. rileyana* *Harv.*

H. rileyana *Harv.* (86 d). Dark brownish-grey, with darker veins, 2 irregular transverse lines edged *rileyana*. with a lighter grey, and a row of small dark subterminal spots; fringe checkered. Hindwing of same colour with a grey band in the centre of the costal margin. Missouri.

24. Genus: **Epicnaptera** Rbr.

This genus having been described at large already in Vol. II, p. 166, has also in North America a most variable representative. It is particularly distinguished by the ercunate margin on both wings. Apex of forewing acute, the round hindwing shows a strong basal cell from the upper edge of which 3 or 4 accessory veins run into the very convex costal margin.

americana. **E. americana** Harr. (= occidentis Wkr., earpinifolia Bsdv.) (86 d). A variable, small species, somewhat like the palaearctic *ilicifolia*. The nomenclatural form is red-brown with more or less extensive grey irroration and 2 blackish dentate transverse lines and small discal spots. — f. **ferruginea** Pack. is a somewhat smaller form without any grey irroration, so that the black transverse lines are more distinctly set off on the rust-brown ground. — **californica** Pack., on the contrary, is a lighter ash-grey, more southern form, with hardly any traces of brown; fringe more distinctly checkered with silvery grey. South California. — f. **mildei** Stretch (= roseata Stretch) shows a slight pink hue. — **dyari** Rivers shows light yellowish colour, only the inner-marginal portion being of a somewhat more pinkish-brown shade. The ♀ is still much lighter, almost creamy, with very faint markings. Hindwing with a distinct lighter band. Texas. The type is widely distributed in the other United States.

Corrections.

P. 565 above, before: Family place: 7.

primola. P. 610, line 10 from above, for **chlorobasis** sp. n. place: **primola** Schs.

Alphabetical List

with reference to the original descriptions of the forms of the American *Lasiocampidae*.

* signifies that the form is also figured at the place quoted.

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|--|--|
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 ampira Eugl. Drc. P. Z. S. 1890, p. 504. *</p> | <p>angala Tit. Schs. Proc. U. S. Mus. 65, p. 46, 1924.
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8. Family: Eupterotidae.

The American Continent harbours but one representative of these forms which are widely distributed in the African and Indo-Australian Faunae; according to its exterior and structure it undoubtedly belongs to this place. Up to the last years a number of other quite heterogeneous elements had been added to this family, but on their having been thoroughly examined they were cancelled again. So for instance some unquestionable Bombycids of the genus *Carthara* and its nearest allies belonged to this group, moreover those insects resembling *Apatelodes*, which now prove to be a separate family closely allied to the *Notodontidae* and which we shall introduce here for the first time as „*Zanolidae*“.

As to the only representative we may briefly refer to the detailed introductions in Vol. X, p. 417, and Vol. XIV, p. 293, where all the essential characters of these peculiar insects have been dealt with. We merely repeat here that they are mostly large insects with broad wings, with a short discal cell on both wings, part of vein 8 of hindwing being fused with the upper cell-wall, whilst vein 5 rises from the centre of the cross-vein; frenulum present, whereby the family is separated from the *Lasiocampidae* which lack it altogether. We know as much as nothing of the habits of the only American representative which has remained a great rarity — only very few specimens being known up to the present day.

1. Genus: **Preptos** Schs.

A lepidopteron of medium size with broad wings, straight costal and distal margins on the forewing, with a rounded inner angle; cell on both wings very short; antennae with very short pectinations and with hair-tufts at the base. The very short palpi droop somewhat and are covered with woolly hair. Abdomen shorter than hindwing. Only one Central-American, extremely rare species:

P. oropus Schr. (= *corax* Drc.) (86 e). Pale brownish, body with a dark greyish-black collar; wings *oropus*. with 4 or 5 grey median and postmedian undulate lines, forewing with the beginning of a grey antemedian line at the costal margin; behind the dark brown, very slightly curved subterminal line the marginal areas of both wings are darkened brown. Mexico (Jalapa) and Guatemala. The specimen figured from the Berlin Museum originates from Guatemala.

Original description of the form of the American *Eupterotidae*:

oropus Pr. Schs. Pr. Zool. Soc. Lond. 1892, p. 310.

9. Family: Drepanidae.

It is rather difficult to make general remarks about the propinquity and range of the *Drepanidae*, since their delimitation from the other families is very uncertain. Those reckoning the American *Cicinnus* in with the *Drepanidae* (KIRBY) will discover a good transition to the *Saturnidae*, at least if we remain in the American Fauna; but if the *Mimallonidae* with their larvae living in cases that are open on both sides are exempted and treated as a separate family, this connection is torn asunder, at least for the American Fauna, and in this case the family would be removed more to the *Thyrididae* exhibiting several resemblances in the neurulation (cf. STRAND, Vol. 2, p. 195, and WARREN, Vol. 10, p. 444).

The thorough elaboration of the *Mimallonidae*, in contrast with our former poor knowledge, easily shows how very appropriate and natural their separation from the *Drepanidae* is. In the American Fauna we then only need yet to consider the relations of the *Drepanidae* to the *Oxyteninae* which are only represented in the New World. In fact, the habitual resemblance between the American *Therinia* and many palaearctic genuine *Drepanidae* is by no means limited only to the light colour of the wings or to their shape. By the proportion of the uncommonly broad and large wings to the tiny abdomen which is by far exceeded by the anal angle of the hindwing, the prominently marked and coloured apex on the hindwing of many *Drepanidae* (*Macrocilix*, *Sewa*), the frequent exterior resemblance to *Urapteryx* (in *Ditrigona*), and other accords with distantly remote *Geometridae*, which can by no means be due to mimicry or exterior conditions (as for instance *Auzata semipavonaria* with *Ripula mahometaria*; *Canucha* with *Oxydia*; *Auzata superba* with *Problepsis* etc.), the South-American *Oxyteninae* are, to a certain degree, paralleled with the *Drepanidae*.

In addition there is the curious zoogeographical fact that the *Drepanidae* are entirely absent in the whole of South America, but represented there, to some extent, by the habitually similar *Mimallonidae*. There prevails an unmistakable exterior resemblance between many of these *Mimallonidae* and the *Oreta*-species from the groups of *O. variëgata*, *dissimilis*, *cervina*, *castaneata*, *jaspidea* etc., and also here we find the general law that certain formations being opportune for some reason or other develop from frequently heterogenous branches of their pedigree, at various places of our globe where certain conditions of life coincide, as for instance the Geometrid *Carthaea saturnioides* in Western Australia, where no *Saturnia* occur.

We may, however, readily assume the probability of close relations of the *Drepanidae* to the family of the *Notodontidae*. There is no doubt that several branches of the *Notodontidae* have developed in various directions: one branch, as we already mentioned in Vol. XIV, p. 402, to the *Sphingidae*, another branch to the *Ceratocampidae* resp. *Brahmaeidae*, a third to the *Dioptidae*, and a fourth to the *Drepanidae*. The latter branch has probably separated a very long time ago, for in the *Drepanidae* we meet with the majority of those qualities we are used to find especially developed in notoriously old families: i. e. a frequently most excellent adaptation to dead objects, whereas mimicry or frightening colours do not occur in a single case.

The larvae still exhibit the exact Notodontid shape and polymorphism: either humps, or horns or caudal spikes, sometimes 14 or 16 feet. The imagines are mostly copies of dry leaves, but sometimes also excellent imitations of little clods of earth or of birds' droppings. They are certainly not protected by sharp saps, and the few diurnal species flying in the sunshine therefore exhibit the swaying, rocking, doubling flight which makes the capture very difficult, as we see it for instance with the males of *Agria*, *Eudia*, *Orgyia*, *Pantana* etc., but which is generally not met with internally protected lepidoptera, such as the species of *Zygaena*. — The few American *Drepanidae* which, as we mentioned, are confined to the nearctic district, are all allied to palaearctic species. The statement that the palaearctic *Cilix glaucata* occurs in America, as for instance mentioned in HAMPSON'S Fauna of India *), is a mistake.

1. Genus: **Drepana** Schrank

As to the details about this genus we refer to Vol. II, p. 199, and Vol. X, p. 463. In America there is but one representative of these tiny insects which are chiefly developed in the palaearctic and Indian regions. They are distinguished from the other Drepanid genera by the presence of a broad and short accessory cell on the forewing which is somewhat falcately extended at the apex. The exterior and the biological conditions do not differ essentially from those of the European species.

- arcuata*. **D. arcuata** Wkr. (= *fabula* Grt.) (86 c). The wings are whitish straw-colour, darker shaded centrally, crossed by three or four wavy lines centrally and submarginally, and a strong even brown line that runs to the falcate apex. This is the common form from Nova Scotia and New York, but it also occurs in Canada, New Hampshire, Massachusetts, and Indiana; instead of the cell-end there is here a dot which is separated from the median line. — *genicula* Grt. is a darker yellow, less distinctly marked form in which particularly the median lines are faint, often somewhat smaller. — *grotei* B. & Benj. is the form belonging to it from Alaska with a dark brown ground-colour shaded with grey, broader and more faded lines and a much larger reniform macula. — *siculifer* Pack. is larger than *arcuata*, of a yellowish ground-colour, not dark shaded centrally, with a larger reniform macula, in this respect very similar to the European *falcataria*. California, British Columbia. — *alaskaensis* B. & Benj. is the Alaska-race of *siculifer* with more intense markings; besides the shading is more intense, so that the central area is considerably darker than the basal and marginal areas, whereby the total impression is quite different. Ketchikan (Alaska). Larvae on alder; green, subdorsal tubercles of joints 3, 4 and 6 prominent, a subdorsal brown line, more or less shaded across behind joint 6; head transversely banded.

2. Genus: **Falcaria** Haw.

Separated from the preceding genus only by the undulate outer margin of the forewing. The only species is the American representative of the European *lacertinaria* which is not separated from *Drepana* in Vol. II.

- bilineata*. **F. bilineata** Pack. (86 d). Whitish straw-colour to brownish yellow; two parallel brown lines across forewing, a minute discal dot, and more or less distinct brown strigae. Northern United States from Atlantic to Pacific; western specimens are often larger than eastern ones, but the difference is not so decided as in *D. arcuata*. — The form *levis* Huds. has the forewing smooth brownish yellow with the strigae faint or absent; besides it is generally smaller than the typical form. It may be partly a season-form. — *rampartensis* B. & Benj. is intermediary between the eastern *bilineata* and the European *lacertinaria*, but darker than the latter, blackish brown, with intense dark brown strigae, the lines as in the preceding form, the anterior line inwards lighter, with a whitish indistinct subterminal line, and red-brown and white dusting at the apex. The wings are somewhat less dentate. Ramparts (Alaska). — *hudsoni* B. & Benj. corresponds to *levis*, it is somewhat smaller and without the strigae. From the same habitat at the same time. Larva dark brown, somewhat obliquely whitish shaded on the sides, with prominent tubercles, giving a rough appearance. It lives on birch.

3. Genus: **Oreta** Wkr.

Somewhat larger and stronger species exhibiting particularly in the Indian Region a profuse development of forms (cf. Vol. X, p. 479). They chiefly differ from the preceding genus in the longer and narrower accessory cell.

- rosea*. **O. rosea** Wkr. (86 e). Forewing pinkish-brown with 2 shaded darker lines, the outer angled subcostally, with small dark irrorations; forewing with a broad submarginal band, often containing two round dark dots above tornus; hindwing with the outer half yellow, except apically. — In *marginata* Wkr. the basal rosy of forewing is more or less replaced by yellow. — *irrorata* Pack. shows no yellow at all, but it is rosy throughout. Northeastern North America. Larva on Viburnum; brown, the dorsal region paler; in the middle two dark lateral angles nearly meeting dorsally. Head notched, anal segment produced into a long spinous tail.

O. adona Streck. The author mentions it from Florida: according to the description it entirely resembles the palaearctic *O. extensa* Wkr., which it may prove to be, with a wrong locality label or accidental occurrence; the *Drepanidae* are entirely boreal in America, without any tropical forms. A large, yellow form largely overlaid with brown; inner line of forewing wavy, light, outer line straight from outer third of inner margin to falcate apex; hindwing largely dark, the anal angle broadly pale.

*) HAMPSON, Fauna of British India, Moths vol. 1, p. 347.

4. Genus: **Eudeilinea** Pack.

Distinguished from the preceding genera by the absence of the accessory cell on the forewing, veins 7—10 being stalked. Two species have been described.

E. hermineata Guen. (86 d). All white, wings immaculate; in the form: — **biseriata** Pack. with two series of pale grey spots on each wing. Northeastern North America. Larva on Cornus, between two loosely fastened leaves. It is pale whitish, translucent, the head has a lateral black stripe, faintly crossing the lobes above; anal segment shortly pointed. *hermineata*. *biseriata*.

E. luteifera Dyar differs from the form *biseriata* in the pale luteous colour of the two series of spots on the white wings. Texas. The larva is unknown, but doubtless has the same habits as *hermineata*, of which this may be a racial form. *luteifera*.

Alphabetical List

with reference to the original descriptions of the forms of the American *Drepanidae*.

- | | |
|--|---|
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| hudsoni D. B. & Benj. Cont. Nat. Hist. Lep. N. A. V., p. 39, 1922. | |

10. Family: Mimallonidae.

In arranging this most peculiar family being better known as *Perophoridae*, there is placed before the systematizers a task which is still hardly solvable. If we arrange them at this place in the present work, we do not mean to say that they belong to this proximity phylogenetically, but we merely want to conform to those authors who formerly arranged these insects with the *Drepanidae*, the exterior of the imagines of which is undoubtedly somewhat similar. As to the phylogeny we can only state to-day that the family probably represents a very old type. HAMPSON considered it to be an offspring of the *Limacodidae*, having been developed parallel to the *Megalopygidae* and *Chrysopolomidae*, whilst the *Limacodidae* are said to be descendent from the great Cossid branch. In any case they are a highly specialized group, the ontogenesis and habits of which are entirely homogenous. The resemblance to some Drepanid genera is a purely external feature of convergency merely referring to the shape of the wings and the scheme of markings in the imagines. The latter are well characterized by their medium size, the almost invariable falcate shape of the forewing which in many genera exhibits a most pronounced denticulation of the distal margin. As to the colours and markings, we find almost exclusively dry leaves copied, and yellowish-grey or light brownish colouring frequently with a dark oblique stripe representing a midrib, besides small mildewy spots, often also small hyaline spots.

The developed insect apparently leads a strict nocturnal life and is almost exclusively captured on the lantern. The absence of the proboscis which prevents it from feeding during the imago-stage, also intimates the very old age of the family. The most peculiar feature of the family, however, is the case in which the larva spends its life and which is apparently made of different kinds of material. The young larvae of some *Mimalloninae* as well as *Lacosominae* are known to draw together two small leaves by means of strong silk threads which may be enlarged according to requirement by adding pieces of leaves, if the larva grows larger; these cases are open on both sides and can be quitted by the larva ad lib. When at rest they are freely suspended on a strong thread which, in case the larva wishes to wander, is bitten through. A similar habit we find, for instance, in the species of North-American *Cicinnus* and *Lacosoma*. On the other hand, SEITZ has described cases of tropical species, that are made of quite a different material. I have been able to examine cases of an undefined species, which are made of excrements. The clods of dirt are pressed into a rectangular flat shape like bricks and very regularly placed one next to the other, spun together by means of dense threads and afterwards polished on the outside. Most interesting is the addition of new cases, if the old one is no more sufficient for the grown insect. The case which has almost the shape of a date exhibits ventrally on each open end a shovel-shaped appendage. On the latter the new case is affixed, though on a much larger scale, and in doing so the building material of the original case is also used. Then the larva simply moves into the new house. The larva seems to be very lively and, in case of being alarmed to bite through the thread by which it is suspended, in order to drop on the ground where it is of course difficult to discover among the tangled mass of tropical plants. The larva itself is posteriorly thickened and tapers, towards the end of the head. The pupation takes place in the same case.

HAMPSON's table of the family is incorrect with respect to the absence of the frenulum stated by him as a characteristic of the family; in the *Lacosominae* it is present, though it is often reduced. They are separated from the *Arbelidae* by the distantly separated course of the veins 8 and 9 of the forewing though the *Arbelidae* seem to be very similar in their anatomical structure, and their larvae are wood-borers. Besides, as mentioned above, the proboscis is absent, and on the hindwing vein 8 runs freely or is at most connected by a bar with the anterior edge of the cell, though it only anastomoses with it close to base (M. DRAUDT).

This is a family of Heterocera confined to the New World and Neotropical with the exception of three species which occur in the United States. It can be divided into two subfamilies, the *Mimalloninae*, in which the frenulum is absent, and the *Lacosominae* in which the frenulum is present, often greatly reduced. On fore wing veins 9 and 11 are from the cell, 10 a short spur from 9. On hind wing vein 8 anastomoses with vein 7 at base. The pupal case is of a leathery texture with an opening at each end, and is usually enclosed in leaves and well concealed. (Dr. W. SCHAU).

I. Subfamily: **Mimalloninae** (without frenulum).

I. Antenna pectinated to tips.

A. veins 7 and 8 of fore wing on short stalk

Mimallo.

B. veins 7 and 8 of fore wing well stalked

Cicinnus.

C. vein 6—8 stalked.

1. veins 3 and 4 on fore wing apart.

a. outer margin of fore wing excurved or sinuous

Psychocampa.

b. outer margin of fore wing not excurved or sinuous

Euphaneta.

2. veins 3 and 4 on fore wing stalked

Aleyda.

II. Antenna pectinated, the tips serrate

Roelofa.

1. Genus: **Mimallo** Hbn.

Antenna bipectinate to tip. Palpi obliquely ascending, thickly scaled, the third joint small. Hind tibiae with terminal spurs. Forewing more or less acute and falcate; outer margin usually somewhat excised below apex, crenulate and inbent below vein 3, variability existing in specimens of the same species. Vein 2 from about middle of cell; 3 before angle; 4 from lower angle; 5 from middle of discocellular; 6 from close to upper angle; 7 and 8 on short stalk; 9 and 11 from cell; 10 as a spur from 9. Hindwing: costa convex; termen prolonged at veins 7, 3 and anal angle, crenulate on interspaces; vein 2 slightly beyond middle of cell; 3 before angle; 4 from lower angle; 5 from middle of discocellular; 6 from upper angle; 7 from before end of cell; 8 well upcurved from base of cell.

Type: *M. amilia* Stoll.

amilia.

M. amilia Stoll. (87 a). *Male*: Body and wings light drab grey, frequently suffused with drab, thinly irrorated with black scales. Forewing: a wavy antemedial cinnamon drab line; a large vinaceous brown spot over discocellular and adjoining space, containing two hyaline spots and a light drab grey line within its edge; the fine grey somewhat lunular outer line defined by vinaceous brown narrowly on basal side, but expanding somewhat at costa, the outer edge narrow between veins 4 and 7, dark vinaceous brown, expanding to costa and below vein 4 to inner margin, its outer edge lunular between veins 2 and 4; cilia mostly fuscous. Hindwing: a broad vinaceous patch near base; outer line as on forewing, the dark vinaceous brown space following it very irregular and projecting towards termen between veins 3 and 4. Wings below with outer line lunular between veins, subterminal on hindwing; apex of forewing, spots above tornus, and small terminal spots towards apex of hindwing dark vinaceous brown. *Female*: The termen of wings more even. Expanse, male, 33—52 mm; female, 44—72 mm. From Mexico to Rio de Janeiro.

hector.

M. hector Dogn. (87 a). *Male*: General aspect of *amilia*. Body and wings almost white. Forewing: a fine wavy orange cinnamon antemedial line from a small costal spot and partly interrupted; a double oblique small hyaline spot on outer edge of discocellular; outer line outangled at vein 6, fine, defined on inner side by a fine mikado brown line, followed from vein 6 to costa by a vinaceous cinnamon patch, crenulate on outer edge, and from below vein 5 to inner margin by an army brown space expanding to vein 2, its edge inset below vein 2. Hindwing: a small orange cinnamon spot near base; the line as on fore wing, but from before middle of costa followed by a broad fawn color space, with an irregular outer edge. Wings below with some black irrorations. Forewing: hyaline discal spot partly edged by a double fine cinnamon line; outer line crenulate, present at costa and from vein 3 to inner margin followed by dark vinaceous drab spots. Hindwing: a fine subterminal crenulate line. Expanse 44 mm. Sta. Catharina, Brazil.

brostica.

M. brostica sp. n. *Male*: Body tiller buff, the thorax and dorsum of abdomen on basal half suffused with vinaceous buff. Forewing tiller buff; a few scattered black scales on basal third and termen; termen somewhat suffused with vinaceous buff; a wavy pinkish cinnamon antemedial line, outcurved on costa, vertical from within cell to inner margin; a small hyaline lunule on discocellular; postmedial line fine, outbent on costa, lunular, fuscous, below vein 7 inbent, straight, cinnamon, below vein 4 thicker and lunular, outwardly

edged with cinnamon buff and fuscous lunules between veins 2 and 4 and on inner margin. Hindwing similar, the postmedial line straight from costal to inner margin well above anal angle. Wings below with the postmedial line sayal brown interrupted by veins. Expanse: 43 mm. French Guiana. Type in the National Museum.

2. Genus: **Euphaneta** *nom. nov.* (= *Phaneta* Wkr. *preocc.*)

Antenna bipectinate. Palpi upturned, smoothly scaled, reaching frons. Legs mostly hairy; hind tibiae with short terminal spurs. Body stout reaching well beyond hindwing. Forewing: costa straight, slightly curved terminally; apex somewhat acute; termen oblique, inner margin straight; vein 2 from middle of cell; 3 and 4 from lower angle or slightly apart; 5 from middle of discocellular; 6 shortly stalked with 7 and 8 or from upper angle; 9 and 11 from cell. Hindwing: costa somewhat rounded, the apex and outer margin more so; anal angle faintly acute; vein 2 before lower angle; 5 from middle of discocellular, which is very slightly oblique; 6 and 7 from upper angle; 8 upcurved from near base of cell.

Type: *P. divisa* Wkr.

E. divisa Wkr. (87 a). *Male*: Head buffy brown. Collar pale pinkish buff. Thorax and abdomen light cinnamon *divisa*. drab; tegulae hair brown. Forewing: base to antemedial line with costal edge and cell light buff, space below dresden brown thickly irrorated with black striae, less numerous in cell; antemedial line thick, fuscous, slightly inbent from subcostal to inner margin with a dark line from it, on costa, outcurved near apex; medial and outer space light cinnamon drab becoming darker near termen; a vertical white line on discocellular outwardly dark edged; outer margin narrowly cream white; a terminal prout's brown line, and a similar finer line dividing the pale cilia. Hindwing: base cinnamon brown with some black scales, limited by a fuscous subbasal line; space beyond as on forewing but with a prout's brown large oval patch below cell to near termen; the pale marginal color upbent along inner margin and outer edge of subbasal line; the discal line fuscous, inwardly edged with white and a very fine brown line. Wings below paler without the lines near base; fewer striae at base, more numerous about end of cell, where discal line is preceded by a dark mouse grey shade, also dark shading at apex of forewing. Expanse, male, 40—51 mm; female, 67 mm. French Guiana.

3. Genus: **Psychocampa** *Grt. & Rob.*

Antenna bipectinate, short on terminal third. Palpi short, porrect. Legs mostly hairy; hind tibiae with terminal spurs. Body stout, anal hairs long. Forewing curved near apex which is acute, falcate, outer margin oblique, in some species sinuous; vein 2 from before middle of cell; 6—8 stalked; 9 and 11 from cell. Hindwing triangular, usually with outer margin rounded in those species which have termen of forewing sinuous; vein 2 from beyond middle of cell; 3 before angle; 4 from lower angle; 5 from middle of discocellular; 6 and 7 from upper angle or 7 from before end of cell.

Type: *P. concolor* G. & R.

P. concolor G. & R. (= *cunona* Schs., *stenia* Dyar). (87 a). *Male*: Body and wings sepia. Forewing: trace of *concolor*. a darker antemedial line, inbent from costa, vertical below cell; a fine fuscous annulus at discocellular; outer line fuscous, outbent from costa at 4 mm. from apex, bluntly angled at vein 7 and well inbent to inner margin; a diffuse darker subterminal shade. Hindwing: a fine fuscous medial line and diffuse subterminal shade. Wings below slightly paler; the line on hindwing wavy, postmedial. Female light wood brown, the cilia darker, tipped with light buff. A male from French Guiana is dresden brown. Expanse, male 46—52 mm, female, 45 (type of *cunona*) —62 mm. Para, Brazil; British and French Guiana.

P. ventana Dogn. (87 a). *Male*: Head and collar pinkish cinnamon. Body and wings to line, and on forewing *ventana*. to apex from above vein 7 light vinaceous cinnamon irrorated with a few black scales. Wings: hyaline spots at discocellulars, rather large and almost round; line, fine, black. Forewing: the line very faint at costa, curved or slightly angled at vein 7; costal edge at apex, and termen from below vein 7 kaiser brown. Hindwing: the line fine, medial, touching the hyaline spot. Wings below vinaceous cinnamon, the black irrorations partly forming striae; the line faint, subterminal, slightly wavy; termen narrowly and cilia orange cinnamon, the cilia tipped with white. Expanse: 52—63 mm. Venezuela, Bolivia. The Bolivian specimen larger than those from Venezuela.

P. manicora *sp. nov.* *Male*: Body chestnut brown. Wings to line drab with scattered black scales; *manicora*. termen chestnut brown. Forewing: end of cell to beyond discocellular, scaling below median between veins 2 and 3 and a streak below vein 2 from cell mars orange; a B-shaped hyaline spot at discocellular; line fine chestnut brown, obliquely downbent, bluntly angled below vein 8 and inbent to inner margin followed by a

narrow drab shade expanding to apex and somewhat reddish at inner margin. Hindwing: base light drab; line fine just beyond middle outwardly edged with mars orange suffusions; anal angle acute. Forewing below with inner margin broadly light buff; the mars orange markings as above; the black scales forming disconnected striae; the line faint, subterminal. Hindwing below drab with faint reddish suffusions on disc; the line faint, diffuse, subterminal. Expanse: 54 mm. Manicoré, Amazons. Type in U.S.N. Mus.

belaria. **P. belaria** *sp. n.* (87 a). Head, front of collar, and patches on fore femora burnt sienna; collar behind and thorax deep mouse grey irrorated with black. Abdomen chaetura drab. Wings brownish drab suffused with purplish grey, and irrorated with black; cilia tipped with white. Forewing: an inbent fuscous shade from middle of costa to inner margin, preceded towards inner margin by a faint burnt sienna shade; a quadrate hyaline spot on outer edge of discocellular, cut by vein 5; outer line fuscous, outbent from costa somewhat broken, angled below vein 8, black and inbent, more heavily marked, followed by chestnut shading and a diffuse narrow dark incurved shade limiting the greyer termen. Hindwing: the line postmedial, black, straight, followed by brazil red expanding to anal angle. Wings below brownish mouse grey irrorated with black. Forewing: cell and beyond to line from vein 3 to vein 9 brazil red; line from costa downbent and excurved, less deeply angled. Hindwing below with more numerous black scales; line almost subterminal, irregular. Expanse: 40 mm. Passa Quatro, Minas, Brazil. Type in Berlin Mus.

pluridiscata. **P. pluridiscata** *Dogn.* (87 a). *Male*: Wingshape as in *doralica* and *vitreata*. Head cinnamon buff. Collar cinnamon drab. Body drab irrorated with black. Wings light drab with black scales chiefly at base and along inner margin; the discal spots as in *vitreata*. Forewing: medial line, broad, black; postmedial from a large black costal spot, very faint and outcurved, inbent, well defined, and sinuous to inner margin, followed by a small dark spot above vein 3 and another above vein 1; antemedial space in and below cell congo pink; a small vinaceous pink spot on termen across vein 7. Hindwing largely suffused with vinaceous tawny except at apex; postmedial line black, prominent, sinuous. Wings below largely whitish buff well irrorated with black; the outer line subterminal. Forewing: cell and beyond to line suffused with clay color; a broad black streak below costa from middle of wing to apex; a light coral red terminal space from below vein 7 to vein 4; outer line vertical from costa to vein 4, obsolescent to below vein 3, then inset and straight to inner margin; the line outcurved and sinuous. Expanse: 44 mm. Yahuar Mayo, Peru; Ponte nova, Amazons.

vitreata. **P. vitreata** *Schs.* *Male*: Head pinkish buff. Collar and abdomen pale pinkish buff. Thorax anteriorly white. Wings ecru-drab. Forewing: an antemedial light pinkish cinnamon shade in cell; medial and postmedial lines dark as in *doralica*, the postmedial well outangled from below costal spot; a small pinkish cinnamon shade on termen below apex; no spot between veins 3 and 4, but a small darker shade below vein 2; the hyaline spot B-shaped, with darker scaling on either side. Hindwing: hyaline spot B-shaped on each side of a dark line on discocellular; postmedial line hair brown, wavy from vein 4 to inner margin; termen broadly suffused with light cinnamon drab. Both wings with some black scales and white tips to cilia. Wings below as in *doralica*. Expanse: 40 mm. St. Jean Maroni, French Guiana.

doralica. **P. doralica** *sp. n.* (87 b). *Male*: Head light pinkish cinnamon. Body pinkish buff with a few black scales. Forewing vinaceous buff, from cell to apex tiller buff; termen suffused with vinaceous fawn not reaching apex; some fawn color at base and in cell; a medial fine dark line deeply outangled on costal margin and inbent to inner margin at one-third from base; a B-shaped hyaline spot at discocellular with hair brown shading outwardly; postmedial line from a black spot on costa, very faint beyond cell, forming a lunule between veins 4 and 3 followed by a small hair brown spot, slightly incurved at vein 3 and then vertical. Hindwing vinaceous fawn, the termen broadly fawn color; a broad B-shaped hyaline spot edged on either side with fuscous; a fine, wavy, postmedial line. Both wings with some black scales and white tips to cilia. Wings below partly tiller buff irrorated with more numerous black scales. Forewing: end of median and base of veins from cell carrot red; line more remote outbent and curved, downbent to vein 4, distinct, followed by flesh-ocher from vein 7 to vein 4, below 4 sinuous. Hindwing: the costa and veins pinkish buff. Expanse: 36 mm. Muzo, Colombia. Apex of forewing acute, falcate, the termen sinuous; inner margin of hindwing excurved. Type in U.S.N. Mus.

eminens. **P. eminens** *Dogn.* (87 b). *Male*: Head and abdomen tiller buff. Thorax pale drab grey. Wings pale drab grey irrorated with black; hyaline spots large, B-shaped, irregular and variable on hindwing; the outer line black. Forewing: a medial black shade, inbent, expanding to end of cell and above vein 2, sometimes preceded by light coral red suffusions; outer line irregularly excurved, curved at vein 8 and slightly wavy, followed by cinnamon drab shading and a light coral red spot from veins 6 to 8, sometimes obsolescent. Hindwing: the line medial followed by cinnamon brown or reddish shading, and some similar shading in cell; some diffuse dark subterminal shading. Forewing below without medial shade, the cell except at base, also a streak beyond along veins 6 and 7, and the terminal patch dragon's blood red, sometimes greatly reduced and duller. The line on both wings subterminally fuscous, crenulate, broken by veins. Expanse: 55 mm. Bogota, Guasca, Colombia.

P. beta Schs. (87 b). *Male*: Head, collar and abdomen dorsally pinkish cinnamon; thorax and abdomen *beta*. below drab-white; some scattered black scales on body and wings. Wings to line pale pinkish buff with some black scales; hyaline B-shaped spots edged with fuscous at discocellulars, cilia tipped with white. Forewing: a sinuous inbent antemedial pinkish cinnamon shade; line fine, faint, excurved on costa, angled below vein 8, inbent, fuscous becoming wider to inner margin, followed by some pinkish cinnamon at angle and below the wood brown branch to apex; a triangular white patch, thickly irrorated with black beyond line from vein 3 to inner margin and tornus, this patch outwardly edged by a wood brown shade. Hindwing: line thick, medial, with some orange cinnamon before it below hyaline spot, and beyond it from vein 6, expanding between veins 4 and 2 and with a branch to anal angle; whitish patches irrorated with black at apex and on inner margin above angle. Forewing below: end of cell and beyond suffused with coral red and a similar terminal band from vein 8 to vein 4; inner margin mostly white; line almost obsolescent and outcurved between veins 4 and 3, from vein 3 prominent, sinuous and inbent, followed by the white patch as above. Hindwing below mostly whitish; cinnamon shading around discocellular spot; line subterminal, fine, excurved from vein 3 to anal angle; a brownish shade at apex and at anal angle. Expanse: 39 mm. Type from Costa-Rica and Panama. Specimens from Amazons and French Guiana with the line finer. Specimens from S. E. Brazil ecru drab, the line excurved on costa, more deeply outangled towards apex.

P. sylvia Schs. (87 b). *Male*: Body and wings pinkish buff; anal hairs inwardly fuscous; the line cinna- *sylvia*. mon brown. Forewing: a fine outbent ochraceous buff antemedial line; a narrow oblique, hyaline, B-shaped spot at discocellular outwardly edged by a large van dyke brown spot; line outcurved from costa, inbent below vein 7, followed by a narrow dark shade from vein 7 expanding to termen at vein 8 and costa, and with a fine dark line from it at vein 4 to tornus. Hindwing: the line medial followed by drab suffusions and a fine line from vein 6 to anal angle. A faint hyaline streak at discocellular. Forewing below very similar to upper surface. Hindwing below with discal spot more denuded, outwardly broadly edged with van dyke brown. Expanse: 40 mm. Cayuga, Guatemala.

P. prominens Schs. (87 b). *Male*: Head and collar in front ochraceous salmon; collar behind whitish. *prominens*. Thorax light pinkish cinnamon. Abdomen above orange cinnamon. Forewing drab grey; a hair brown antemedial line, outangled on costa, preceded below cell by a rufous patch, and followed by a similar shade in cell; a whitish grey streak at discocellular; postmedial line fine, hair brown, excurved from a small costal spot, outangled at vein 8 and slightly incurved to inner margin, followed by some rufous and cinnamon brown from vein 5 to vein 8, also between veins 4 and 3 and at tornus; a hair brown subterminal streak from vein 3 to tornus. Hindwing: base narrowly and inner margin whitish; some rufous antemedially and along median to beyond line which is hair brown, medial, followed from costa and vein 4 to termen by drab grey, below vein 4 to termen and anal angle by chestnut brown; a white line on discocellular; cilia of both wings tipped with white. Wings below irrorated with black scales and striae, the white lines on discocellulars prominent; forewing and costal margin of hindwing suffused with hazel and rufous; the line subterminal, hair brown, partly crenulate, termen of forewing from vein 3 to above vein 7 english red; hindwing below costal margin light drab grey. Expanse: 55 mm. Sitio, Tuis, Costa-Rica.

P. lemoulti Schs. (87 b). *Male*: Head and collar ochraceous salmon. Thorax, abdomen and wings light *lemoulti*. pinkish cinnamon, the latter with a few black scales, chiefly on terminal area. Wings: a faint antemedial tawny olive shade; cilia faintly tipped with white. Forewing: a hyaline spot at discocellular cut by vein 5; outer line oblique and excurved from costa, outangled below vein 8 and inbent, straight to inner margin, fine, olive brown, outwardly shaded with mikado brown which extends from angle to apex. Hindwing: the line medial inwardly shaded with pale pinkish buff, outwardly with orange cinnamon, especially along inner margin to termen and on veins. Forewing below pinkish buff, the cell and beyond to line, also on termen from vein 10 to vein 2 zinc orange; line fine hair brown, oblique from costa, angled below vein 8, incurved and approaching termen at vein 3, then faint, inbent, sinuous. Hindwing below pinkish buff irrorated with black; termen narrowly orange cinnamon, expanding broadly at anal angle; a faint postmedial line upcurved from vein 3 to inner margin. Expanse: male, 40—46 mm. A female submitted by Dr. DRAUDT, from Chuchuras, Peru has an expanse of 53 mm. French Guiana; Bolivia; Sta. Catharina, Brazil.

P. mawaja Dogn. (87 b). *Male*: Body and wings light drab, somewhat paler before the line, with a very *mawaja*. few black scales; cilia tipped with white. Forewing: a fine black line on discocellular; outer line obliquely downbent and excurved on costa, black outwardly edged with white to angle below vein 8 where it is followed by a pinkish streak, and from angle the line is inbent, black, becoming wider to inner margin. Hindwing: line postmedial at costa, straight to middle of inner margin, followed by an incurved black shade, narrow at costa expanding to termen at anal angle. Wings below to line whitish grey with a few black irrorations; line on forewing followed by fuscous between veins 4 and 7 to termen, the line otherwise followed by light cinnamon drab not

reaching termen; line on hindwing as above. The venation agrees with *Psychocampa* but the fore wing is simply acute, the outer margin straight, slightly inbent. Expanse: male, 28 mm. Mawajo, Amazons.

bibula. **P. bibula** Dogn. (87 c). *Female*: Body and wings drab, more of a light drab before the line; a faint darker antemedial shade; line fine chestnut brown; cilia pale drab grey tipped with white. Forewing: an obliquely curved hyaline spot at discocellular; line obliquely downbent, slightly rounded below vein 8 and then parallel with termen; apex above vein 8 chestnut brown; termen thickly mottled with white scales. Hindwing: line postmedial, straight; termen as on forewing. Wings below drab grey, with darker terminal suffusions below apices, tornus, and anal angle. Forewing: hyaline spot with a dark streak outwardly. Hindwing: a round fuscous spot at discocellular. Apex of fore wing not acute, the outer margin slightly rounded. The species is allied to *mawaja* Dogn. but can hardly be the female of that species. Expanse: 36 mm. Obidos, Amazons.

4. Genus: **Roelofa** gen. nov.

Male: Antennae bipectinate on basal half, terminal half serrate. Palpi short, porrect. Tibiae hairy, hind tibiae with short terminal spurs. Forewing broad, the apex rounded, termen slightly sinuous; vein 2 from beyond middle of cell; 3 and 4 slightly apart from lower angle; 5 from middle of discocellular; 6—8 stalked; 9 and 11 from cell. Hindwing: costa and termen rounded; vein 2 from near angle; 3 and 4 from lower angle; 5 from middle of discocellular; 6 and 7 from upper angle; 8 upcurved from base of cell.

Type: *R. olivia* Schaus.

olivia. **R. olivia** Schs. (87 c). *Male*: Head hair brown. Collar, thorax and abdomen vinaceous fawn. Wings to line, and on forewing to apex fawn color; terminal space light vinaceous fawn irrorated with small drab scales. Forewing: a round vinaceous buff spot at end of cell; outer line double, the first line chestnut brown, outcurved on costa, almost vertical from vein 8, the second line fuscous outbent along vein 8 to termen, the space between deep vinaceous grey. Hindwing: line as on forewing, postmedial, almost straight from costa to inner margin close to angle. Wings below slightly paler, the discal spot on forewing outwardly edged with chestnut brown. Expanse, male, 48 mm; female, 56 mm. Paramo de Guasca, Colombia. A specimen from the Berlin Museum is labelled *apicistriga* Weym. for which I have no reference.

maricia. **R. maricia** sp. n. (87 c). *Male*: Body pinkish cinnamon; anal tufts fuscous. Wings to line purplish cinnamon buff; line fuscous, outwardly broadly pale vinaceous fawn; termen narrowly purplish cinnamon buff; cilia shortly tipped with pale vinaceous pink. Forewing: a fine darker outcurved antemedial line; an almost round hyaline spot, crossed by discocellular, dark edged, with a projection towards costa containing a few white scales; a slight dark line from costa to outer line which is upcurved to termen above vein 8, below 8 almost vertical to inner margin. Hindwing: the line postmedial, straight to anal angle. Wings below very similar to *olivia* but the line single, and with the hyaline spot in addition. Expanse: 42 mm. Petropolis, Brazil. Type in the Berlin Museum, sent by Dr. HERING for examination.

hegewishi. **R. hegewishi** Drc. (87 c). *Male*: Body vinaceous pink, the anal hairs black. Wings to line pale vinaceous pink, the termen pale cinnamon pink, irrorated with fuscous chiefly on hindwing; the line fine, mikado brown; cilia pinkish cinnamon tipped with black towards apex of forewing. Forewing: a sinuous white line on discocellular edged with avellaneous; line outbent, very faint on costa, angled on vein 8, the space between veins 8 and 10 hair brown to apex, below vein 8 the line is slightly inbent, from below vein 6 outwardly edged by a white line and then by a line of denser fuscous scaling. Hindwing: line as on forewing postmedial to anal angle. Wings below pale ochraceous buff with small dark irrorations. Forewing: light pinkish cinnamon outwardly edged with fine black scales. Hindwing: the line only visible in transparency and preceded by a faint pinkish buff line. Expanse, male, 36 mm; female, 45 mm. Jalapa, Mexico. The type, a female, is in the Berlin Museum. The characters agree with *olivia*, but the apex of forewing is bluntly produced.

narga. **R. narga** Schs. (= *maera* Schs.) (87 c). *Male*: Head and thorax brownish drab. Abdomen light vinaceous drab dorsally suffused with flesh-ocher; anal hairs black. Forewing to line brownish drab with a few black scales; a round whitish spot irrorated with rufous at end of cell, darker edged, a small similar spot at cell between veins 2 and 3, and a still smaller white spot between veins 4 and 5 at cell; line dark vinaceous brown continuing from angle to termen above vein 8, the line fainter on costa where outbent and excurved to angle with a small pale shade above it; space beyond line white, terminally suffused with apricot buff with a series of small triangular black spots on veins just beyond line. Hindwing slightly paler, the costa light buff; a fine dark point on discocellular, line postmedial; termen as on forewing. Wings below paler with the same general pattern. Expanse, male, 39 mm. French Guiana; Joinville, Brazil; Ponte Nova, Amazons.

5. Genus: **Aleyda** *gen. nov.*

Male: Antenna bipectinate to tip. Palpi ascending, reaching frons, smoothly scaled. Legs hairy; hind tibiae with terminal spurs. Forewing: costal margin nearly twice as long as inner margin, convex towards apex which is rounded, the outer margin inbent; cell short; vein 2 from beyond middle of cell; 3 and 4 stalked; 5 from middle of discocellular; 6, 7, 8 stalked; 9 and 11 from cell; 10 stalked on 9. Hindwing: costa convex; outer margin slightly rounded; veins 2, 3, 4 stalked; 5 from middle of discocellular; 6 and 7 from upper angle; 8 upcurved from base of cell.

Type: *A. accipiter* Dogn.

A. accipiter Dogn. *Male*: Forewing with apex less acute and less inbent. Hindwing with termen slightly rounded with anal angle hardly produced and not acute; cell of forewing short and incurved, of hindwing shorter at vein 7 than at median. Head and thorax light greyish vinaceous. Abdomen vinaceous brown. Wings mostly dark vinaceous brown with scattered black scales; hyaline lines on discocellulars. Forewing: apical third of wing vinaceous fawn; an antemedial outcurved black line; outer line remote, fine and indistinct, dark vinaceous brown, excurved from costa, angled below vein 8 with a projecting shade to apex, below vein 3 black, incurved below vein 2; base of cilia and termen narrowly, from middle of inner margin, english red. Hindwing: a round zinc orange spot on inner margin near base, edged with black; cilia and termen narrowly as on forewing. Wings below paler; the line on forewing heavily marked below vein 2; a medial black irregular line on hindwing. Expanse: 30 mm. Lino, Panama.

6. Genus: **Cicinnus** *Blanch.*

(= *Perophora* Harr., preocc., *Saccophora* Harr., preocc.)

Male: Antenna bipectinate to tip. Palpi ascending, thickly scaled, smooth, third joint small. Forewing: apex produced, more or less acute; outer margin sinuous or almost straight, inbent; inner margin straight, vein 2 from middle of cell; 3 near lower angle; 4 from lower angle; 5 from middle of discocellular; 6 from upper angle; 7 and 8 stalked; 9 and 11 from cell. Hindwing: costa somewhat convex; outer margin rounded; vein 2 from beyond middle of cell; 3 close to angle; 4 from lower angle; 5 from middle of discocellular; 6 from upper angle; 7 from before angle.

Type: *C. orthane* Blanch.

Group 1.

Species with hyaline B-shaped spot on forewing, and a hyaline spot on hindwing except *packardi*.

The first three species: *packardi*, *fogia* and *motagus* show variability, veins 6—8, or veins 7 and 8 being stalked.

C. packardi Grt. (87 c). *Male*: Body and wings to line tilleul buff, sometimes almost white, irrorated with black scales; avellaneous suffusions on front of collar and on abdomen; cilia tipped with white. Forewing: an almost medial curved and inbent avellaneous shade; a hyaline B-shaped spot at discocellular; outer line remote, excurved from costa and acutely angled between veins 7 and 8 near apex, fine, fuscous and inbent to inner margin at two-thirds from base, followed by a sayal brown shade, the terminal space otherwise pale drab grey. Hindwing: the fuscous line medial followed by broader sayal brown shading, the termen as on forewing. Wings below more thickly irrorated with black; forewing suffused with pale tawny olive, the line faint, outcurved and sinuous; hindwing with a faint dark streak on discocellular, the line subterminal, outcurved between veins 4 and 2. Expanse: male, 38—43 mm; female, 49 mm. Cuba.

C. fogia Schs. (87 c). *Male*: Head fawn color. Collar drab. Thorax whitish. Abdomen above cinnamon, underneath pale drab grey. Wings to outer line whitish or pale ecru drab with only a few scattered black scales; curved hyaline spots on discocellulars cut by vein 5, edged with brown and a few red scales. Forewing: a faint darker antemedial line and a small dark medial spot on costa; outer line from a fuscous point on costa, curved and outbent across vein 8, angled subterminally then consisting of a double fuscous line filled in with pale drab grey and closely followed by a narrow dresden brown shade with a similar diverging shade from vein 4 to tornus; the outer part of double line extends to apex and a fuscous costal shade which reaches apex; subterminal flesh-ocher shade from above vein 5 to above vein 7. Hindwing: a brownish antemedial shade; the postmedial line double, fuscous, close to end of cell; outer area olivaceous drab, the termen narrowly pale drab grey, the cilia tipped with white. Forewing below largely suffused with drab, irrorated with dark scales and striae; a whitish oblique patch below middle of outer margin; a coral red shade at end of cell and base of veins 3 and 4; the subterminal mark above vein 5 coral red; the line faint, outcurved and sinuous. Hindwing below greyish white irrorated with black scales; the line more remote, irregular and broken; a buffy brown patch at anal angle; some reddish scaling at hyaline spot. Expanse: male, 46 mm; female, 63 mm. French Guiana; Ponte Nova, Amazons. Forewing acute and subfalcate.

- motagus.* **C. motagus** Schs. (87 d). *Male*: Body pale drab grey, the head, collar and abdomen dorsally suffused with pinkish buff. Wings pale drab grey with some black irrorations; hyaline B-shaped spots on discocellulars; on forewing larger edged with cinnamon brown and red; cilia tipped with white. Forewing: a faint outcurved pinkish buff antemedial shade; outer line benzo brown, wavily oblique, outbent along vein 8 to near termen with a fuscous shade from it to apex, below vein 8 well inbent to inner margin, followed by a diffuse buffy brown shade and a similar vertical line from vein 3 to inner margin; some red scaling at end of median vein. Hindwing: the line medial followed by buffy brown shading gradually expanding to inner margin, containing some red scaling at lower angle of cell. Wings below pale drab grey irrorated with black, the lines faint; forewing with cell and beyond to line suffused with cinnamon drab; some reddish scaling below cell and terminally from vein 8 to below vein 5; hindwing with line postmedial, upcurved from vein 3 to inner margin; some red on veins at cell. Expanse: 40 mm. Quirigua, Cayuga on the Montagua River, Guatemala.
- corallina.* **C. corallina** Dogn. (87 d). *Male*: Almost the same as *xingua*. The apex of forewing more acute. The hindwing with the line more remote from base; a hyaline streak at discocellular; the line on underside evenly curved, partly lunular. Expanse: 36 mm. Pacho, Colombia; São Paulo de Olivença, Amazons, French Guiana; Panama.
- corcovada.* **C. corcovada** Schs. (87 d). *Female*: Head, collar, thorax and wings light vinaceous fawn with very few scattered black scales; abdomen dorsally fawn color. Forewing: a buffy brown medial shade slightly inbent; a narrow hyaline spot at discocellular; outer line remote, faint on costa, outbent and bluntly angled, then fine, fuscous, followed by an ochraceous tawny diffuse line, and a similar vertical shade from vein 4 to tornus; on costa the line is preceded by a short oblique brownish shade. Hindwing: an antemedial ochraceous shade and a broad similar shade beyond the fuscous medial line, which touches the lower end of a hyaline line on discocellular. Wings below light buffish drab with numerous dark striae and scales. Forewing: some light coral red suffusions below and beyond cell; termen coral red from below vein 8 to near vein 3; the line buffy brown, lunular from below vein 4. Hindwing: the line almost subterminal, outcurved and lunular. Expanse: 43 mm. Rio de Janeiro, Brazil.
- thermesia.* **C. thermesia** Jones. *Male*: Head and collar mostly reddish brown. Thorax light brown suffused with lilacine. Forewing lilacine irrorated with white scales tipped with black; costa light brown, darker towards apex; a very wavy antemedial line followed by light brown suffusions; outer line dark brown, excurved on costa, abruptly angled below vein 8, then inbent followed by narrow lilacine and a brown suffusion confluent with a dark subterminal shade from discal fold to tornus; a red suffusion beyond line below apex; two square brown spots on costa at one and two-thirds; termen dark brown; cilia tipped with lilacine; a minute hyaline spot at discocellular. Hindwing deeply suffused with reddish brown, veins on outer half suffused with red; the dark medial line outcurved from costa to vein 2 then straight to inner margin; a minute hyaline spot at end of cell; a diffuse dark subterminal shade. Wings below very much as in *C. corcovada* Schs. of which it may be the male. Expanse: 41 mm. Alto da Serra, Santos. Not in the National Museum. The apex rounded in figure published.
- fenestrata.* **C. fenestrata** Jones. The species is only known to me from description and a figure received from Mr. Jones. *Male*: Body and wings light brown with black irrorations and suffused with light vinaceous cinnamon. Forewing: a diffuse, indistinct, double, dark medial shade from costa across end of cell to inner margin; trace of postmedial dark shade with diffuse spot above vein 8; a dark discocellular bar followed by minute hyaline spots above and below vein 5; a small pink subterminal suffusion between veins 6 and 8; cilia dark brown. Hindwing like forewing, but shade is postmedial, forming a single line from vein 2 to inner margin; discocellular bar and hyaline spots larger. Forewing below light brown suffused with pink and irrorated with black; veins, cell, and subapical patch heavily suffused with red; a narrow, dark, diffuse postmedial shade; a dark discocellular bar. Hindwing below with red suffusions on veins only; dark postmedial shade and discocellular bar. Expanse: 46 mm. Castro, Parana.
- malca.* **C. malca** Schs. (87 d). *Male*: Body above pale vinaceous buff thickly irrorated with black, the abdomen dorsally suffused with prout's brown. Forewing drab grey irrorated with black scales partly forming striae; a faint hair brown antemedial line; some light coral red scaling below median at end of cell and on base of veins 3, 4 and 6; an oblique hyaline streak on discocellular; outer line at costa broad, diffuse, smoky fuscous, from vein 8 to inner margin fine, fuscous; a vertical prout's brown thick line from vein 7 to tornus, the termen pale drab grey partly suffused with light ochraceous buff. Hindwing largely suffused with cinnamon brown, and irrorated with black; hyaline streak at discocellular; the line fine, fuscous, medial; a subterminal prout's brown line from apex to anal angle; termen narrowly pale drab grey; cilia mostly white. Wings below partly pale drab grey, chiefly on termen with scattered black scales; base to line largely suffused with cinnamon drab. Forewing: the coral red scaling at veins more intense, and similar coloring sub-

terminally from vein 8 to near vein 3, the termen narrowly and base of cilia prout's brown; the line faint and mostly crenulate. Hindwing: the line postmedial, crenulate toward inner margin; termen as on forewing. Expanse: 41 mm. French Guiana.

C. submarcata Schs. (87 d). *Male*: Frons drab. Body light drab, anal hairs partly fuscous. Wings *submarcata*. to outer line light drab, beyond line drab; discocellular spots hyaline, B-shaped edged with cinnamon brown; a few scattered black scales; outer line fine, cinnamon brown; cilia tipped with white. Forewing: an antemedial cinnamon drab line deeply outangled on costa, slightly outbent from subcostal to inner margin; outer line excurved on costa, double, heavier on basal side, filled in with white, bluntly angled below vein 8 and inbent to inner margin, the outer of the two lines finer, pale fawn color, and a similar fine subterminal shade from vein 4 to tornus; an upcurved dark line from angle to termen at vein 8. Hindwing: the line medial touching hyaline spot; a postmedial and a terminal pale fawn colour shade. Forewing below: costal edge dark olive buff; cell and a shade towards apex drab grey; space below cell to outer line and tornus cinnamon drab; termen from vein 8 below curved line cream white narrowing to a point at vein 2; outer line fine, crenulate from vein 4 to inner margin. Hindwing below light drab, the veins light cinnamon drab; a faint postmedial line crenulate towards inner margin; some black irrorations on both wings. Expanse: 38 mm. French Guiana.

Group 2.

Species with a hyaline spot on forewing only.

C. externa Moore (87 d). *Male*: Head, collar and abdomen light pinkish cinnamon. Thorax fawn colour, *externa*, all with a faint olivaceous tinge. Wings to line light pinkish cinnamon with a few scattered black scales; cilia citrine drab tipped with white. Forewing: an outcurved darker medial shade followed by a small snuff brown spot on costa; a hyaline spot on outer edge of discocellular cut by vein 5; outer line remote, fine, black, outwardly shaded with buckthorn brown, outangled close to apex; terminal space partly light pinkish cinnamon with a vertical buckthorn shade from vein 5 to tornus. Hindwing: the line fuscous black, medial; outer half cinnamon brown, becoming paler towards costa. Wings below light ochraceous buff irrorated with black scales and striae; cilia cinnamon brown tipped with white. Forewing: median vein, base of veins 3 and 4, also base of veins 6 and 7 light coral red; termen from vein 7 to vein 2 coral red; the line not angled but curved, from vein 4 to inner margin crenulate. Hindwing with the line subterminal, faint, curved and crenulate. Expanse: 48 mm. Rio de Janeiro; Castro, Parana.

C. musa Schs. (87 d). *Male*: Body drab grey, the front of collar and abdomen dorsally except at base *musa*, suffused with orange cinnamon. Forewing: base to beyond cell on costa and to middle of inner margin light cinnamon drab, then pale drab grey to outer line and apex; a small B-shaped hyaline spot at discocellular; outer line fine, benzo brown, outangled between veins 7 and 8 with a fine reddish line beyond it from vein 5 to termen below apex; terminal space light drab; costal edge coral red. Hindwing: base pale drab grey to medial dark line; terminal space light drab with mikado brown shading along the line; cilia of both wings darker tipped with white; black irrorations scattered over the thorax and wings. Underside of wings partly suffused with ochraceous tawny, irrorated with black; line of forewing outcurved below costa, on hindwing postmedial and faintly crenulate; a dark discal spot on hindwing. Expanse: male, 40 mm; female, 50 mm. Castro, Parana.

C. cordubensis Berg (= *schulzi* Weyenb., *nigrescens* Schaus) (87 e). *Male*: Head and collar light cinnamon drab. Thorax drab. Abdomen whitish suffused with light drab with some scattered black scales. Wings bone white irrorated with black, less so on terminal space; cilia vinaceous buff tipped with white. Forewing: base suffused with avellaneous extending along inner margin; a thick fuscous antemedial line inbent from costa to inner margin; space between lines sometimes fuscous; a hyaline B-shaped spot on discocellular; postmedial line fuscous angled at vein 6 with a vinaceous buff line from angle to apex. Hindwing: the line medial, outcurved; brownish suffusions along inner margin. Forewing below with postmedial line outcurved. Hindwing below with line postmedial and curved. Expanse: 40—44 mm. Argentina; Castro, Parana.

C. felderia sp. nov. (87 e). *Male*: Very similar to *despecta*. Larger and can always be recognized by *felderia*, the outer line of the forewing which is more deeply outangled, starting from costa at a greater distance from apex, and is followed beyond angle between veins 7 and 8 by a light coral red line; the apex is rather more prolonged and more acute. The genitalia also differ. Expanse: male, 45—50 mm; female, 57 mm. Several localities in Western Mexico; San Salvador.

C. despecta Wkr. (= *curtisea* Weyenb., *sanguinolenta* Fldr.) (87 e). *Male*: Body light drab; head *despecta*, partly or entirely light coral red; collar in front and abdomen dorsally suffused with pinkish cinnamon. Wings whitish or pale drab grey irrorated with black chiefly on basal half. Forewing: a faint light cinnamon drab medial shade; a hyaline B-shaped spot at discocellular partly edged with black; outer line remote, from a cinnamon spot on costa fuscous black, outbent and angled close below vein 8, then inbent, followed by a sayal

brown line, at angle a black line extends to apex; a faint light cinnamon drab suffusion on terminal space from vein 3 to tornus; costal edge sayal brown. Hindwing: line medial, fuscous black followed by a russet shade except at costa. Wings below varying from light drab to light buff more thickly irrorated with black scales and striae, the forewing with the line faint, hardly angled, followed by a russet shade to termen between veins 4 and 7, the hindwing with a faint sinuous postmedial line, and usually a small dark spot on discocellular. Expanse: male, 34—46 mm; female, 50 mm. Argentina; Southern Brazil. The figure of *curtisea* Weyenb. in Tijdschrift is very poor.

xingua. **C. xingua** Dogn. (87 e). *Male*: Body and wings vinaceous buff irrorated with black. Forewing: an antemedial, almost medial clay color shade from a dark point on costa; an oblique hyaline spot at discocellular finely edged with black; the outer line fine, hair brown, oblique from costa, angled below vein 7 and inbent; followed by a sayal brown shade, oblique, from vein 5 to tornus. Hindwing: a small dark spot on discocellular; line fine, medial; termen largely suffused with sayal brown darkest subterminally. Forewing below suffused with ochraceous salmon becoming ochraceous orange at termen below apex to vein 4; the line broader towards costa, outcurved and sinuous. Hindwing below: a black line on discocellular, the postmedial line almost vertical to vein 4, then inbent to inner margin. Expanse: 32 mm. Ponte Nova, Rio Xingú, Amazons; Callao, Peru; Argentina. A small species with apex of forewing less acute.

pulverula. **C. pulverula** Schs. *Female*: Body and wings pale ecru drab well irrorated with black scales, abdomen below with a black ventral line. Forewing faintly suffused with light cinnamon buff to postmedial line; lines sayal brown, the antemedial inbent on costa, then lunular, almost vertical, the postmedial outcurved beyond cell, crenulate. A B-shaped hyaline spot at discocellular edged with snuff brown. Hindwing: a subbasal curved line; outer line outcurved beyond cell, crenulate and dentate. Cilia of both wings pale sayal brown tipped with white. Wings below very similar to upper surface with only the outer line, which is vertical on costa of forewing to vein 8, then outcurved, and on hindwing is nearer termen. Expanse: 54 mm. São Paulo, Brazil.

forbesi. **C. forbesi** sp. nov. (87 e). *Male*: Body ochraceous buff, the abdomen with sayal brown segmental lines, the anal tufts chestnut brown. Wings ochraceous buff irrorated with apricot buff to outer line; the lines apricot buff, outwardly pinkish; termen narrowly apricot buff, the cilia tipped with pinkish buff. Forewing: a fine, sinuous, outbent, antemedial line; an oblique hyaline spot at discocellular, divided by vein 5, outwardly with some fuscous scaling; outer line outbent and angled close below vein 7, followed by black scaling continued from angle to apex, and with a branch line from vein 4 to tornus; an apricot buff line below median and vein 2 to termen; the veins beyond line apricot buff; smoky drab suffusions irrorated with brownish scales on interspaces beyond cell to line. Hindwing: the line from costa near apex to middle of inner margin; a fine line from vein 6 near postmedial to termen at vein 2. Wings below warm buff with numerous fuscous scales. Forewing: no antemedial line; a black patch from outer line above vein 3 to tornus. Hindwing: the line finer, slightly curved; a white and fuscous spot at discocellular. Expanse: male, 37 mm; female, 50 mm. French Guiana. Type in Cornell University Collection. The apex of forewing somewhat falcate, the termen sinuous. Named in honor of Dr. W. T. M. FORBES.

eugenia. **C. eugenia** Schs. *Male*: Body and wings light greyish olive; cilia darker tipped with white; line clay colour outwardly edged with light ochraceous buff. Forewing: an oblique hyaline B-shaped spot, edged with clay colour, at discocellular; outer line light ochraceous buff on costa, almost imperceptible, outbent, angled at vein 7, inbent, straight followed by a darker greyish olive shade above inner margin to tornus. Hindwing: the line medial, straight. Wings below darker, duller, the shade above inner margin at tornus of forewing benzo brown, the hindwing darker on terminal half and a dark point on discocellular. Expanse: 37 mm. French Guiana; São Paulo de Olivença, Amazons.

volucris. **P. volucris** Schs. (87 e). *Male*: Forewing acute, falcate, termen oblique. Hindwing with anal angle produced to a point. Body and forewing cinnamon drab, the line verona brown. Forewing: a very oblique hyaline spot medially constricted; the line outangled at vein 7 followed below 7 by a finer fuscous parallel line, and a fine fuscous shade from vein 3 to tornus; from angle of line a verona brown line and shade to apex; terminal space light cinnamon drab irrorated with minute verona brown scales. Hindwing light cinnamon drab; line postmedial downbent close to inner margin, closely followed by a finer dark line; termen with fine irrorations as on forewing. Wings below similar, the hindwing with a fine denuded lunule and verona brown spot at discocellular. Expanse: 37 mm. Sixola River, Costa Rica.

gentilis. **C. gentilis** Schs. (87 e). *Male*: Forewing: apex produced, outer margin sinuous. Body and wings light buffish drab irrorated with drab scales. Forewing: a fine antemedial line; an oblique hyaline spot at discocellular edged with fuscous, more broadly on outer edge; outer line narrow, cinnamon drab, oblique from costa, angled below vein 7 near termen and inbent to inner margin; a fine fuscous line from vein 4 to tornus; a

dark terminal line from vein 8 to vein 3; cilia tipped with silky wood brown. Hindwing: line postmedial on costa to middle of inner margin; a fine line from costa near postmedial to anal angle; cilia as on forewing. Hindwing below with the line postmedial, angled at vein 4, not followed by the fine line. Female greyer, with the markings very fine. Expanse: male, 24 mm; female, 32 mm. Sixola River, Costa Rica; French Guiana; Amatura, Amazons.

C. dulcis Schs. (87 e). *Male*: Body ochraceous buff, the anal hairs in type sayal brown. Forewing brownish vinaceous cinnamon to line, beyond line olivaceous cinnamon; a faint dark line outangled at middle of costa, inbent along subcostal, then as an antemedial line slightly outangled below vein 2 which rises before middle of cell; a pale vinaceous pink space between the lines from vein 2 to inner margin, and a large similar space at apex; a B-shaped oblique hyaline spot at discocellular outwardly edged with fuscous; the outer line obliquely excurved from costa, hair brown, acutely angled at vein 7, then inbent, sayal brown inwardly edged with pale orange to vein 2 and below it with whitish; some pale vinaceous pink beyond line on inner margin and traces of a dark shade from line at vein 4 to tornus. Hindwing: base to line pale vinaceous pink; line as on forewing, medial to well below middle of inner margin; outer space olivaceous cinnamon; some pale vinaceous pink on inner margin below line, and at apex. Wings below paler, the outer line on forewing outcurved, on hindwing postmedial, sinuous. Some black scaling above and below on both wings. Expanse: 47 mm. Juan Viñas, Costa Rica. The forewing is broad, the apex acute but not produced.

C. olasis sp. nov. *Male*: Body and wings light pinkish cinnamon with a few fuscous scales. Wings above: outer line fine, olive brown inwardly edged with yellow white; cilia orange cinnamon at base followed by a dark shade and white tips. Forewing: faint traces of an antemedial line; hyaline spot oblique B-shaped edged with black; line as in *dulcis*. Hindwing: the line medial to middle of inner margin. Wings below paler, pinker, the termen suffused with brownish cinnamon, the line very faint. Expanse: 39 mm. Central America. Wing shape as in *dulcis*.

C. roscida Dogn. *Female*: Body and wings to line pinkish buff with a few black scales. Wings: an antemedial outcurved broad pinkish cinnamon shade; terminal space cinnamon, slightly paler along outer margin; cilia light greyish olive, paler on tips. Forewing: outer line broad on costa, oblique, brownish cinnamon, close below 8 as a fine line outbent, angled and inbent chestnut brown, with a brownish cinnamon line along vein 8 to termen; an oblique hyaline spot at discocellular. Hindwing: the line as on forewing, medial. Wings below pinkish buff with dark striae and black scales. Forewing: cell and beyond to near line and above vein 2, also termen from vein 8 to vein 3 rufous; line wood brown, postmedial, outcurved, below vein 4 faint, inbent, crenulate. Hindwing: line faint, subterminal, outcurved and crenulate. Expanse: 46 mm. São Paulo, Brazil.

Group 3.

The following species have a black line or spot on discocellular of forewing.

C. chabaudi Dyar (87 f). *Male*: Head and collar light ochraceous salmon or tawny, the collar tipped with white. Thorax and abdomen greyish changing to sayal brown according to light, irrorated with large black scales. Wings light buffish grey irrorated with large black scales and some black striae except on termen; cilia brownish olive tipped with white. Forewing: a fuscous shade from middle of costa inbent to inner margin, very faint in type; outer line usually fuscous, outangled above vein 7, fainter and paler in type; a silvery white spot at discocellular inwardly edged by a fine dark line; outer line followed by irrorations on brownish suffusions, not reaching termen except at apex. Hindwing: costa paler; postmedial line slightly outcurved; inner margin half suffused with mikado brown to beyond postmedial. Wings below paler with fuscous striae; fuscous lines on discocellulars, the forewing with outer line well outcurved to vein 3, then incurved, the hindwing with line subterminal, upcurved from vein 3 to inner margin, almost obsolete in type. Expanse: 53 mm. Zacualpan, Mexico.

C. mexicana Drc. (87 f). *Male*: Body and wings pale vinaceous fawn, the head, collar, base of forewing and inner margin of hindwing suffused with light pinkish cinnamon, all with scattered black scales. Forewings: a black line on discocellular followed by a whitish spot; a faint darker antemedial fine wavy shade; postmedial line fine, black, outangled above vein 6; a faint reddish streak from angle of line. Hindwing: a fine black line on discocellular; a fine black medial line. Forewing below with black discal line and silvery white spot; reddish suffusions except on costa and inner margin. Expanse: male, 45 mm; female, 60 mm. Orizaba, Jalapa, Mexico.

C. tuisana Schs. (87 f). *Male*: Head vinaceous cinnamon; collar and abdomen above pinkish buff, the thorax whitish grey, all with scattered black scales; abdomen below whitish grey irrorated with black. Wings lilacine grey thinly irrorated with black. Forewing: a small round deep mouse grey spot at end of cell; a faint antemedial darker shade; postmedial line fine, faint, outbent on costa, angled between veins 7 and 8 and inbent to inner margin, followed by a cinnamon shade especially at veins 3—4, and at vein 1 to fold; a peach red streak across vein 6 beyond line; apex slightly darker. Hindwing: a small black spot at end

of cell; a fine, eurved, black medial line followed by a broad cinnamon shade with more numerous black scales; termen darker grey. Wings below more thickly irrorated with black scales and striae; black discal points. Forewing: disk and cell suffused with cinnamon; lines below usually faint; a peach red patch on termen from vein 3 to above vein 7; line on hindwing below subterminal, wavy. Expanse: male, 48 mm; female, 57 mm. Costa Rica. Guatemala; Amazons.

acuta. **C. acuta** Schs. (87 f). *Male*: Body above and wings drab grey with a faint brownish tinge, irrorated with black. Wings: the line buffy brown followed by a slight white shade; small black spots on discocellulars; cilia darker shortly tipped with white. Forewing: the line postmedial, oblique from costa, angled close below vein 8 and inbent. Hindwing: the line postmedial passing close to discal spot. Wings below tiller buff, the forewing largely suffused with wood brown, except at apex and on inner margin; the line faint, outeurved, sinuous; hindwing with the line almost subterminal, faint, outeurved and sinuous. Expanse: male, 32—42 mm; female, 52 mm. Petropolis, Brazil; Amazons; Costa Rica; Guatemala. Forewing with apex produced, outer margin sinuous.

pudens. **C. pudens** Schs. (87 f). *Male*: Body and wings drab thinly irrorated with black. Forewing: lines fine, darker; antemedial line outangled on costa, vertical from subeostal to inner margin; a small fuscous black spot on discocellular; outer line broad and fuscous on costa, outangled above vein 6, fine, double, parallel with termen to inner margin; a fuscous shade on costa from line to apex, and a similar subterminal shade from vein 4 to tornus. Hindwing: a fine outer line, wavy from below vein 4; termen suffused with fuscous. Forewing below with costa at apex greyish, also subterminal shadings below vein 4, and at discal spot. Hindwing with greyish suffusions especially on termen; a blackish shade on termen before anal angle; the outer line nearer termen and more distinct. Expanse: male, 45 mm; female, 50 mm. Sixola, Juan Vinas, Costa Rica; Paeho, Columbia. Some specimens have a reddish patch on underside of forewing from veins 5—7 on termen.

solvens. **C. solvens** Dyar. *Male*: Similar to *pudens* but without the fuscous shade on costa at apex or on termen. Hindwing with a very slight darker shade on termen before anal angle. Underside of fore wing with a capueine yellow patch on termen between veins 5 and 7, the postmedial line inbent at vein 3. The female is light ochraceous buff irrorated with black. Forewing: antemedial line faintly darker, sinuous; postmedial line mouse gray, macular from below angle above vein 6, followed by a brownish parallel shade from vein 5 to inner margin. Hindwing: a fine dark streak on discocellular; a medial curved line the continuation of postmedial line on forewing. Wings below paler. Forewing: postmedial line inbent above vein 3. Hindwing below with the line subterminal, excurved below vein 3 to inner margin. Expanse: male, 44 mm; female, 50 mm. Cabima and La Chorrera, Panama.

incerta. **C. incerta** Mschlr. (87 f). *Female*: Body drab. Wings drab grey mottled with drab, the terminal space drab. Forewing: base suffused with drab, limited by a wavy hair brown thick line, outeurved on costa inbent from subeostal to median, then vertical; a small dark spot on discocellular; outer line finer, hair brown exeurved and outbent on costa, slightly inbent from below vein 8, followed by benzo brown shading, expanding at apex and between veins 3 and 5. Hindwing: a dark line on discocellular; postmedial line bluntly eurved, hair brown, followed by benzo brown shadings as on forewing. Wings below light drab irrorated with black. Forewing: an outer hair brown line outeurved to vein 3, then incurved to inner margin; a light vinaceous cinnamon patch beyond line from vein 4 to vein 7. Hindwing: a subterminal dark line parallel with termen from costa to vein 3, then exeurved. Expanse: 41 mm. Surinam. Described from the type specimen kindly sent to me for examination by Dr. HERING of the Berlin Museum.

orthane. **C. orthane** Blanch. *Female*: Body light ochraceous buff somewhat suffused with drab grey. Wings light ochraceous buff with transverse black striae. Forewing: an irregular black antemedial line, outangled on costa and inbent; a dark line on discocellular and a short parallel line beyond; outer line exeurved and outbent, at vein 7 inbent, lunular, black, outwardly paler edged defined by dark suffusions on termen. Hindwing: a black point on discocellular, with faint line from it to inner margin; a curved postmedial line; traces of a subterminal line formed by the black striae. Expanse: 62 mm. Chile. The description is made from the figure in Gay's *Historia de Chile*. The figure shows vein 5 on forewing from lower angle of cell, evidently an error in drawing.

latris. **C. latris** Schs. (87 g). *Male*: Head and palpi zine orange. Collar pinkish cinnamon. Body and wings pinkish buff with scattered black scales. Forewing: basal third suffused with pinkish cinnamon; antemedial line dark, very faint, outeurved; a small black spot on discocellular; outer line fine, blackish from a small blackspot on costa, outeurved and inbent to inner margin at two thirds from base, closely followed by a cinnamon line; costa from line to apex suffused with mouse grey; faint brown shade on termen from line at vein 4 to tornus. Hindwing: a curved black medial line; a fine dark line on discocellular; outer half of wing suffused with mikado brown. Forewing below suffused with light coral red except on costa and inner margin, a terminal patch of coral red from vein 3 to vein 8; black striae over greater part of wing. Hindwing below

with black striae and scales forming a vague medial shade and irregular outer line. Expanse, male type 54 mm. The female has the outer half of hindwing much paler and with only a faint reddish terminal patch on forewing. Expanse: female, 63 mm. Tuis, Juan Viñas, Costa Rica. Other specimens from Guatemala which I can hardly separate measure 36 mm and have the apex less acute. From Venadio, Mexico we have small specimens, but much paler.

C. narseres *sp. nov.* *Male*: Body and wings cinnamon buff; a few black scales on base of abdomen. Wings shorter and broader than in *marona*; the lines fine, tawny olive. Forewing: antemedial line barely traceable; discal spot small, black; outer line more remote from apex, slightly excurved on costa; a few black scattered scales. Hindwing: the line medial; a few black scales at base and beyond line. Expanse: 45—50 mm. Rio Songo, Bolivia. Type in the U. S. National Museum.

C. melsheimeri *Harris* (= *egenaria* *Wkr.*) (87 g). *Male*: Body and wings pale cinnamon pink varying to drab grey, irrorated with hair brown scales, the wings sometimes suffused partly with roseate. Wings: the lines very fine or more heavily marked, fuscous, especially in Mexican specimens. Forewing with an antemedial inbent line, frequently obsolete; postmedial line outangled between veins 7 and 8; a fuscous streak on discocellular; cilia tawny olive tipped with white. Hindwing with the line just beyond middle. Forewing below with basal half partly orange rufous or light vinaceous cinnamon; the postmedial line outcurved to vein 3, then incurved. Hindwing below with the line remote, vertical from costa, angled and inbent from vein 3. Expanse: male, 33—45 mm; female, 43—46 mm. United States to Hidalgo, Mexico.

C. bilinea *Schs.* *Male*: Head and collar avellaneous; body pale ochraceous buff, with a few scattered dark scales, the anal hairs natal brown and fuscous. Wings pale ochraceous buff with wood brown irrorations; cilia fuscous partly tipped with white. Forewing: a fine buffy brown antemedial line slightly inbent; a similar postmedial line slightly outcurved; a faint darker line on discocellular; termen narrowly ochraceous salmon. Hindwing with a fine medial line. Forewing below with no antemedial line. Hindwing below with the line postmedial and slightly outcurved. Expanse: male, 31 mm; female, 40 mm. Castro, Parana.

C. primolus *sp. nov.* (87 g). *Female*: Body and wings pale pinkish buff irrorated with fuscous; collar light pinkish cinnamon. Wings: veins on outer margin, and termen narrowly carrot red; cilia light brownish olive tipped with white; postmedial line fuscous. Forewing: costal edge cinnamon; a faint smoky antemedial shade, outangled on costa; a faint dark line on discocellular; postmedial line fine obliquely downbent, angled at vein 7 and inbent. Hindwing: the line medial. Wings below more thickly irrorated with fuscous. Forewing: a small whitish spot at discocellular; line thicker, slightly outbent to vein 4, then incurved; veins from cell, and a patch on termen from vein 7, below 4 forming a narrow line to tornus carrot red. Hindwing: the line postmedial, vertical and excurved to vein 5 somewhat outcurved across veins 4 and 3, and inbent to inner margin. Expanse: 37 mm. No locality on specimen. Type in Berlin Museum, ex Collection Staudinger. Wing shape as in *bilinea*, the lines very different.

C. putidula *Dogn.* (87 g). *Male*: Body greyish olive with some black scales. Forewing: basal third whitish expanding to beyond cell and on costa to outer line, irrorated with dark greyish olive and black; a faint medial pinkish cinnamon shade on which is a sayal brown discocellular point; costal edge sayal brown; outer line white outbent from costa with a small dark spot on it, sharply angled at vein 8 near termen, slightly inbent to inner margin, almost subterminal, the outer edge diffusely white, inwardly with a broad deep greyish olive shade, and a similar shade along termen. Hindwing to line and on termen deep greyish olive; line white, outwardly diffuse from costa before apex, straight to anal angle; a whitish shade medially. Forewing below as above but the cell and costa to outer line suffused with pinkish cinnamon. Hindwing below light drab; line fine, dark greyish olive, subterminal and slightly irregular. Expanse: 40 mm. San Antonio, Cali, Colombia. Forewing with apex acute, the outer margin straight, the hindwing with anal angle acute.

Group 4.

The following species have the wings usually more produced and acute: they are also somewhat larger and more robust.

C. joanna *Schs.* ♀ (= *lacuna* *Schs.* ♂) (87 g). *Male*: Head and thorax light vinaceous cinnamon. Abdomen pinkish buff, the anal hairs snuff brown tipped with fuscous black. Forewing light pinkish cinnamon to line, also costa to apex; the medial area from cell to inner margin light pinkish cinnamon; a black point on discocellular; a postmedial thick fuscous line, inbent from costa to inner margin followed by a finer line, not reaching costa, and then by a dark shade upcurved to apex; the space between the lines cinnamon drab; termen pale brownish drab. Hindwing light pinkish cinnamon from base to line and along inner margin to angle; the lines as on forewing, the first almost medial, not reaching inner margin. Wings below paler

with a few scattered black scales; postmedial line single, more remote from cell, faintly sinuous on forewing, more so on hindwing; diffuse dark shading on terminal space. *Female* (joanna Schs): Wings cinnamon from base to the line which is double from just beyond middle of wing on costa of forewing to middle of inner margin on hindwing; terminal space purplish brown, the veins finely fuscous. Wings below clay colour, the line single, fine and faint, more remote from cell, outcurved on forewing, angled on hindwing below vein 3. Expanse: male, 47 mm; female, 65 mm. Costa Rica; Venezuela; French Guiana.

undiscata.

C. undiscata Dogn. (87 g). *Male*: A close ally of *joanna*, differing in the genitalia. Body and wings cinnamon, including the termen; the line followed by a dark shade expanding at costa to apex; a few black scales at tornus of forewing; the double line of hindwing followed by black scales above vein 3, increasing near costa. Wings below pinkish cinnamon. Forewing: a faint black line on discocellular; the line fine, slightly curved; some dark suffusion at apex and from vein 3 to tornus, with a few black scales. Hindwing with the line fine and faint. Expanse: 50 mm. São Paulo, Brazil; also from Sta. Catharina in the Berlin Museum.

viemanda.

C. viemanda sp. nov. *Male*: Very similar to *joanna*, but larger. The wings to line light pinkish cinnamon, the fine outer fuscous line and buffy brown shade preceding it both outangled above vein 7, the fuscous shade following it extends to apex. The black irrorations beyond line of hindwing much denser and more extensive. Easily distinguished from *joanna* by the outangled line. The genitalia are very different. Expanse: 58—61 mm. São Paulo de Olivença, Amazons.

mulatro.

C. mulatro Schs. *Female*: Body cinnamon. Wings cinnamon buff. Forewing: a hair brown line on discocellular; outer line remote, snuff brown inbent from vein 7, there jointed by an extremely fine and faint dark line outbent from costa, followed closely by a series of small white fan shaped scales tipped with fuscous, connected by a diffuse faint and narrow brownish shade which branches at vein 7 to apex. Hindwing: line as on forewing almost antemedial. Wings below cinnamon buff; a stronger dark line on discocellular; a dark shade at apex above vein 8; no traceable line. Hindwing: a few scattered fuscous scales, some with white base; a short dark line beyond middle of inner margin. Expanse: 60 mm. Cayuga, Guatemala.

manalca.

C. manalca sp. nov. *Male*: Body light vinaceous cinnamon. Wings light pinkish cinnamon to line, termen slightly darker. Forewing: a few scattered black scales on basal half; a black point on discocellular; line tawny olive, very faint where outbent from costa, well defined from vein 7 to inner margin, above vein 3 followed by a fine similar shade continuing above vein 7 to apex, below vein 4 the shade faint, diffuse, expanding towards tornus. Hindwing: the line straight, medial, not reaching inner margin; black irrorations at base and beyond line. Wings below light cinnamon buff with scattered black scales. Forewing with line fine and faint; discal point as above. Hindwing: a small black point on discocellular; line faint, downturned at inner margin as a dark lunule. Expanse: male, 52 mm; female, 53 mm. French Guiana. Type in Carnegie Museum, Pittsburgh.

unalca.

C. unalca Schs. *Male*: Belongs to the group of *joanna*. Forewing longer and narrower. Body light pinkish cinnamon. Wings to line pale ochraceous buff; the line fine, tawny olive, outwardly edged by a slightly paler shade and then by a broader saccardo's umber shade irrorated with black scales. Forewing: a black point on discocellular; termen light drab; the line slightly outcurved at costa. Hindwing: line straight, postmedial, the black irrorations increasing towards inner margin; termen broadly buffy brown. Wings below pale ochraceous buff. Forewing: space above cell to subcostal and to beyond cell with rough scales and a few black scales; apical and terminal spaces suffused with fuscous, the veins brown; the discal spot larger. Hindwing: a few scattered black scales; termen broadly buffy brown. Expanse: 56 mm. Omai, British Guiana.

madenus.

C. madenus sp. nov. *Male*: Body and wings cinnamon buff with a very few scattered black scales. Forewing: costa pinkish cinnamon; a fine sinuous hair brown line on discocellular; no outer line; termen narrowly and cilia snuff brown, the cilia tipped with white. Hindwing similar but without any marking on discocellular. Wings below somewhat paler, outer margin of forewing more of a pale cinnamon pink. Expanse: 42 mm. Amazons, Brazil. Type in Cornell University Collection.

hamata.

C. hamata Wkr. (= *alcuna* Dogn.) *Male*: Body and wings cinnamon irrorated with white black tipped scales, the line van dyke brown followed by a similar shade. Forewing: a light pinkish cinnamon spot on discocellular; the line outbent from costa, thin, outangled and broader to inner margin, the shade following it extended from angle to apex. Hindwing: the line medial; on both wings a line of darker scaling to tornus and anal angle. Wings below paler, irrorated as above. Forewing: discal spot larger, hair brown containing some pale scales; the line fine, faint, slightly wavy; dark scaling at apex and above tornus. Hindwing: a faint, wavy, postmedial line. Expanse: 45 mm. French Guiana. A specimen labelled *hamata* Wkr. by

Sir George HAMPSON is the same as the type of *alcuna* Dogn. *P. hamata* Wkr. was described as from Rio de Janeiro, and may represent a different race.

C. jaruga Jones. *Male*: Body and wings reddish brown; anal hairs fuscous. An indistinct antemedial *jaruga*. line; postmedial line well defined black, oblique from costa to vein 7, then nearly straight to middle of inner margin, followed by a narrow light shade and broad black suffusion forming a large triangular space at tornus from inner margin to vein 4 crossed by a pale band from vein 3 to inner margin, above vein 8 the black suffusion extends to apex; a pale discocellular bar slightly defined by fuscous; termen pale; cilia dark. Hindwing: a black medial band and obscure subterminal shade. Body and wings slightly irrorated with white scales tipped with black. Expanse: 60 mm. Guaruja, Santos, S. E. Brazil. The species is unknown to me and the description faulty. Owing to the peculiar black tipped white scales, it is evidently close to *hamata* and *camarinus*.

C. camarinus sp. nov. (87 h). *Female*: Body and wings fawn colour thinly irrorated above and below *camarinus* with fan-shaped white scales tipped with black; abdomen above somewhat suffused with purplish. Forewing: a faint sinuous darker antemedial line; a dark grey spot on discocellular inwardly edged with cinnamon drab; outer line remote from termen as in *gaujoni*, fine, dark from costa to below 8, then thick, fuscous to inner margin, outwardly edged with light quaker drab, and with dark suffusions at apex. Hindwing: line thick as on forewing before middle of wing. Wings below with lines fainter; discal spot on forewing oblique, edged with dark mouse gray; a dark discocellular streak on hindwing, the line outcurved, medial. Expanse: 60 mm. Iquitos, Peruvian Amazons. Type in the Berlin Museum.

C. euthymius sp. nov. (87 h). *Male*: Body light pinkish cinnamon, the anal hairs pale sayal brown. *euthymius*. Forewing: base pinkish cinnamon limited by a light pinkish cinnamon narrow antemedial shade well inbent along anterior edge of cell, outcurved below cell; space beyond to line purplish cinnamon; an oblique hyaline spot at discocellular cut by veins 5 and 4; outer line obliquely downbent and excurved, angled at vein 8, very fine, dark, inwardly well edged with light ochraceous salmon from below vein 7; a pale greyish vinaceous shade from apex below vein 9 incurved, and narrowing to termen at vein 2, the space before it to line from vein 4 to inner margin dusky fawn colour; termen from vein 8 to vein 3 dark olivaceous brown. Hindwing to line light vinaceous fawn; line as on forewing medial; terminal half fawn colour. Wing below to line light pinkish buff, partly cinnamon buff on fore wing irrorated with black. Forewing: the line fainter, with a black spot on it close to costa; the suffusions on termen benzo brown. Hindwing with the line outcurved almost subterminal, the pale color extending to termen from vein 3 to inner margin. Expanse: 52 mm. Bella Vista, Colombia. Type: Collection Niepelt.

C. moengus sp. nov. *Male*: Body and wings olive buff without any black scales, anal tufts *moengus*. olive brown. Forewing: a fine outbent pinkish buff antemedial line; a narrow oblique hyaline spot edged with pinkish buff at discocellular; outer line tawny olive, oblique from costa, angled at vein 7 and inbent, broadly preceded from within cell by an olive drab shade which continues to apex beyond and above angle of line; from angle the line is followed by a hair brown line, diverging slightly to inner margin, and a fine dark line from it at vein 4 to tornus; outer margin from vein 9 to near tornus pale olive buff, and a narrow dark olive buff line from vein 8 to vein 3, extending on cilia which are tipped with white. Hindwing: the line as on forewing from beyond middle of costa to a little below middle of inner margin. Wings below pale olive buff. Forewing suffused with olive drab except on inner and outer margin from apex to vein 3 beyond a patch following the line; outer line single. Hindwing: line fine, single, postmedial, slightly outcurved. Expanse: 59 mm. Moengo, Surinam. Type in Cornell University Collection.

C. gaujoni Dogn. (87 h). *Male*: Body and wings cinnamon buff irrorated with fuscous scales. Forewing: *gaujoni*. a faint wavy antemedial drab line; a black annulus on discocellular filled in with hair brown scaling; postmedial line hair brown from a little less than two thirds from base, outbent and excurved, rounded and inbent to near middle of inner margin, followed by a diffuse narrow brown shade continuing to apex above vein 7; termen narrowly buffy brown. Hindwing: a hair brown line from middle of costa to middle of inner margin followed by denser irrorations except on termen. Wings below with few irrorations, the lines fine, faint, lunular, on hindwing subterminal from costa, at vein 5 inbent to inner margin; the discal spot on forewing black, containing some whitish scales, the apex with dark suffusions. Expanse: male, 52—60; female 55—88 mm. Loja, Ecuador.

C. candacus sp. nov. *Male*: Body and wings light pinkish cinnamon; some black irrorations on *candacus*. head, collar, and thorax; abdomen above thickly irrorated with black. Forewing: antemedial line benzo brown, wavy, inbent, interrupted across cell; a hair brown annulus on discocellular filled in with greyish buff; outer line cinnamon drab, outbent and excurved, inbent from vein 7, followed by greyish olive shading irrorated with black, at vein 7 upbent to apex, below vein 4 expanding to tornus; a few scattered black scales on basal area and still fewer on medial area. Hindwing: a patch of black scales at base; the line medial followed by black

scaling from vein 6, expanding to inner margin. *Female*: Body and wings fawn colour, the lines black. Forewing: discal spot large, almost entirely black; the black scaling beyond outer line more intense and broader. Expanse: male, 52 mm; female, 75 mm. French and British Guiana; Ponte Nova, Rio Xingu; Tefte, Amazons. Type in the U. S. National Museum.

callipius. **C. callipius** *sp. nov.* (87 h). Allied to *gaujoni*, darker in colour, the outer line more remote from base. *Male*: Body and wings avellaneous fawn irrorated with black. Forewing: a faint, sinuous, darker antemedial line; a deep mouse grey annulus on discocellular filled in with pale scales; postmedial line fine, buffy brown, oblique and excurved from costa beyond two thirds from base, angled below vein 8 and inbent to beyond middle of inner margin followed by denser irrorations except a triangular patch on termen broad at vein 6 ending in a point at vein 2. Hindwing: the transverse line before middle of wing broadly followed by denser irrorations, and a patch of same on inner margin near base; cilia on both wings buffy brown tipped with white. Wings below more evenly and thinly irrorated with black. Forewing: discal spot oval; outer line faint, from a small spot on costa and followed by dark mottlings from vein 3 to tornus. Hindwing: the line faint, irregular, postmedial. Expanse: male, 47 mm; female 60 mm. Arouary, Cayenne. Type in the Berlin Museum.

marona. **C. marona** *Schs.* *Male*: Body and wings cinnamon buff. Abdomen with a few scattered black scales and lateral darker spots. Forewing: antemedial line faint, fine, pinkish cinnamon, slightly inset from median; discal spot oblique, finely outlined, tawny olive; outer line oblique from costa, angled and inbent at vein 7, tawny olive followed below vein 4 by a few black scales and dark grey spots, oblique to tornus, these spots irrorated with black. Hindwing: some black scaling along inner margin from base, and beyond the medial line from below vein 6, followed by small dark spots as on forewing from below vein 5, not approaching termen. Expanse: male, 51 mm; female, 64 mm. French Guiana. Closely allied to *candacus*.

bactriana. **C. bactriana** *Blr.* Sex? Sericeous pale reddish brown irrorated with blackish with usual oblique elbowed line dark grey; cilia reddish brown intersected by a darker line. Forewing: an oblique grey spot on discocellular, a grey spot above latter on costa; a small black dot in middle of cell; an antemedial <-shaped grey marking below cell, and a black spot near base; outer line followed by slight greyish suffusion. Hindwing: discal area greyish. Wings below more distinctly irrorated with black; outer line of forewing broken up into grey spots; discocellular spot as above. Hindwing: an arched discal series of blackish ^-shaped markings. Abdomen speckled with black. Expanse: 55 mm. Paramacu forest, Amazons. I have seen nothing to fit BUTLER'S description.

funbris. **C. funbris** *Schs.* (87 h). *Male*: Body and wings sepia, the line fine, black. Forewing: a faint darker antemedial line; a small darker annulus on discocellular; postmedial line oblique, excurved and angled at vein 7. Hindwing: the line medial, almost antemedial. Wings below with the line more remote, on forewing parallel with termen, on hindwing postmedial, partly crenulate, both wings with a fine black line on discocellulars. *Female*: Body and wings buffy brown. Forewing: the annulus larger. Wings below; the line placed as in male, crenulate on both wings; forewing with an oblique spot on discocellular, the hindwing with a small spot. Expanse: male, 46 mm; female, 62 mm. Castro, Parana, Brazil.

magnapuncta. **C. magnapuncta** *Kaye*. I have not seen any specimens of this species. *Female*: Wings pinkish ochraceous, the lines greyish black. Forewing: antemedial line wavy, lunular, interrupted in cell; a large annulus at discocellular; an outer line remote from apex on costa, oblique, angled above vein 6 and inbent, passing close to annulus. Hindwing with the line antemedial. Expanse: 62 mm. Tabaguite, Trinidad, British West Indies. The sex is not mentioned in description, but the outline shows it is a female. No other species of this group has the line so close to discal spot.

producta. **C. producta** *Dogn.* (87 h). *Male*: Body and wings to line sorghum brown; the line broad, fuscous followed by a light vinaceous fawn shade; the termen suffused with sorghum brown. Forewing: an army brown antemedial, slightly inbent line; a fine dark streak on discocellular; the outer line deeply outangled with a sorghum brown streak on costa to apex. Hindwing: the line medial. Wings below similar, but the disc of forewing cinnamon rufous. *Female* with the apex of forewing not produced, the hindwing with rounded termen. Body and wings pinkish cinnamon, the line broad, snuff brown, followed by a broad pale pinkish cinnamon shade. Forewing with a dark line on discocellular. Wings below similar; a dark line on discocellular of hindwing also. Expanse: male, 36 mm; female, 42 mm. Popayan, Colombia.

plana. **C. plana** *Wkr.* (= *diagonalis* *H. S.*) (88 a). *Male*: Head and collar pinkish buff suffused with olive buff. Abdomen cinnamon drab. Forewing: base, costal margin to apex, inner margin to line, and a narrow shade outwardly edging line vinaceous buff; medial space to line at angle benzo brown; the line from costa fine, excurved and angled above vein 7, below 7 inbent and merely defined by the dark and light colouring; termen suffused with benzo brown irrorated with black; a vinaceous buff round spot containing a black line on discocellular. Hindwing similar to forewing, the line just beyond middle; cilia tipped with white. *Female*:

Body deep olive buff suffused with vinaceous buff. Wings to line light buckthorn brown; the line cinnamon brown followed by a broad pale pinkish cinnamon shade reaching apex above angle on forewing, the termen suffused with pinkish buff; scattered black scales chiefly on terminal space; cilia tipped with white. Underside of wings of both sexes paler, the line of forewing excurved from costa, incurved between veins 7 and 4, again between 4 and 3, then deeply incurved to inner margin; the line on hindwing outcurved and partly crenulate. Expanse: male, 37 mm; female, 47 mm. Brazil. Two males and females in the Berlin Museum, probably *Herrich-Schaeffer's* types. The species is in no way related to *orthane* as given in Kirby but the description fits the figure of *diagonalis*.

C. anysia *sp. nov.* (88 a). *Male*: Palpi and throat ochraceous buff; frons fuscous; vertex cinnamon brown; *anyisia*. collar, thorax and abdomen avellaneous; second segment of abdomen dorsally hair brown. Wings to line light cinnamon drab suffused with avellaneous. Forewing: costal edge mikado brown, also basal third of subcostal, the space between at base brownish drab; an antemedial dusky drab line across cell joined at median by a faint similar streak from base; a large quadrate sayal brown spot in end of cell with a similar narrow shade from it to near base of inner margin; an oval vinaceous buff spot at discocellular; postmedial line broad, fuscous at costa, outangled below vein 7, fine, inbent, mostly natal brown to inner margin, followed by lilacine scaling from vein 6 to vein 3; then by a thick natal brown shade upcurved to apex, this shade bifurcating below vein 4 the outer branch extending to termen at tornus, and enclosing in bifurcation from below vein 4 to vein 2 a tawny spot; outer margin from vein 2 to apex, also costal margin beyond postmedial line, and above inner margin light brownish drab; cilia natal brown. Hindwing: the line fuscous, medial; outer space light brownish drab, the termen shaded with sanford's brown, more broadly from vein 5 to inner margin. Forewing below clay colour, the inner margin broadly pinkish buff; a large round black spot at discocellular; termen narrowly light drab with a benzo brown streak below vein 19 to apex; faint traces of a subterminal line. Hindwing below warm buff without markings; cilia cinnamon brown. Expanse: 50 mm. Pied Saut, Oyapok River, French Guiana. Type in the Carnegie Museum. Forewing with apex produced.

Subfamily: **Lacosominae.**

Key to the genera.

A. Veins 7 and 8 stalked.

a. Cell of forewing normal.

a¹. Vein 5 on forewing from middle of discocellular.

a². Antenna pectinated to tips.

a³. Forewing with tornus excised.

a⁴. Forewing broad, apex not produced

b⁴. Forewing broad, apex produced

b³. Forewing with tornus wavy.

a⁴. Forewing broad, not produced, termen nearly straight

b⁴. Forewing broad, apex acute usually produced, termen usually inbent

c³. Forewing with tornus crenulate

d³. Forewing with tornus acute

e³. Forewing with tornus rounded.

a⁴. Vein 2 on hindwing close to 3

b⁴. Vein 2 on hindwing not close to 3

a⁵. Termen even

b⁵. Termen sinuous

c⁵. Termen slightly angled at vein 3

b². Antenna serrate at tips.

a³. Forewing with apex produced, falcate

b³. Forewing with apex not produced

b¹. Vein 5 from below middle of discocellular.

a². Forewing with apex produced, falcate.

a³. Frenulum highly developed

b³. Frenulum not highly developed

b². Forewing broad, not falcate.

a³. Hindwing crenulate

b³. Hindwing rounded.

a⁴. Apex acute

b⁴. Apex not acute

b. Cell of forewing long

B. Veins 6—8 stalked.

a. Veins 3 and 4 stalked

b. Veins 3 and 4 not stalked

Trogoptera.

Reinmara.

Druentia.

Bedosia.

Lacosoma.

Eadmuna.

Tolypida.

Vanenga.

Macessoga.

Zaphanta.

Alheita.

Tarema.

Menevia.

Biterolfa.

Ulmara.

Pamea.

Lurama.

Aceclostria.

Adalgisa.

Roelmana.

1. Genus: **Trogoptera** H.-Schäff.

Male: Frenulum present. Antenna bipectinate. Palpi short, upturned, hairy. Legs mostly hairy; hind tibiae with long hairs and terminal spurs. Forewing: costa straight, slightly convex at tip, apex acute; outer margin straight to vein 3, excurved between 3 and 2, and more deeply excised at tornus and inner margin; vein 2 from well before middle of cell; 3 before angle; 4 from lower angle; 5 from middle of discocellular; 6 from upper angle; 7 and 8 moderately stalked; 9 and 11 from well before end of cell, close together; 10 as a spur from 9. Hindwing: costa slightly convex to middle, excurved to tip of vein 8, and more deeply excurved at apex; below vein 7 termen slightly rounded; vein 2 from beyond middle of cell; 3 before angle; 4 from lower angle; 5 from middle of discocellular which is oblique; 6 from upper angle; 7 from close to end of cell; cell less than half the length of wing.

Type: *T. erosa* H.-Schäff.

erosa. **T. erosa** H.-Schäff. (88 a). *Male*: Body and wings olivaceous drab. Forewing: costal margin suffused with whitish; a fine postmedial dark line slightly outangled on costa. Hindwing with termen denticulate. Expanse: 33 mm. Brazil. 1 ♀ in Mus. Berlin e coll. Maassen.

excavata. **T. excavata** Wkr. (88 a). *Male*: Body and forewing pinkish buff, the hindwing cinnamon buff, all with scattered fuscous scales. Forewing: a paler streak on discocellular; postmedial line very fine and faint, hair brown, better marked at inner margin, followed by a slightly darker shade, oblique from vein 5; cilia wood brown tipped with white, also on hindwing which has no markings. Wings below pale pinkish cinnamon with a few scattered dark scales; fine black streaks on discocellulars; line of forewing forming a black spot on costa and short line at inner margin; some buffy brown shading on termen below apex to vein 4 on forewing; hindwing with a dark postmedial line on costa. Expanse: 39 mm. Rio de Janeiro, Sta. Catherina, Brazil.

notata. **T. notata** Wkr. (88 a). *Male*: Head and collar light ochraceous buff. Thorax and abdomen pale pinkish cinnamon. Forewing to line pinkish buff with a few dark scales; traces of a fine antemedial line; a black streak on discocellular; postmedial line slightly outcurved, black and well marked on costa, then faint, well defined from vein 5 to inner margin; termen ecru drab suffused with light cinnamon drab from vein 4 to inner margin; cilia tipped with white, at excisions the base fuscous. Hindwing pinkish cinnamon, at apex light drab grey; a fine dark medial line straight from costa to inner margin above anal angle; cilia buffy brown tipped with white. Wings below tiller buff with a few dark scales; black spots on discocellulars. Forewing: a thick postmedial black line on costa then almost obsolete; better marked from vein 4 to inner margin. Hindwing: a faint curved medial line heavily marked on costa. Female cinnamon buff with lines fine. Expanse: male, 30 mm; female, 36 mm. Castro, Parana; São Paulo, S. E. Brazil. — **guianaca** *subsp. n.* (88 a) *Male*: Body and wings avellaneous irrorated with a few snuff brown scales; cilia slightly tipped with white. Forewing: a very faint, fine antemedial line; a discocellular narrow spot defined by darker edging; postmedial line broader on costa, outangled and inbent, slightly sinuous followed by a hair brown patch between veins 2 and 5; costal edge sayal brown. Hindwing without line. Wings below mostly suffused with pale drab grey irrorated with black; black streaks on discocellulars. Forewing: postmedial line faint, more outcurved, termen broadly cinnamon rufous except at apex and tornus. Hindwing: a faint outcurved medial line, the termen narrowly cinnamon rufous. Expanse: male, 34 mm; female, 41 mm. French Guiana; Amazons; Merida, Venezuela. Genitalia slightly different from *excavata*.

althora. **T. althora** *sp. n.* (88 a). *Male*: Body and wings light tawny olive suffused with light pinkish cinnamon with a few scattered darker scales. Forewing: costal edge olive buff; outer half of costa suffused with pale vinaceous fawn; a black line on discocellular outwardly pale edged; outer line remote, dark, thicker on costa, slightly outcurved, very faint from vein 6 to inner margin, followed by a large dull fuscous patch from vein 4 to inner margin; cilia darker, tipped with white at excisions. Hindwing: a very fine dark medial line; cilia tipped with white. Wings below to line pinkish buff; prominent black spots on discocellulars, a postmedial drab shade outwardly edged with pallid mouse grey; termen of forewing from vein 8 to vein 3 verona brown and some similar shading on hindwing at apex; cilia tawny olive tipped with pinkish cinnamon on hindwing. Expanse: 31 mm. Cayuga, Guatemala. — Specimens from Costa Rica are larger, expanse 37 mm, the cilia at excisions sometimes roseate; there is no difference in the genitalia. — **noaha** *form n.* *Male*: Body and wings like *althora* without the light pinkish cinnamon suffusions. The wings below with a very faint pinkish tinge on basal half, costal edge of forewing avellaneous. The genitalia slightly different. Expanse: 29 mm. Jalapa, Mexico. — **mahlaha** *form n.* *Male*: Head, collar and thorax pale pinkish cinnamon. Forewing to line and on costa to apex pale pinkish cinnamon; costal edge avellaneous; termen and hindwing avellaneous irrorated with fuscous scales; a black discal point on forewing and the line fine, dark, outcurved and well inbent; cilia fuscous tipped with white; no line on hindwing. Underside paler; a small black point on both wings; line on fore-

wing from a small fuscous spot on costa; a postmedial dark shade on costa of hindwing. Expanse: 38 mm. Loja, Ecuador. — **jonica** *subsp. n.* (88 b). A subspecies of *althora*, differing somewhat in the genitalia, and in the more crenulate hindwing. *Male*: Head brownish. Body and forewing light vinaceous fawn with a few black scales. Forewing: costal edge zinc orange; a fine dark antemedial line; a dark point at discocellular; postmedial line better defined, hair brown, angled below vein 8 and inbent to middle of inner margin, followed below vein 5 by a deep mouse grey shade expanding to tornus; cilia buffy brown tipped with white on interspaces. Hindwing cinnamon drab irrorated with black; cilia as on forewing. Wings below paler with fuscous lines on discocellular and a postmedial fine dark line outcurved on both wings. Expanse: 27 mm. Paraguay. — **micalha** *subsp. n.* (88 b) from Misantla, Mexico; the genitalia differ slightly from *althora*. *Male*: Body and forewing vinaceous buff suffused with olive buff, the hindwing wood brown, both wings with a few scattered black scales; cilia tipped with white. Forewing: costal edge avellaneous; a whitish oblique streak preceded by a few black scales on discocellular; the line fine, broader on costa, outcurved and inbent to middle of inner margin, followed by hair brown suffusions from vein 5 to inner margin. Hindwing: a faint black streak on discocellular and fine straight postmedial line. Wings below tilleul buff, with benzo brown suffusions on termen; black points on discocellulars; outer line thick, hair brown, much fainter on hindwing except at costa; cell and base of forewing pinkish buff. Hindwing with termen evenly rounded. Expanse: 27 mm.

T. tirzaha *sp. n.* *Male*: Body and wings avellaneous fawn. Forewing: costal edge cinnamon; costal margin from antemedial line, apex and a subterminal incurved shade pale cinnamon pink; lines fine, benzo brown, the antemedial slightly inbent, the postmedial outcurved and slightly incurved close to a pale cinnamon pink spot at discocellular; cilia buffy brown tipped with white. Hindwing: a fine medial line. Forewing below pale cinnamon pink; a black discal point; line thick, well outcurved from costa; a mikado brown patch on termen. Hindwing below light pinkish cinnamon; a short black streak at discocellular; line postmedial, faint, except on costa; some terminal buffy brown from vein 7 to vein 4. Expanse: 30 mm. Chiriqui, Panama.

T. sao *Drc.* The species is unknown to me. *Male*: Wings orange brown, costal margin of forewing and a faint line crossing the wing from costa to inner margin pinkish brown. Body yellowish brown. Expanse: 44 mm. Rio Sudio, Costa Rica.

T. belilia *sp. n.* *Male*: Body and wings cinnamon buff with a very few black scales. Forewing: a faint, darker, antemedial line; some black and pale cinnamon pink scales at discocellular; postmedial line from a black spot on costa, almost obsolete, inbent from vein 4 to inner margin, hair brown; cilia buffy bronze tipped with white; termen from vein 5 to inner margin suffused with cinnamon drab. Hindwing without a line; cilia as on forewing. Forewing below pale pinkish buff; discal and costal spots black; line faintly traceable; a sayal brown patch on termen. Hindwing below light vinaceous cinnamon; a black point at discocellular; some flesh ocher scaling postmedially from veins 5—2. Expanse: 30 mm. Ponte nova, Teffé, São Paulo de Olivença, Amazons.

T. maroniensis *Dyar* (= *maroniensis* *Dogn.*). *Male*: Body and wings apricot buff with a few dark scattered scales. Forewing: faint traces of a darker antemedial line; a fine dark line outwardly edged with white on discocellular; outer line fine, fuscous, remote from apex, slightly excurved between veins 10 and 6, then inbent to inner margin at middle; terminal area suffused with neutral grey except at inner margin. Hindwing: the line medial to inner margin above anal angle. Hindwing below with the line somewhat outcurved. Expanse: 26 mm. Maroni River, French Guiana. The type of *maroniensis* *Dogn.* has the outer line on forewing straighter from costa.

T. callinica *sp. n.* (88 b). *Male*: Head pinkish cinnamon. Collar and thorax white suffused with pale ochraceous buff on front of collar and tegulae. Abdomen pale pinkish cinnamon, the specimen partly discoloured. Forewing light pinkish cinnamon; traces of a wavy antemedial line; a black streak on discocellular; postmedial line thick, black, vertical from costa passing close to cell. Hindwing pinkish cinnamon; a black point on discocellular; a black medial line from costa to lower angle of cell; cilia unicolorous with wing. Expanse: 26 mm. Rio Grande do Sul. Type from Collection Staudinger (Mus. Berlin).

T. salvita *sp. n.* (88 b). Allied to *jonica*. *Male*: Head and abdomen vinaceous fawn; thorax vinaceous buff. Forewing pale vinaceous cinnamon to postmedial line and on terminal space from vein 3 to inner margin, otherwise beyond line pallid purplish grey; line postmedial, fine, sayal brown, outcurved with traces of angle below vein 8, inbent to middle of inner margin; a fine antemedial line; costal edge cinnamon. Hindwing vinaceous cinnamon, somewhat greyish at apex; a fine medial line; cilia of both wings verona brown tipped with white on interspaces. Expanse: 30 mm. Casa Branca, Sta. Catherina, Brazil.

T. semililacea *Dogn.* *Male*: Body light vinaceous cinnamon; some dark hairs in anal tuft. Wings from base to outer line pale cinnamon pink, the base broadly suffused with salmon colour; outer portion of wings purplish tawny olive, inwardly edged by a fine darker line; black discal points. Forewing: the outer area with

the line not reaching above vein 6; terminal pale cinnamon pink suffusions from vein 5 to tornus. The cilia of excision at tornus fuscous tipped with white. Hindwing: the line medial and straight to anal angle; cilia at tornus fuscous, some of the cilia tipped with white. Wings below duller, the black discal points more distinct. Expanse: 32 mm. St. Laurent, Maroni, French Guiana; São Paulo de Olivença, Amazons.

rumina. **T. rumina** *Drc.* *Male*: Body and wings buff yellow with a few purplish scales; cilia benzo brown irregularly tipped with white. Forewing: traces of a faint, wavy, drab; antemedial line; outer line consisting of a purplish lunule on costa, and similar lunules between veins 3 and 1, these latter followed by a brownish vinaceous shade to tornus, its upper edge oblique from vein 3; a small similar patch below vein 5, and small spot on discocellular. Hindwing: a purplish streak on inner margin above anal angle. Forewing below with the base brownish vinaceous; discal spot better marked. Hindwing: below a dark streak on discocellular; traces of a subterminal curved line better defined at costa and from vein 3 to inner margin, on costa followed by a white spot. Expanse: 25 mm. Guapiles, Costa Rica; Taboga Island, Panama.

mana. **T. mana** *sp. n.* *Male*: Body and forewing to line cinnamon drab. Forewing: a black streak on discocellular; postmedial line slightly incurved at costa, then vertical to excision on inner margin, fine, white; terminal space fuscous; cilia at excision fuscous tipped with light greyish buff. Hindwing with inner margin extending as far as tip of abdomen, sayal brown; a black line on discocellular. Forewing below to line sayal brown; discal black streak outwardly edged with white; the white postmedial line broader; termen fuscous, at apex drab grey. Hindwing below cinnamon drab; discal streak black and white; traces of a postmedial line defined by pale drab grey scaling; a dark shade at apex. Expanse: 33 mm. Mana River, French Guiana. Type in Carnegie Museum, Pittsburgh.

subrufescens. **T. subrufescens** *Dogn.* (88 b). *Male*: Head brazil red. Body cinnamon drab. Wings to line cinnamon drab; black lines on discocellulars; postmedial line fine, black, almost vertical; a few black irrorations. Forewing: a faint darker antemedial line; postmedial followed from vein 8 by a fuscous shade, at vein 5 expanding to tornus; a terminal auburn shade from vein 7 to vein 3; apex cinnamon drab; cilia tipped with white on interspaces, with black spots at veins. Hindwing: the line medial followed by a fuscous shade expanding to anal angle; termen broadly auburn; cilia as on forewing. Forewing below to line, except on inner margin, brazil red; black discal spot larger; terminal space pale brownish drab; a terminal auburn patch from vein 8 to near vein 4. Hindwing below brownish drab, broadly paler along outer edge of line; termen broadly auburn. Expanse: 35 mm. Monte Tolima, Colombia.

grisea. **T. grisea** *Schs.* (88 b). *Male*: Forewing less acute, crenulate at tornus of forewing. Hindwing with termen as in *amilia*, but less prominent. Body and wings light buff irrorated with fuscous black scales, more thickly on wings than usual. Forewing: an interrupted fine dark antemedial line from a small fuscous black spot on costa, vertical and sinuous; an oblique hyaline spot at discocellular partly edged with fuscous; outer line fine, benzo brown, crenulate and excurved to below vein 7, followed by dark spots or annuli from vein 4 to vein 1. Hindwing: a broken subbasal line; a postmedial benzo brown crenulate line followed by whitish buff and a dark lunular line. Wings below with the markings reduced. Expanse: male, 30 mm; female, 45 mm. Castro, Parana; Passa Quatro. Minas. The species varies in the intensity of the lines.

2. Genus: **Reinmara** *gen. nov.*

Male: Antenna bipectinate, very short on terminal third. Frenulum present. Palpi upturned, smoothly scaled, short. Forewing: apex strongly produced, not acute; termen oblique, incurved below apex to vein 2, and well excised to tornus; vein 2 from middle of cell; 3 near 4; 4 from lower angle; 5 from middle of discocellular; 6 from upper angle; 7 and 8 moderately stalked. Hindwing broad from costa to anal angle; termen rounded, slightly incurved below apex; anal angle acute; cell short; vein 2 towards end of cell; 3 nearer 4 than 2; 4 lower angle; 5 middle of discocellular; 6 from upper angle; 7 before angle. Genitalia except gnathos like *Trogoptera*.

Type: *R. enthona* *Schs.*

enthona. **R. enthona** *Schs.* (88 b). *Male*: Head and collar light pinkish cinnamon. Thorax pale cinnamon pink. Abdomen pinkish buff (type), more frequently cinnamon buff, the anal hairs fuscous. Wings to outer line clay colour, terminal area cinnamon-rufous; cilia tipped with white. Forewing: white scaling at base, below costa to antemedial line, and before outer line; antemedial line darker, almost vertical; some fuscous scaling edged with white on discocellular; outer line bister, outangled at vein 11 and inbent to inner margin beyond middle, slightly sinuous, some whitish scaling distally towards costa; a slight vinaceous fawn shade on termen from vein 7 to vein 3, its inner edge curved. Hindwing: a fine dark medial line from costa to below middle of inner margin. Wings below clay colour with some fuscous black irrorations; black streaks on discocellulars with a few white scales. Forewing: the outer line from a black spot at costa fine, sayal brown, crenulate, sub-

terminal, partly edged with whitish scaling. Hindwing: line postmedial, outcurved, crenulate, the white scaling extending to termen at anal angle. Expanse: 43 mm. French Guiana; Rio Xingu, Amazons.

R. minasa *sp. n.* (88 b). *Male*: Body pinkish cinnamon. Forewing: base below cell buff pink limited by an outcurved dark antemedial line; medial space vinaceous fawn, the costa suffused with clay colour to base; an oblique pale greyish vinaceous spot on discocellular; outer line bister, inwardly edged with pale greyish vinaceous, straight and inbent to inner margin, outwardly edged with cinnamon and a bister shade from apex to inner margin; termen sayal brown with a terminal pale greyish vinaceous shade including cilia from vein 8 to vein 3. Hindwing clay colour; line medial to inner margin before angle, saccardo's umber, fine, single, inwardly edged with vinaceous pink, and a similar shade at apex. Wings below dark vinaceous cinnamon; black spots on discocellulars. Forewing: the line represented by a light pinkish shade expanding to tornus, inwardly defined by a dark smoky shade towards inner margin; a bister patch on termen from apex to vein 3. Hindwing: the line postmedial, obliquely inbent to inner margin from vein 4, defined inwardly by smoky shading. Expanse: 35 mm. Passa Quatro, Minas, Brazil. Type in Mus. Berlin. *minasa.*

3. Genus: **Druentia** *gen. nov.*

Male: Frenulum slight. Antenna bipectinate, very short on terminal fourth. Palpi upturned, reaching frons. Legs hairy; hind tibiae with terminal spurs. Forewing: apex acute, not produced; outer margin almost straight, inbent, sinuous below vein 3; vein 2 well before middle of cell; 3 near angle; 4 from lower angle; 5 from middle of discocellular; 6 from upper angle; 7 and 8 moderately stalked; 9 and 11 from cell. Hindwing costa convex; apex to vein 6 slightly sinuous or rounded in the same species, below vein 6 rounded and inbent, the anal angle acute; vein 2 from beyond middle of cell; 3 near lower angle; 4 from angle; 5 from middle of discocellular; 6 from upper angle; 7 from before angle.

Type: *D. partha* Schs.

D. partha Schs. (88 b). *Male*: Body and wings cinnamon buff with a purplish tinge and a few scattered fuscous scales. Forewing: outer line fine, sayal brown outwardly pale edged, oblique on costa with a short black streak on it, outbent along vein 8, acutely angled and inbent; a small pinkish buff spot at discocellular; inwardly edged by a few sayal brown scales. Hindwing: a black point with some pinkish buff scales on discocellular; line as on forewing, postmedial, straight from costa to inner margin near angle; cilia on both wings mostly saccardo's umber. Forewing below as above, the line very faint, wavy, incurved below vein 3; a pale pinkish buff shade on termen from vein 6 to tornus. Hindwing below light buff, the line more remote, very faint, slightly incurved from costa, inbent from vein 4 to inner margin. Expanse: male, 37 mm; female, 42 mm. Guatemala; Costa Rica; Colombia; Amazons; French Guiana. Forewing with apex acute, outer margin nearly straight, inbent, sinuous from below vein 3. Hindwing slightly crenulate from apex to vein 6. *partha.*

D. inscita Schs. (88 c). *Male*: Body and wings light vinaceous fawn irrorated with fuscous and suffused with ecru-drab. Wings: the line as in *partha*, brownish olive outwardly edged with white; a black discal point on forewing with some pale scaling outwardly and a minute black point on hindwing. Forewing below greyer, the costal margin to line light pinkish cinnamon; line finer. Hindwing below: the line faint but placed as above. Expanse: male, 23—34 mm; female, 40 mm. Mexico to Amazons and French Guiana. Shape of forewing like *partha*, the termen at tornus less sinuous. Hindwing with the apex rounded. *inscita.*

D. scissa H.-Schaeff. (= *inscitoides* Dogn.). *Male*: Very similar to *inscita*. Forewing: the outer line from apex slightly incurved, the oblique line from costa imperceptible; an oblique line on discocellular. A black spot on discocellular of hindwing. Expanse: 24 mm. Rio Madeira, Amazons. *scissa.*

D. macallia *sp. n.* (88 c). *Male*: Similar to *inscita*. Differs in having on forewing a small round hyaline spot inwardly edged with fuscous at discocellular; the angle of outer line fuscous. Hindwing below with a small black discal point; the line slightly outcurved, ending further above anal angle. Expanse: 32 mm. Mocoa, Colombia. Type in Collection W. Hopp-Charlottenburg. *macallia.*

D. zikana *sp. n.* (88 c). *Male*: Similar to *inscita*. Body and wings to line light cinnamon buff, with a few scattered dark scales; the line broader, light brownish olive, the white on outer edge broader; a marginal diffuse wood brown shade; black points on discocellulars; cilia dark brown partly tipped with white. Hindwing below whitish, the line defined in transparency. Expanse: 30 mm. Canipobello, Province of Rio de Janeiro, Brazil. Collected by Zikan. Type in Mus. Berlin. *zikana.*

D. caquetensis *sp. n.* (88 c). *Male*: Body and wings avellaneous with scattered black scales; abdomen dorsally darker shaded, the anal tufts fuscous black. Forewing: costal edge buffy brown; a faint pale fawn colour wavy antemedial line, and a minute cluster of black scales on subcostal; a minute black and pinkish *caquetensis.*

buff spot on discocellular; the outer line oblique, fine, with a black lunule from vein 9 to vein 8, outbent along vein 8 and angled before termen, then straight to inner margin, subterminal, olive brown slightly expanding; cilia olive brown tipped with white. Hindwing: a small black spot on discocellular; line as on forewing, postmedial, straight to inner margin at anal angle, outwardly pale shaded; cilia as on forewing. Wings below tiller buff irrorated with black; line fine and faint, hair brown; cilia as above. Forewing with the anterior portion of wing to line suffused with pinkish cinnamon, the discal spot pinkish buff. Expanse: 31 mm. Caquete, Colombia. Type in Coll. W. Hopp-Charlottenburg.

fatella. **D. fatella** Schs. *Male*: Body flesh-ocher; the lateral tufts on last segment and long anal hairs fuscous black. Forewing: base to near outer line apricot buff with a silvery white streak on discocellular; a pale purplish vinaceous shade before the line, which is fine, dark on costa, outangled at vein 8, then black outwardly edged with silvery white, and again with black from vein 4 to inner margin; space beyond cinnamon, suffused above vein 4 to vein 7 with pale purplish vinaceous subterminally and terminally. Hindwing: base to line as on forewing; line medial, double from costa to inner margin below middle; outer half cinnamon broadly suffused terminally from below vein 7 to vein 3 with pale purplish vinaceous also subterminally from vein 4 to near inner margin. Forewing below duller; the white discal spot crossed by a dark line; outer line fine, hair brown, outcurved, below vein 3 incurved; a large cinnamon patch on margin from vein 8 to vein 4, and again from vein 3 to inner margin. Hindwing: the line postmedial, outcurved and partly crenulate; termen from costa to vein 4 broadly cinnamon. Expanse: 34 mm. St. Jean, French Guiana.

ursmara. **D. ursmara** sp. n. *Female*: Head and collar deep brownish drab shading to light brownish drab on thorax. Abdomen above orange cinnamon, the last segment and underside light brownish drab. Forewing to line russet; an outcurved darker antemedial line; a dark line on discocellular outwardly edged with pale greyish; postmedial line black, thick, faintly outcurved; terminal space light vinaceous drab with a few sepia irrorations; costa, terminal narrow shading between veins 7 and 4, and cilia russet. Hindwing to line light brownish drab; a few dark scales on discocellular; line as on forewing, medial; outer half pale brownish drab with terminal russet shading. Wing below similar. Expanse: 34 mm. Incachaca, Bolivia.

muta. **D. muta** Dogn. *Male*: Termen of forewing more even, crenulate at tornus, of hindwing slightly excised at apex. Head, thorax and base of abdomen drab; frons, tip of tegulae and abdomen terminally pale drab grey. Forewing drab grey, the hindwing pale drab grey, both wings light drab beyond the outer line, and with a few scattered black scales chiefly on base. Forewing: traces of a brownish antemedial line from a dark point on costa; a black point on discocellular; outer line lunular, outbent on costa, inbent below vein 7, benzo brown, outwardly edged with light buff and again with brown from vein 2 to inner margin. Hindwing: the line just beyond middle to inner margin above anal angle, benzo brown, double filled in with light buff. Wings below pale drab grey with a few black scales; outer line fine, lunular, fuscous, outcurved, subterminal on hindwing; a fine white line on discocellular of forewing. Expanse: 35 mm. French Guiana. A smaller specimen, a female, expanse 32 mm, from São Paulo de Olivença, Amazons, has the line on both wings single. Without more material I do not like to consider it distinct.

rotundula. **D. rotundula** Dogn. *Male*: Body avellaneous; anal hairs with dark tips. Forewing light wood brown with a few black scales at base and along inner margin; traces of a slightly darker wavy antemedial line; a black streak on discocellular outwardly edged with white; outer line buckthorn brown, outbent and wavy on costa with a small black spot, angled below vein 8 and inbent, straight to inner margin. Hindwing buffy brown; a fuscous line on upper discocellular; postmedial line straight; cilia on both wings snuff brown tipped with white on interspaces. Forewing below to line dull cinnamon; postmedial line fine, black on costa, forming two lunules, not angled, sinuous, fine, benzo brown to inner margin; terminal space paler, light buff at apex and towards tornus. Hindwing below light buffish brown with scattered black scales; a very faint and fine outcurved postmedial line. Expanse: 33 mm. Monte Tolima, Colombia. Genitalia as in *Druentia*. The termen of hindwing well crenulate.

laxa. **D. laxa** Dogn. (88 c). *Male*: Head and collar and base of abdomen light vinaceous fawn, thorax and terminal half of abdomen tiller buff, all irrorated with black scales; anal hairs tipped with fuscous. Wings tiller buff largely suffused with pinkish buff, and irrorated with black; line fine, cinnamon buff; cilia buffy brown tipped with white. Forewing: a medial dark point on costa; two hyaline spots at discocellular, oblique and dark edged; line from a black point on costa, oblique and excurved, angled at vein 7, below vein 6 better defined. Hindwing: line postmedial; termen narrowly suffused with orange cinnamon. Wings below paler, the line more outcurved, very fine and crenulate, on hindwing subterminal. Expanse: 30 mm. Argentina.

narila. **D. narila** Dogn. *Male*: Body and wings buffy brown tinged with olivaceous. Forewing: costal edge, a slight terminal suffusion at middle, and base of cilia clay colour; an oblique black spot on discocellular; line olivaceous brown outwardly edged with white, extending to termen between veins 4 and 3, excurved

from costa with a black spot above vein 8, rounded below vein 8 near termen, and slightly incurved to inner margin; some scattered chestnut brown scales. Hindwing: line postmedial slightly outcurved; termen more broadly and uniformly dark. Forewing below to line clay colour, the line darker followed by white to termen between veins 8 and 10; discal spot black outwardly edged with white. Hindwing below largely white suffused to line with greyish; line very faintly indicated; termen narrowly suffused with cinnamon; a black spot on discocellular. Expanse: 29 mm. Monte Socorro, Columbia.

D. corana *sp. n.* (88 c). *Male*: Body and wings as in *narita*. Forewing with the costal edge cinnamon brown, becoming mars brown between line and apex. Hindwing: the line postmedial, straight from costa to inner margin near anal angle. Forewing below as in *narita*. Hindwing below whitish with a few scattered fuscous scales; medial space slightly suffused with cinnamon drab; a short black streak on discocellular; line almost subterminal, outcurved, fine, faintly lunular, interrupted by veins buckthorn brown; termen rather broadly buckthorn brown; cilia dresden brown with a pale line at base, the tips white. Expanse: 33 mm. Paso del Quindiu, Colombia. Type in Museum Berlin.

D. imperita *Dogn.* (88 c). *Male*: Similar to *corana*. Forewing: the line acutely angled at vein 8, not rounded as in *corana* and *narita*; a fine black streak on discocellular outwardly edged with white as in *alsa*. Hindwing: the line postmedial, fine, mikado brown, outwardly edged with pale vinaceous fawn, reaching inner margin near anal angle. Forewing below similar to *corana*, but the line rounded below vein 8 and less produced than in that species, slightly inbent, straight to inner margin. Hindwing below pinkish buff, the termen suffused with cinnamon; a few scattered black scales; line postmedial, fine, cinnamon, vertical from costa to vein 6, slightly outcurved, straight from vein 4 and mottled with bistre to inner margin near anal angle; cilia snuff brown tipped with white. Expanse: 35 mm. Santo Domingo, Carabaya, Peru.

D. alsa *Schs.* (88 c). *Male*: Body and wings cinnamon buff, slightly suffused with pinkish cinnamon and some scattered fuscous scales. Wings: the line clay colour outwardly edged with white, the cilia darker tipped with white. Forewing: costal edge cinnamon; a light vinaceous fawn shade along costal margin; a black streak on discocellular faintly edged with whitish; line excurved and outbent with a black spot on it above vein 8, angled near termen and inbent to inner margin at two-thirds from base. Hindwing: a faint subbasal line; line postmedial to inner margin a little above anal angle. Forewing below to line pinkish cinnamon; discal spot somewhat larger; line faint, sinuous; some whitish at apex and terminally above vein 1. Hindwing below light pinkish cinnamon, towards anal angle pale pinkish buff; faint traces of a macular subterminal line. Expanse: 36 mm. Turrialba, Costa-Rica; Monte Tolima, Colombia.

D. dericca *sp. n.* *Male*: Allied to *alsa*, very similar in colour, and the line the same colour and shape. Forewing: costal margin at base and beyond line white, the costal edge cinnamon; an antemedial inbent cinnamon shade; line with the black spot above vein 8, and edged with black where outangled; black discal spot round and larger than in allied species. Hindwing: a subbasal cinnamon line; a black point at discocellular; line straight, postmedial, inwardly darker shaded than in *alsa*. Forewing below to line orange cinnamon; line fuscous outcurved across vein 7, then sinuous, cut throughout by veins; pinkish cinnamon suffusions at tornus and between veins 4 and 8, the termen otherwise whitish; a black streak at discocellular outwardly edged with white. Hindwing below light pinkish cinnamon on costal half and termen; a small black spot at discocellular; line postmedial, black, macular from vein 8 to vein 6, then outcurved, very faint, crenulate, pinkish cinnamon, defined by the whitish space from cell to line and inner margin; a few scattered fuscous scales on both wings. Expanse: 30 mm. Agualani, Peru.

4. Genus: **Bedosia** *gen. nov.*

Replaces in the *Lacosominae* *Cicinnus* of the *Mimalloninae*. Frenulum present. Antenna bipectinate, short on terminal third. Forewing acute, only slightly produced. Some species with the wing broader than in others, the tornus usually oblique and wavy, the outer margin of hindwing usually crenulate. If the frenulum had not been used to separate the two subfamilies the following species could all have been placed under *Cicinnus*.

Type: *B. fraterna* *Schs.*

B. fraterna *Schs.* *Male*: Head and thorax pale pinkish buff mottled with tawny olive scales, the abdomen with similar fine segmental lines. Wings whitish at base mottled with tawny olive, otherwise pale drab mottled thickly with drab. Forewing: antemedial line fine, tawny olive shortly outcurved on costa, slightly curved and inbent from subcostal to inner margin; hyaline spot at discocellular narrow in front expanding at vein 4; outer line sayal brown, oblique from costa, angled just below vein 7 and inbent; a dark line from angle to apex; below angle the line is inwardly edged with light buff; a hair brown line from vein 4, oblique to tornus; costal edge cinnamon; termen narrowly and cilia from apex to vein 3 snuff brown, the cilia tipped with golden buff.

Hindwing: the line as on forewing, postmedial, straight to inner margin. Forewing below very similar; no antemedial line. Hindwing below: the line fine, tawny olive, subterminal, slightly excurved and outbent, well outcurved from vein 5 to vein 2, then slightly upcurved to inner margin. Expanse: 57 mm. French Guiana; Ponte Nova, Amazons.

itamaraty.

B. itamaraty Foett. (88 d). *Male*: Body and wings pale pinkish buff. Collar tipped behind with xanthine orange. Tegulae with some flesh ocher irrorations. Abdomen: a dorsal xanthine orange line and some finer segmental lines. Forewing: base with some flesh ocher irrorations; costal edge, lines, cilia, except at base of inner margin and a streak on fold below cell xanthine orange; antemedial line very fine, vertical, not reaching inner margin; an oblique hyaline spot at discocellular expanding to vein 4; outer line very oblique, angled at vein 7 with a dark line from angle to apex, expanding somewhat to inner margin and inwardly pale edged; a fine dark line from vein 5 to tornus; terminal space somewhat suffused with light drab. Hindwing: the outer line continued to inner margin below middle; outer half of wing irrorated with drab. Wings below whiter irrorated with drab. Forewing: no antemedial line, the outer line as above; a dark line from vein 3 to tornus. Hindwing: the line fine, postmedial, almost vertical to vein 4, rounded and incurved to inner margin. The museum specimen does not show the hair brown spot at apex, as figured in the Rev. Mus. Paul. Expanse: 60 mm. Joinville and São Paulo, Brazil. The hindwing is evenly rounded.

balca.

B. balca Schs. *Male*: Body and wings pinkish buff. Abdomen with a dorsal avellaneous line. Forewing: costal edge, a fine line on submedian fold, an oblique line from costa to discocellular, and outer line pale orange cinnamon; outer line as in *itamaraty*, but finer and not pale edged inwardly; the angle almost touching termen, the line from it to apex black; from line at vein 4 some black suffusions parallel with line forming a black spot above inner margin, other black scaling diverging at vein 3 to tornus. Hindwing with the line as on forewing followed by a black spot on vein 4; a few dark scales on terminal space. Wings below paler with a few black irrorations. Forewing as above, the hyaline spot outwardly edged with fuscous; line very fine, postmedial more evenly curved than in *itamaraty*. Expanse: 55 mm. Omai, British Guiana. The tornus of forewing and termen of hindwing crenulate.

strigifera.

B. strigifera Fldr. (88 d). *Male*: Wing shape of *itamaraty*, the anal angle of hindwing somewhat acute. Head, collar, thorax and wings pinkish buff; abdomen pale pinkish cinnamon. Wings with some slight brownish scales on terminal space, the lines buckthorn brown; cilia tawny olive tipped with pinkish buff. Forewing: antemedial line very faint, slightly outcurved; hyaline spot at discocellular narrow in front, expanding behind; outer line narrow, oblique from costa, angled below vein 7 with a fine line from angle to termen at apex, below angle inbent to inner margin; a fine dark line from vein 4 oblique to tornus. Hindwing: the line postmedial, straight; a brownish line from vein 4 to termen below vein 2. Wings below similar. Hindwing: a small dark streak on discocellular; the line postmedial, slightly inbent to vein 4, rounded and sinuous to inner margin. Expanse: male, 56 mm; female, 63 mm. Colombia. The identification is possibly wrong, as I do not know what direction the line on under side of hindwing follows. Felder's figure, a female, shows also a heavy outcurved antemedial line.

turgidus.

B. turgidus Schs. (88 d). *Male*: Body and wings pinkish buff thickly irrorated with sayal brown. Forewing: a wavy antemedial cinnamon line, slightly outbent, the costal edge buckthorn brown; an oblique hyaline spot at discocellular expanding behind; the line fine from costa, cinnamon buff, very oblique, sharply angled at vein 6 with a hair brown line from angle to termen near apex, from angle inbent, thicker, cinnamon, inwardly edged with light ochraceous buff; veins terminally warm buff; an interrupted hair brown streak from line at vein 4 to termen at tornus. Hindwing: line as on forewing medial on costa, postmedial at inner margin; a fine hair brown line beyond medial from vein 5 to vein 2 before termen; cilia on both wings tawny olive tipped with white. Wings below with fewer dark scales; line fine tawny olive, otherwise as above. Hindwing below: the line very fine, postmedial, outbent and curved, then inbent to inner margin. Expanse: male, 49 mm; female, 60 mm. Muzo, Colombia; Sixola River, Costa Rica. Tornus of forewing, and termen of hindwing crenulate.

ligina.

B. ligina Schs. *Male*: Body and wings pinkish buff; abdomen and base of forewing with a few dark scales. Forewing: lines and discal spot as in *turgidus*, the outer line finer, fawn colour, more excurved from costa, the angle more remote from termen; small hair brown spots beyond line below veins 4 and 3. Hindwing with some scattered dark scales; line as on forewing just beyond middle, the space beyond to termen suffused with avellaneous; a small dark spot between veins 4 and 3; cilia orange cinnamon tipped with white. Wings below paler; forewing as above, the line paler and finer; line on hindwing very faint in type, shaped as in *turgidus*. Termen crenulate. Expanse: male, 40 mm; female, 50 mm. Cachi, Juan Viñas, Costa Rica.

gilia.

B. gilia Schs. *Male*: Body and wings to line light ochraceous buff without any dark scales; terminal space olivaceous avellaneous; line buffy, olive brown inwardly edged from angle of forewing with warm buff. Forewing: a hyaline spot as in *ligina*, but slightly larger; outer line angled well before termen. Hindwing: line

from just beyond middle of costa to below middle of inner margin. Forewing below: base obliquely to line and inner margin buff white, otherwise ochraceous buff; line as above; a large hair brown patch from vein 3 to inner margin beyond line. Hindwing below: line fine, almost subterminal, excurved slightly from costa, bulging from vein 5 to vein 2 and inbent to inner margin; the darker terminal shading extending within line. Expanse: male, 42 mm; female, 52 mm. French Guiana. Same shape as *turgidus* and *ligina* with termen slightly crenulate.

B. batesii Newm. (88 d). *Male*: Body and wings light fawn colour, the lines fine, darker; some scattered black scales on wings except on termen. Forewing: antemedial line very faint; discal spot small, faintly outlined; outer line oblique from costa, angled and inbent below vein 7; cilia orange cinnamon. Hindwing: the line medial; cilia whitish at tips. Expanse: 40 mm. Santarem, Amazons. A female from the Berlin Museum is figured.

B. trailii Btlr. (= *venata* Dogn.). *Male*: Body and wings light pinkish cinnamon thickly irrorated with buckthorn brown; abdomen with whitish segmental lines. Forewing: an oblique hyaline spot at discocellular, dark edged and crossed by vein 5; postmedial line tawny olive outwardly edged with white, oblique from costa and sharply angled below vein 7, then straight, inbent to inner margin; veins on terminal area finely streaked with pinkish buff and pale tawny olive; cilia tawny olive tipped with white on interspaces; the termen slightly crenulate below vein 3. Hindwing: the line as on forewing, straight, postmedial; veins beyond line streaked with tawny olive, paler than the line; cilia as on forewing; termen slightly crenulate. Wings below as above. Expanse: male, 39 mm; female, 46 mm. The Guianas; Ponte Nova, Amazons. The apex of forewing is acute, the termen inbent, straight; the anal angle of hindwing slightly produced. The female has the outer margins rounded.

5. Genus: **Lacosoma** Grt.

Male: Frenulum present. Antenna bipectinate. Palpi slender, short, hairy. Legs moderately hairy; hind tibiae with short terminal spurs. Forewing: apex falcate; termen excurved below apex, inbent below vein 3, partly crenulate; vein 2 from middle of cell; 3 near angle; 4 lower angle; 5 middle of discocellular; 6 upper angle; 7 and 8 stalked; 9 and 11 from cell, 10 as a short spur from 9. Hindwing: costa convex; termen crenulate, inbent below vein 4; vein 2 from beyond middle of cell; 3 before lower angle; 4 from angle; 5 middle of discocellular; 6 upper angle; 7 from cell before angle.

Type: *L. chiridota* Grt.

L. vulfreda sp. n. (88 d). *Male*: Head light salmon orange. Thorax and abdomen light russet vinaceous, the latter dorsally suffused with light salmon orange on terminal half. Wings light greyish vinaceous with reddish suffusions near base below cell, and some scattered black scales. Forewing: a black streak and some white scales at discocellular; costal edge orange cinnamon; a faint vinaceous drab postmedial line almost vertical followed by a mineral red shade expanding from vein 6 to vein 2 and tornus. Hindwing: a faint and fine postmedial vinaceous drab line; termen broadly mineral red; cilia tipped with white, on forewing with pale vinaceous. Forewing below vinaceous rufous from base to three-fourths with some black scales; terminal space mostly light greyish vinaceous. Hindwing below almost as above, the black scales more numerous, the termen more narrowly red. Expanse: 32 mm. Bella Vista, West Colombia. Type in Collection Niepelt.

L. syrinx Drc. (88 d). *Male*: Head and collar hair brown. Thorax and abdomen light drab. Forewing hair brown, markings light drab; a spot at base below cell; an antemedial wavy line, thicker on costa and inner margin; an oval line at discocellular; a medial spot below vein 2; a postmedial line of lunules; apical space broadly on costa narrowing along termen to vein 2, light drab suffused with drab at apex. Hindwing: base salmon buff with a large hair brown patch from cell to inner margin; medial line broad, wavy from costa to vein 3, then inbent to middle of inner margin, followed by a broad light drab shade cut by a hair brown line diverging at vein 3, the outer part reaching inner margin near anal angle; termen broadly hair brown; cilia tipped with light buff on interspaces. Wings below mostly chaetura drab. Forewing with a fine whitish line at discocellular; outer line white on costa; termen irregularly light drab from vein 8 to vein 2. Hindwing: base suffused with carot brown; an antemedial ochraceous salmon fascia from within cell to inner margin, some white on costa above it; a black spot on discocellular; a subterminal faint pale smoky grey line. Expanse: male, 39 mm. Costa Rica; Venezuela.

L. briasia sp. n. (88 c). *Male*: Allied to *syrinx*. Body and wings darker, the marking less prominent. Underside of hindwing without the ochraceous salmon fascia; the spot on discocellular light drab grey. Expanse: 35 mm. Buena Vista, Colombia; St. Jean, French Guiana; Rio Tapajos, Amazons.

L. otalla Schs. (88 d). *Male*: Head, collar partly, throat, and fore legs bittersweet pink. Thorax white. Abdomen pale cinnamon pink or suffused with pale pinkish buff. Forewing: base and inner margin to outer line white; costal edge bittersweet pink, costa below edge white; medial area roseate with an oblique black line

on discocellular; outer line very fine diffuse, dark from a fuscous point on costa, outangled below vein 8 and slightly sinuous; terminal space ecru drab with faint pinkish suffusion at tornus. Hindwing: basal half whitish limited by a fine dark postmedial line, the termen ecru drab mostly suffused with pinkish; a few scattered black scales on both wings. Forewing below with medial area bittersweet pink; both wings with black lines on discocellulars. Expanse: 31 mm. St. Laurent Maroni, French Guiana.

ludolpha. **L. ludolpha** *sp. n.* (88 c). *Male*: Differs from *otalla* in the genitalia and larger size. Forewing: the postmedial line not outangled, but slightly outcurved, almost vertical. Hindwing: termen without pinkish suffusions. Wings below with the line better defined. Expanse: 34 mm. San Esteban Valley, Venezuela.

raydela. **L. raydela** *sp. n.* (88 e). *Male*: Head and front of collar bittersweet orange, body otherwise white, the abdomen dorsally suffused with light drab. Forewing: base whitish limited by a fine vertical vinaceous fawn line; medial area pinkish cinnamon: a thick white streak on discocellular mottled with black scales inwardly; a fine dark, but faint, postmedial line, minutely wavy, incurved opposite cell, followed by a similar faint line from below vein 8, expanding into a vinaceous fawn shade from vein 4 to tornus; terminal space from vein 3 to costa pale vinaceous fawn, except narrowly on termen from vein 8 to vein 4 which is vinaceous fawn; cilia clay colour tipped with white and pinkish. Hindwing tiller buff; a faint vinaceous fawn, outcurved, postmedial line; some vinaceous fawn on termen from apex to vein 4; cilia as on forewing; both wings with a few black scales. Forewing below to line, except on inner margin light coral red; line fine, sinuous, drab defined by pale drab grey; termen vinaceous fawn. Hindwing below whitish; the line postmedial, outcurved; termen broadly vinaceous fawn; some black scales on discocellular; both wings irrorated with black. Expanse: male, 30—34 mm; female, 38 mm. Cayuga, Guatemala; Juan Viñas, Costa Rica. Type in the National Museum.

diederica. **L. diderica** *sp. n.* *Male*: Head and front of collar bittersweet orange; collar behind and thorax whitish; abdomen tiller buff dorsally suffused with vinaceous buff. Forewing: costal edge cinnamon red; base whitish limited by an antemedial fawn colour line outcurved below cell; medial area vinaceous cinnamon: a black spot at discocellular; postmedial line red at costa then fine, black, wavy and lunular, vertical; terminal space vinaceous fawn with an incurved pale greyish vinaceous shade from apex to termen at vein 3; cilia sayal brown tipped with white. Hindwing to line above median light vinaceous cinnamon; inner margin broadly to near termen pale vinaceous fawn; a whitish spot with black scales on discocellular; line fine, postmedial, slightly curved, lunular; termen broadly amber brown. Both wings with a few black scales above and below. Forewing below, except on inner margin light coral red; line faint, slightly outcurved, well marked and black at inner margin; termen as above. Hindwing below paler, the termen suffused with vinaceous cinnamon. Expanse: male, 27 to 33 mm. Amazons, Bolivia, Paraguay.

philastris. **L. philastris** *sp. n.* (88 e). *Male*: Wings shaped as in *cantia*. Body and wings white with scattered black scales. Frons pinkish buff. Forewing: costal edge pinkish cinnamon; a black spot on discocellular; a faint drab postmedial line, better defined on costa and outbent, then sinuous and inbent, followed by a drab shade outbent from vein 4 to tornus; cilia tawny olive tipped with white. Hindwing: the line only perceptible near inner margin. Forewing below: cell and beyond above vein 6 to line suffused with pinkish cinnamon. Hindwing below with a faint spot on discocellular; the line postmedial faintly traceable throughout; termen to near anal angle suffused with drab. Expanse: 32 mm. Amazons above Teffé.

turnina. **L. turnina** *sp. n.* *Male*: Forewing bluntly produced, excised, inbent from vein 3 and crenulate. Hindwing with termen crenulate. Body vinaceous drab mottled with cinnamon brown. Frons and palpi tawny. Wings pale brownish drab; cilia brownish drab tipped with white on interspaces. Forewing: an antemedial wavy russet shade; a black spot on discocellular; costal edge cinnamon brown; postmedial line vertical, sinuous, deep brownish drab followed by a similar parallel shade not reaching costa; termen narrowly deep brownish drab from above vein 7 to vein 3. Hindwing: a faint dark discal point; postmedial line faintly indicated; termen rather broadly cinnamon brown. Wings below rather paler, the forewing with base except on inner margin, cell and beyond cell above vein 5 to postmedial line suffused with tawny. Hindwing below as above. Expanse: 24 mm. São Paulo de Olivença, Amazons.

julietta. **L. julietta** Dyar. *Male*: Darker than *otalla*. Forewing with costal edge cinnamon, the wing to outer line vinaceous tawny; outer line more sinuous, the termen darker. Hindwing uniformly drab grey with very faint reddish suffusions; the black scales on wings more numerous. Hindwing below without a black streak on discocellular, the cell pinkish. Expanse: 27 mm. Misantla, Mexico. Vein 9 present in type. Termen of hindwing very faintly crenulate.

L. ladema Dogn. *Male*: Head, throat, and forelegs pinkish cinnamon. Body pale cinnamon pink, *ladema*. Wings with a few black scales, and black lines on discocellulars. Forewing: base, inner margin medially and costa, except edge, pale pinkish cinnamon, the base limited by a cinnamon buff vertical line; costal edge and median area cinnamon buff; discal line outwardly edged with silvery white; outer line very fine and faint, slightly outcurved on costa; an incurved lilaceous shade from apex to termen at vein 3, termen otherwise cinnamon buff. Hindwing pale cinnamon pink; an antemedial shade and termen cinnamon buff, broadly at apex, narrowing to anal angle; a faint medial dark curved line. Forewing below ochraceous orange; discal line entirely black; outer line heavier, the lilaceous shade from apex narrower, the termen otherwise cinnamon buff. Hindwing below more distinctly marked, the colour as on upper side. Expanse: 33 mm. Muzo, Colombia; Cachi, Costa Rica. Termen of wings slightly crenulate.

L. lygia Schs. *Male*: Head, throat, and forelegs pinkish cinnamon. Collar and abdomen pale vinaceous *lygia*. fawn, the thorax white. Wings pale ecru drab with scattered black scales. Forewing: costal edge and cilia pinkish cinnamon, the latter tipped with white; a faint black line on discocellular; a fine dark antemedial line, slightly outcurved; medial area faintly suffused with vinaceous pink; outer line very faint, not outangled below costa; faint darker suffusions from tornus to vein 4. Hindwing: termen suffused with vinaceous fawn. Wings below with black scales more numerous; medial area of forewing and termen of hindwing vinaceous cinnamon. Wings finely crenulate. Expanse: 35 mm. Sixola River, Costa Rica; São Paulo de Olivença, Amazons.

L. cantia sp. n. *Male*: Wings shaped as in *turnina*, but less deeply crenulate. Head, palpi, and forelegs *cantia*. light coral red. Body and wings pale drab grey, almost white with a few black scales; abdomen dorsally suffused with light cinnamon drab. Forewing: costal edge cadmium yellow; an antemedial cinnamon drab line from subcostal to inner margin, slightly outbent, followed by a light vinaceous fawn shade; a few black and white scales on discocellular; postmedial line narrow, hair brown, slightly outbent on costa, vertical, finely wavy to inner margin, followed by a cinnamon shade on inner margin to tornus, above vein 2 to vein 4 by a wavy hair brown shade; termen towards apex narrowly cinnamon drab; cilia clay colour tipped with white on interspaces. Hindwing with some scattered black scales; traces of a faint outcurved postmedial line; cilia as on forewing tipped with white only towards anal angle. Forewing below suffused with tawny to postmedial line which is more heavily marked. Hindwing below with postmedial line distinct from vein 3 to inner margin; termen from apex to vein 3 tawny olive. Expanse: 26 mm. São Paulo de Olivença, Amazons.

L. ? violacea Sepp. This species, unknown to me except by the figure in Sepp, is doubtfully placed *violacea*. here. It is deep violet plumbeous irrorated with black, the outer margin glaucous grey with a dark terminal line; traces of an antemedial and postmedial line; a dark spot on discocellular. The hindwing is without the pale outer margin and shows a postmedial line inbent to middle of inner margin. The wings are apparently crenulate, not excised below apex of forewing. Expanse: 45 mm. Surinam.

L. perplexa Schs. *Male*: Head pinkish buff. Collar and thorax pale cinnamon pink, the tegulae with *perplexa*. some black scales. Abdomen pale pinkish buff. Wings drab grey irrorated with black. Forewing: outer half of cell and a patch beyond between veins 5 and 10 light coral red; a black streak on discocellular; outer line drab, slightly incurved below vein 5; termen with some darker suffusions. Hindwing: termen narrowly and a broad line from beyond middle of costa to middle of inner margin cinnamon buff. Wings below similar with colouring more intense. Expanse: 29 mm. Quirigua, Guatemala. Outer margin of forewing sinuous, of hindwing rounded.

L. rosea Dogn. *Male*: Body and wings pale vinaceous fawn, the basal half of wings with scattered *rosea*. black scales; head and front of collar light pinkish cinnamon. Forewing: costal edge light pinkish cinnamon; traces of a pinkish antemedial line; a black line on discocellular edged with whitish; outer line fine, black, wavy, between veins 4 and 2 lunular, followed from vein 4 to inner margin by a faint vinaceous fawn shade. Hindwing: a dark postmedial outcurved line; apex suffused with vinaceous fawn; a faint dark line on discocellular. Forewing below light coral red from base to outer line, the inner margin and termen pale vinaceous fawn, partly suffused along termen with vinaceous fawn. Hindwing below as above. Expanse: 32 mm. Popayan, Colombia. Forewing with termen sinuous, crenulate below vein 3. Hindwing very faintly crenulate at apex, the anal angle acute.

L. arizonicum Dyar. *Male*: Forewing not falcate, termen slightly sinuous and crenulate at tornus. *arizonicum*. Hindwing faintly crenulate. Body pale pinkish buff, the head suffused with light vinaceous cinnamon. Wings light pinkish cinnamon. Forewing: a greyish line on discocellular outwardly edged with white; postmedial line very fine, wood brown, slightly curved on costa. Hindwing slightly suffused with pinkish cinnamon, the line very fine, slightly outcurved, medial. Wings below slightly darker with some black irrorations; fine black lines on discocellulars of both wings. Expanse: 29 mm. Arizona, United States of America.

- aurora.* **L. aurora** Dogn. *Male*: Head, thorax, and forelegs flame scarlet. Thorax pale flesh colour; abdomen dorsally suffused with rufous. Wings flesh colour, the terminal areas rufous; a few scattered black scales. Forewing: a fine black streak on discocellular; outer line merely indicated by different colour of terminal area; a lilacine white incurved shade from apex between veins 2 and 3. Hindwing: a faint medial line, straight to below middle of inner margin; the outer area somewhat paler, adjoining line from vein 4 to inner margin. Forewing below light coral red, except the incurved shade from apex. Expanse: 31 mm. Muzo, Colombia.
- valera.* **L. valera** sp. n. (88 e). *Male*: Head, throat, forelegs, and front of collar purplish red. Thorax and abdomen maize yellow, suffused especially on abdomen with purplish red. Forewing maize yellow to outer line; terminal space purplish red; some reddish scaling at base; a fine dark line on discocellular narrowly edged with reddish; outer line inbent, wavy, slightly darker than termen; cilia black tipped with white. Hindwing maize yellow to outer line except the reddish streak along inner margin; a straight dark medial line to inner margin above anal angle; outer area and cilia as on forewing; some white and black scaling on inner margin below the line. Underside as above. Expanse: 32 mm. Valera, Venezuela. Forewing sinuous and crenulate at tornus, the hindwing slightly crenulate. Type in the U.S. National-Museum.
- asea.* **L. asea** sp. n. *Male*: Palpi, throat and frons ferruginous. Thorax and abdomen avellaneous. Wings from base to line ochraceous tawny, terminal space cinnamon brown, the cilia tipped with light buff. Forewing: a fine straight antemedial line, somewhat darker, and slightly outbent; a drab spot on discocellular; outer line prout's brown, fine, outcurved on costa and almost vertical. Hindwing: the line postmedial, prout's brown, slightly curved. Forewing below ferruginous from base to outer line, the discal line black. Hindwing below as above, but with a fine black line on discocellular. Expanse: male, 30 mm. Pacho, Colombia. Forewing sinuous and crenulate from vein 3 to tornus. Hindwing crenulate.
- oyapoca.* **L. oyapoca** sp. n. (88 e). *Male*: Forewing with apex produced, not acute, termen faintly crenulate from vein 3 to tornus. Hindwing with termen rounded appearing crenulate owing to markings on cilia. Body tawny olive. Wings to line vinaceous buff suffused with light tawny olive. Forewing: a dark point on discocellular; costal edge rufous; outer line remote, dark, threadlike, slightly outbent on costa and then vertical; termen broadly tawny olive from above vein 8 to inner margin; cilia brownish olive tipped with white on interspaces and with light coral red at veins. Hindwing with line remote, faint, threadlike, from vein 2 upbent to inner margin, broad, hair brown; termen broadly tawny olive, the cilia as on forewing. Wings below isabella colour with a few black scales; the line better defined; black points on discocellulars of upper and lower wing. Expanse: 32 mm. Oyapock River, French Guiana. Type in Carnegie Museum, Pittsburgh; a paratype in the National Museum.
- chiridota.* **L. chiridota** Grt. (88 e). *Male*: Body and wings sayal brown with some scattered black scales. Forewing: a black spot on discocellular; outer line fine, snuff brown, outcurved on costa and slightly sinuous to inner margin; apex rounded and well produced. Hindwing: a faint spot on discocellular; the line medial, darker; cilia of forewing black at apex, tipped with white at excisions. Underside with line of forewing and discal spot more heavily marked. Female more deeply excised below apex. Body and wings ochraceous buff, the wings partly suffused with ochraceous orange; black streaks on discocellulars; lines broader than in male. Wings below light ochraceous buff marked as above. Expanse: male, 25 mm; female, 30 mm. Atlantic States.
- zonoma.* **L. zonoma** sp. n. *Female*: Allied to *chiridota*, the shape of wings similar. Body and wings intermediate between pinkish cinnamon and clay colour as given in Ridgeway, the line fine, slightly darker. Forewing: a drab line on discocellular outwardly edged with pale smoke grey; the line sinuous. Hindwing: a faint drab line on discocellular. Wings below paler with a few black scales; the line and discal streaks fine but more distinct, the line on hindwing postmedially inbent from vein 3 to inner margin. Expanse: 31 mm. Orizaba, Jalapa, Mexico.
- medalla.* **L. medalla** Dyar (88 e). *Male*: Wing shape as in *zonoma*, slightly broader. Body and wings vinaceous avellaneous, in the female light vinaceous cinnamon with very few darker scales; cilia fawn colour tipped with white on interspaces. Forewing: a faint darker, wavy, antemedial line; a dark oblique line on discocellular; a fine hair brown postmedial line almost straight and vertical, passing rather close to cell. Hindwing: the line medial, slightly curved. Wings below with markings more distinct. Forewing: no antemedial line, the postmedial outcurved and sinuous. Hindwing: the line postmedial; a fine line on discocellular. Expanse: 31 mm. Zacualpan, Mexico; a female, the type, from Cuernavaca, Mexico.
- lola.* **L. lola** Schs. *Male*: Forewing acute faintly produced, crenulate at tornus and at apex of hindwing. Body and wings drab grey with a few scattered dark scales, cilia drab. Forewing: a fine fuscous line on discocellular outwardly edged by a whitish or small hyaline spot; outer line fine, fuscous, outangled at vein 8,

with a small black spot on it between veins 8 and 9, below 8 inbent to inner margin. Hindwing: the line straight from close beyond middle to inner margin near angle. Wings below without the line on hindwing. Expanse: 25—30 mm. French Guiana and Amazons.

L. schausi Dogn. (= *rosea* Schs. preocc.). *Male*: Forewing produced at apex, slightly incurved and inbent to vein 2, then inbent, crenulate. Hindwing broad and narrow, the apex rounded, very faintly crenulate to anal angle. Body and wings light pinkish cinnamon; head and collar buff pink; a very few black scales; cilia light brownish olive tipped with flesh pink. Forewing: costa cinnamon rufous; a very faint, fine, outer line, almost imperceptible; termen slightly darker; a few greyish and white scales on discocellular. Hindwing: outer half suffused with cinnamon buff. Wings below cinnamon buff, the base and costa of hindwing light pinkish cinnamon. Expanse: 32 mm. St. Jean Maroni, French Guiana.

L. bigodia sp. n. *Male*: Forewing bluntly produced, excised to vein 3, slightly inbent and crenulate. Hindwing rounded, crenulate to vein 3, then inbent to angle. Frons buffy brown. Body white. Wings brownish avellaneous with a few scattered black scales. Forewing: a black and white line on discocellular; the line subterminal, fuscous, crenulate; termen above vein 6 to apex suffused with drab grey; cilia fuscous tipped with white. Hindwings somewhat paler, the base and inner margin whitish; a black spot on discocellular; a subterminal wavy fuscous line, only distinct from costa to vein 5 followed by some light grey scaling; cilia fuscous mottled with cinnamon brown. Wings below pale yellow orange with a few black scales; discal spots larger; the line on forewing indistinct. Expanse: 20 mm. Amazons above Teffé.

L. valva Schs. *Male*: Body and wings fawn color. Forewing: traces of a fine paler antemedial line; a pale ochraceous buff line or spot on discocellular; outer line light ochraceous buff outangled between veins 7 and 8 and inbent to beyond middle of inner margin, inwardly edged with dresden brown. Hindwing: the line postmedial on costa, straight to middle of inner margin. Wings below light cinnamon drab. Forewing: the discal spot inwardly edged by a fine fuscous line; outer line outcurved, sinuous to vein 4, outangled at vein 3, and incurved to inner margin; termen below apex to vein 3 shaded with fuscous. Hindwing: the line from costa slightly incurved and outbent to vein 4, downbent to vein 3 and upcurved to inner margin below middle. Expanse: male, 28 mm; female, 31 mm. French Guiana; Las Quiguas, Venezuela.

6. Genus: **Eadmuna** gen. n.

Antenna bipectinate, short at tip. Frenulum present. Palpi upturned, fringed below, apart between first and second joint; third joint short, smooth. Forewing: costa convex towards apex; termen vertical, faintly sinuous; tornus not rounded; vein 2 well before middle of cell; 3 before angle; 4 from angle; 5 from middle of discocellular; 6 from upper angle; 7 and 8 shortly stalked. Hindwing: termen rounded; anal angle produced, acute; vein 2 just beyond middle of cell; 3 near angle; 4 from angle; 5 from middle of discocellular; 6 from upper angle; 7 slightly before angle. Genitalia allied to those of *Psychocampa*.

Type: *E. esperans* Schs.

E. esperans Schs. (88 e). *Male*: Body and wings ecru drab. Forewing: costal edge wood brown; traces of a fine antemedial brownish line; a semihyaline buffish B-shaped spot at discocellular edged with cinnamon brown; outer line from a small chestnut brown spot at costa, then very fine and faint, wood brown, slightly outcurved beyond cell, crenulate wavy, followed by small double lunules between veins 4 and 6; termen shaded with glossy wood brown. Hindwing paler at base; line postmedial, outcurved, faint to vein 6, then dentate crenulate more heavily marked; termen wood brown extending to before line; some scattered benzo brown scales, and a few others, fan-shaped white tipped with benzo brown. Wings below with the line almost subterminal, more distinct, lunular interrupted by veins. The anal angle of hindwing is prolonged. Expanse: 35 mm. Espiritu Santo, Brazil. A specimen from the Mana River, French Guiana has the line on hindwing inbent to middle of inner margin.

7. Genus: **Tolypida** gen. n.

Male: Antenna bipectinate, the pectinations diminishing gradually to tips. Frenulum present. Palpi porrect. Tibiae with long fine hairs. Forewing: apex rounded; termen straight, rounded at tornus; vein 2 beyond middle of cell; 3 near 4; 4 from lower angle; 5 from middle of discocellular; 6 from upper angle; 7 and 8 moderately stalked; 9 and 11 from cell. Hindwing: termen rounded; anal angle slightly prolonged and rounded; vein 2 close to 3 from near end of cell; 4 from lower angle; 5 from middle of discocellular; 6 and 7 from upper angle. The genitalia differ from any other genus.

Type: *T. amaryllis* Schs.

amaryllis.

T. amaryllis Schs. (= *alboflava* Dogn.). (86 g). *Male*: Head and collar white, the latter edged in front and behind with amber yellow. Body massicot yellow, with amber yellow transverse lines on abdomen dorsally. Wings amber yellow; cilia tipped with white. Forewing: costa white; an antemedial and a postmedial buffy citrine broad line, edged on either side with white; outer space with the veins broadly wax yellow. Hindwing: antemedial line nearer base, downbent, not edged with white; postmedial line as on forewing, straight to inner margin near anal angle, outer space as on forewing. Forewing below with the line more remote, the veins near termen more broadly dark shaded. Hindwing below with the line visible in transparency. Expanse: 29—32 mm. São Paulo, S.E. Brazil; Dutch Guiana.

8. Genus: **Vanenga** *gen. n.*

Male: Antenna bipectinate diminishing near tips. Frenulum present. Palpi very short, slender, hairy. Forewing: apex rounded; termen very faintly incurved; vein 2 from middle of cell; 3 before angle; 4 from lower angle; 5 from middle of discocellular; 6 from upper angle; 7 and 8 stalked. Hindwing: termen rounded; vein 2 beyond middle of cell; 3 before angle; 4 from angle; 5 from middle of discocellular; 6 and 7 from upper angle. Genitalia near those of *Lacosoma*.

Type: *V. mera* Dogn.

mera.

V. mera Dogn. (86 g). *Male*: Body and wings pinkish cinnamon; a few black scales on terminal space; line hair brown outwardly shaded with purplish clay colour, more broadly on hindwing, from apex of forewing to middle of inner margin on hindwing. Forewing: a faint dark line on discocellular. Forewing below to line zinc orange; a black line on discocellular; line hair brown, faint, postmedial, slightly outcurved on costa; terminal space vinaceous cinnamon suffused with olivaceous. Hindwing below to line light pinkish cinnamon, the line medial; terminal space as on forewing. Female differs in having the line on forewing above postmedial, as on under side of male. Expanse; male, 22—32 mm; female, 29 mm. Obidos, Amazons; Blumenau, S.E. Brazil; Paraguay.

9. Genus: **Macessoga** *gen. n.*

Male: Antenna with long bipectinations diminishing slightly at tip. Frenulum present. Forewing broad; apex bluntly acute; termen slightly sinuous; vein 2 from before middle of cell; 3 well before angle; 4 from lower angle; 5 from middle of discocellular; 6 from upper angle; 7 and 8 on short stalk. Hindwing: vein 2 from beyond middle of cell; 3 close to angle; 4 from lower angle; 5 from middle of discocellular which is oblique; 6 and 7 from upper angle.

Type: *M. fabia* Drc.

fabia.

M. fabia Drc. (88 f). *Male*: Body above flesh-ocher shaded with rufous. Forewing apricot buff to line; base narrowly and costal margin cream colour; an antemedial ferruginous lunular line from a black point on costa, the lunules filled in with yellowish; a large round cream colour spot on outside of discocellular; outer line from a black point on costa, very fine, dark, oblique to vein 7, angled and inbent to inner margin beyond middle, cinnamon brown, narrow; terminal space mostly cream colour; a small ochraceous tawny shade on termen opposite angle of line and some apricot buff shading beyond line; a terminal line and base of cilia buckthorn brown, tips of cilia white. Hindwing: line postmedial, slightly thicker than on forewing outwardly edged with buff yellow, followed at middle by a broad buckthorn brown shade, partly suffusing with a vinaceous rufous shade along termen; base cream colour edged by a curved ferruginous line; inner margin broadly cream colour, and a large similar patch at apex. Both wings well irrorated with black scales. Wings below largely pale maize yellow irrorated with black scales; the line subterminal, fuscous, deeply dentate and partly crenulate; anterior half of forewing to line tawny, and its discal spot pale maize yellow; termen of hindwing largely tawny. Expanse: male, 45 mm; female, 60 mm. Panama (type in Berlin Museum); Carabaya, Peru; French Guiana.

aelfrida.

M. aelfrida *sp. n.* (88 f). The following three forms probably represent a single species. They are not represented in the National Museum so it is impossible to have genitalia slides made for examination. *Male*: Head and collar light pinkish cinnamon. Thorax, abdomen and wings pinkish buff, all with a few scattered black scales. Forewing: a wavy vertical antemedial cinnamon line from a small black spot on costa; two hyaline spots at discocellular separated by vein 5, inwardly edged with cinnamon, outwardly with black; line fine, fuscous black, outbent from a small black spot at costa, angled at vein 7 and faintly inbent; termen partly suffused with cinnamon. Hindwing: a cinnamon antemedial shade; line as on forewing, postmedial; termen narrowly orange cinnamon. Wings below similar with pinkish cinnamon suffusions in cell of forewing, and on termen of both wings. Forewing: the line visible in transparency, very fine, from vein 6 to vein 2, from

costa thicker, black, excurved, then outcurved and crenulate from vein 7 to vein 2, then vertical to inner margin. Hindwing: postmedial line as above, but very fine and faint, followed by an outcurved crenulate line. Expanse: 26 mm. Passa Quatro, Minas, Brazil. The specimen is somewhat worn, but there are indications of the termen being crenulate. — *hyginia* f. n. (88 f) *Male*: Head and palpi bittersweet pink. Collar light pinkish cinnamon. *hyginia*. Thorax and abdomen vinaceous buff with a few black scales. Wings vinaceous buff: a wavy dentate antemedial vinaceous fawn line; outer line as in *aelfrida*, also the discal spot. Forewing: termen opposite cell and at tornus suffused with cinnamon drab. Hindwing: the line preceded and followed by an irregular buffy brown shade; termen narrowly orange cinnamon. Forewing below: inner margin, apex and termen between veins 2 and 4 pale greyish vinaceous, the wing otherwise pinkish cinnamon; the line outcurved, crenulate from vein 8. Hindwing below pinkish buff suffused with light vinaceous cinnamon; the line postmedial, outcurved, crenulate. The termen of both wings distinctly crenulate. Expanse: 29 mm. Passa Quatro, Brazil. — *hoppia* f. n. (88 f). *hoppia*. *Male*: Differs from *M. aelfrida* Schs. in its larger size and the even termen of both wings. On the forewing veins 7 and 8 are from the cell instead of being stalked, probably not a constant character. Expanse: 32 mm. Rio de Janeiro, Brazil. Type in Collection Hopp.

10. Genus: **Zaphanta** Dyar.

Male: Antenna bipectinate, short beyond middle. Palpi short, upturned. Forewing broad; apex acute; termen straight below apex, angled at vein 3; vein 2 from middle of cell; 3 close to angle; 4 from angle; 5 from middle of discocellular; 6 from upper angle; 7 and 8 stalked; 9 and 11 from cell. Hindwing: termen straight from apex to vein 3, angled and usually slightly toothed; vein 2 from middle of cell; 3 and 4 close together; 5 from middle of discocellular; 6 from upper angle; 7 from before end of cell.

Type: *Z. infantilis* Dyar.

Z. infantilis Dyar (= *fraterna* Schs.). (88 f) *Male*: Head and thorax clay colour. Abdomen avellaneous, darker on segments posteriorly. Wings warm buff or ocher yellow; base dark vinaceous drab; a purplish marginal shade; some scattered dark scales. Forewing: costal margin from before middle to apex yellowish white; traces of a postmedial crenulate line; a few outbent fuscous lunules from costa before apex. Wings below maize yellow with a few dark irrorations; base more narrowly pale purplish limited by an inbent wavy and interrupted fuscous black line. Forewing with the lunules from costa subterminal below vein 8, well inset below vein 3. Hindwing: a postmedial fuscous crenulate line, upcurved between veins 4 and 2. Expanse: 22 mm. British and French Guiana; Costa Rica; Guatemala. *infantilis*.

11. Genus: **Menevia** gen. n.

Male: Frenulum highly developed. Antenna bipectinate to tips, diminishing from base. Palpi upturned smoothly scaled with slight fringe below. Legs hairy; hind tibiae with short terminal spurs. Forewing: apex falcate; outer margin sinuous; vein 2 from beyond middle of cell; 3 from before angle; 4 from lower angle; 5 from below middle of discocellular, as near vein 4 as is vein 3; 6 from upper angle; 7 and 8 stalked; 9 and 11 from cell; 10 as a short spur from 9. Hindwing: vein 2 from well beyond middle of cell; 3 and 4 well apart; 5 nearer 4 than middle of discocellular; 6 from upper angle; 7 from before end of cell.

Type: *M. lantona* Schs.

M. lantona Schs. (88 f). *Male*: Very similar to *lucara*. Body and wings cinnamon buff: at angle of line on forewing pinkish cinnamon. Forewing: the line very faint on costal margin. Hindwing: the line cinnamon, the suffusions paler near inner margin. Forewing below light drab with pinkish cinnamon suffusions at outer line below costa; the line cinnamon on costa replaced from angle by the white line which is more vertical; below vein 3 the line appears again, threadlike and inbent; discal spot well marked, black. Hindwing below light cinnamon buff; the line almost subterminal, very faint and fine, clay colour; some pinkish cinnamon at anal angle. Expanse: 34 mm. French Guiana; Panama; Muzo, Colombia. *lantona*.

M. lucara Schs. (88 f). *Male*: Head and collar pale drab grey. Body above light drab, the thorax in front cinnamon drab. Forewing vinaceous buff, with some scattered black scales, slightly paler at base limited by an outcurved light cinnamon drab antemedial line; an outcurved whitish fazeia from middle of costa to base of vein 3, with a fine black discocellular line on its inner edge; some cinnamon suffusions postmedially to outer line chiefly within angle of line; line oblique from costa, excurved, snuff brown sharply angled, fuscous to inner margin, with a white line on its outer edge from angle excurved to termen at vein 2, at angle upcurved towards apex, angled and inbent with a fuscous line above it to just below apex where the costal edge is white; termen beyond curved white line drab grey, below the line to tornus purplish grey; cilia tipped with white. *lucara*.

Hindwing like forewing, the line straight; mikado brown suffusions before the line towards inner margin, and beyond the line to anal angle; a whitish shade from near apex to termen at vein 3, then along termen to anal angle. Forewing below light drab, marked as above, the line finer from below angle, more heavily marked on costa. Hindwing below largely pale pinkish buff to line which is paler and outcurved; suffusion at anal angle orange or pinkish cinnamon. Expanse: 36 mm. French Guiana; Amazons; S.E. Brazil.

plagiata.

M. plagiata *Wtr.* (88 g). *Male*: Body pale drab grey, the collar drab grey. Wings partly pale drab grey with a few scattered black scales. Forewing: base except on inner margin suffused with vinaceous buff; an antemedial light cinnamon drab line well outcurved below median to fold; a broad whitish lunule on outer edge of discocellular; outer line orange rufous on costa, outbent and acutely angled below vein 8 then inbent, slightly sinuous, carob brown, inwardly diffuse, edged with auburn, from below vein 5 outwardly with white which branches from angle to termen at vein 8 where it is joined by a white line above vein 8; termen with diffuse light drab shading. Hindwing: inner margin broadly suffused with ecru drab, the termen with light drab; line remote, almost subterminal, slightly sinuous, outwardly edged with white, inwardly with auburn from below vein 4, broadly to near cell, then narrowly near inner margin. Forewing below: the inner margin broadly white, the line not extending below vein 2. Hindwing below light cinnamon drab with more numerous black scales; the line inwardly edged with burnt sienna; an amber brown patch at anal angle. Expanse: male, 44–56 mm; female, 37–77 mm. The Guianas: Bolivia; S.E. Brazil; Paraguay.

12. Genus: **Biterolfa** *gen. n.*

Male: Antenna bipectinate, short on terminal third. Palpi porrect, short, thickly scaled. Legs hairy. Forewing: apex produced; termen incurved below apex and sinuous; vein 2 from middle of cell; 3 well before 4; 4 from lower angle; 5 below middle of discocellular; 6 near upper angle; 7 and 8 well stalked. Hindwing: termen rounded; anal angle acute; vein 2 just beyond middle of cell; 3 well before 4; 4 from lower angle; 5 below middle of discocellular; 6 well below upper angle; 7 from angle. Genitalia similar to those of *Psychocampa*.

Type: *B. althea* *Schs.*

althea.

B. althea *Schs.* (88 g). *Male*: Body and wings pinkish cinnamon; abdomen with a sublateral fuscous line, not reaching base or anal segment. Forewing: a fine orange cinnamon streak from before middle of costa to upper angle of cell and below vein 6, and a similar streak from cell below vein 2; outer line oblique, sayal brown, angled at vein 7 near termen, inbent, bister, subterminal, outwardly edged with purplish grey and a fine hair brown line which extends to apex and bifurcates below vein 3; cilia bister tipped with pinkish cinnamon. Hindwing: line postmedial outcurved at costa and straight to inner margin below middle; followed by a dark shade from costa bifurcating below vein 5, the outer branch fine, downbent to near termen at vein 2. Wings below very similar; no oblique shading at veins: line on hindwing fine, postmedial, evenly outcurved. Expanse: 41 mm. French Guiana.

13. Genus: **Ulmara** *gen. n.*

Male: Antenna bipectinate to tips. Frenulum present. Palpi hairy, porrect. Wings broad, the termen crenulate. Forewing: apex not acute; vein 2 from middle of cell; 3 well before angle; 4 from lower angle; 5 slightly above angle; 6 from upper angle; 7 and 8 on rather short stalk. Hindwing: termen crenulate; vein 2 from middle of cell; 3 before angle; 4 from lower angle; 5 from a little above angle; the discocellular from vein 5 very oblique and upbent to vein 6; 7 from before 6. The genitalia are near those of *Trogoptera*.

Type: *U. rotunda* *Dogn.*

rotunda.

U. rotunda *Dogn.* (88 g). *Male*: Body bister. Antenna tawny olive. Wings drab suffused with neutral grey; cilia verona brown. Forewing: a round fuscous spot at base below cell to vein 1 edged by the fine wavy verona brown antemedial line; a few white scales forming a point on discocellular; outer line fine, lunular dentate, outbent from costa, verona brown inwardly edged with light buff. Hindwing: line as on forewing, postmedial, preceded from vein 5 to inner margin by a broad fuscous shade. Wings below light drab largely mottled with pale silvery grey scales; the line as above, hair brown, fine, without any light buff edging; cilia benzo brown. Expanse: 40 mm. *Female*: A specimen received from Berlin Museum for identification probably belongs to this species, agreeing in the shape of the lines and venation. Body and wings light avellaneous buff irrorated with silvery light buff scales; the wings to line suffused with light drab; the lines cinnamon; the costa of hindwing broadly whitish. Wings below pale, the lines hardly perceptible. Expanse: 46 mm. Monte Tolima and Bogota, Colombia.

14. Genus: **Pamea** Wkr.

Male: Antenna bipectinate to tips. Palpi short, porrect, hairy. Legs hairy; terminal spurs on hind tibiae. Forewing: apex acute; outer margin straight below apex, rounded and inbent at tornus; vein 2 from middle of cell; 3 before angle; 4 from lower angle; 5 from below middle of discocellular; 6 from upper angle; 7 and 8 stalked; 9 and 11 from cell. Hindwing: apex and outer margin rounded; vein 2 from beyond middle of cell; 3 close to angle; 4 from lower angle; 5 from middle of discocellular; 6 and 7 from upper angle.

Type: *P. albistriga* Wkr.

P. albistriga Wkr. (88 g). *Male*: Body sayal brown. Forewing: base cinnamon buff to an pinkish *albistriga* cinnamon antemedial irregular line; medial space to outer line light cinnamon drab. terminal space pale drab grey, all irrorated with snuff brown scales; a fine dark line on discocellular; outer line fine, fawn colour, obliquely excurved from costa, rounded below vein 8 near termen and inbent; costal edge snuff brown; cilia snuff brown, paler at base, and tipped with white. Hindwing: base to line like medial space of forewing; terminal space as on forewing; the line postmedial; cilia as on forewing. Forewing below: cell and above vein 2 to costa and outer line cinnamon, inner margin and terminal space greyish white all irrorated with snuff brown; the black discocellular line more distinct; outer line fine; oblique to vein 7, vertical to vein 3, then inbent; some brownish shading on termen from vein 7 to vein 3. Hindwing below whitish with a few scattered brown scales; line faint, subterminal, slightly crenulate; cilia as above. Expanse: male, 30 mm. Nova Friburgo; Castro. Parana; Rio de Janeiro, Brazil.

P. nana H.-Schäff. (88 g). *Male*: Body and wings drab grey irrorated with fuscous; the outer line fine, *nana*. brownish olive, outwardly broadly edged with white. Forewing: costal edge clay colour; a faint clay colour antemedial wavy and vertical line; some black scaling on discocellular; outer line angled below vein 8 and slightly inbent; termen with fine dark striae from vein 8 to vein 4. Hindwing: line just beyond middle; termen with fine dark striae; cilia mass brown tipped with white. Forewing below: inner margin whitish, otherwise to near line cinnamon; line oblique to vein 7, excurved to vein 4 and again between 4 and 3, then inbent, preceded by white and hair brown shading between veins 2 and 6, outwardly edged with white which extends to termen from vein 3 to close above vein 4; termen otherwise hair brown; cilia fuscous with a pale line at base and tipped with white. Hindwing white irrorated with olive brown; costa suffused with buffy brown; line almost subterminal, snuff brown, crenulate; termen suffused with hair brown; cilia as on forewing. Expanse: 28 mm. Theresopolis, Brazil.

P. dotta sp. n. *Male*: Very similar to *albistriga*. Body and shading before outer line suffused with *dotta*. olivaceous drab; the line sayal brown, more broadly edged outwardly with white. Forewing: medial space light pinkish buff, crossed by a wavy pinkish cinnamon line; costal edge sayal brown; cilia fuscous tipped with white and a pale line at base. Hindwing: cilia snuff brown tipped with white and a cinnamon line at base. Both wings below more heavily irrorated with fuscous. The genitalia are quite different. Expanse: 28 mm. Castro, Parana.

P. ostia Drc. (88 g). *Female*: Body pale pinkish buff. Wings to line light cinnamon buff. Forewing: *ostia*. costa to line whitish interrupted by a wavy, almost medial, pinkish cinnamon line; from costa medially a broad white shade outbent along outer edge of discocellular and inbent to vein 3 at median; a few scattered black scales; line remote, outbent from costa, clay colour, edged above with white, angled at vein 8 near termen, inbent from vein 8, faintly sinuous, fine, verona brown, followed by light cinnamon buff, and a white line from angle at vein 8 outbent from vein 7 and sinuous along termen to anal angle. Hindwing: line mikado brown, post-medial inbent and curved to inner margin; space beyond light cinnamon buff; a broad subterminal dentate white shade; a few black scales. Forewing below pinkish buff; a black line on discocellular; outer line slightly visible from vein 6, with another fine line also from vein 6 outcurved along the subterminal white line, inbent from vein 4 and suffusing with the main line above inner margin; the white line from angle bifurcating to termen. Hindwing below yellowish white, the termen slightly suffused with cinnamon buff; line faintly visible in transparency; a fine cinnamon buff outcurved line. A few black scales on both wings. Expanse: 44 mm. Chiriqui, Panama. Described from type in Berlin Museum.

P. parostia sp. n. *Female*: Almost the same as *ostia*, much smaller in size and the frenulum more *parostia*. developed. The markings on wings reduced, the line finer, ochraceous tawny throughout, on underside of forewing single, more remote. Hindwing below with faint traces of a subterminal line. Expanse: 32 mm. Habitat: Unknown.

15. Genus: **Lurama** gen. n.

Male: Like *Ulmara*. Antenna and palpi as in that genus. Forewing: costal margin straight; apex not acute; termen straight, rounded at tornus; venation as in *Ulmara*. Hindwing: termen rounded; vein 2 from middle of cell; 3 well before angle; 4 from angle; 5 below middle of discocellular; 6 from upper angle; 7 before angle. Genitalia as in *Ulmara*.

Type: *L. penia* Dogn.

penia.

L. penia Dogn. *Male*: Body and wings warm buff with some buffy brown irrorations; costal edge of forewing, lines and cilia sayal brown. Forewing: a thick antemedial line, slightly outcurved; postmedial line thick, outangled at vein 7 then slightly inbent, continued on hindwing from vein 6 to inner margin above anal angle; a dark line on discocellular. Wings below similar, the line on hindwing followed by a similar line from costa, slightly outcurved. Expanse: 26 mm. Bogota, Colombia.

quindiuna.

L. quindiuna sp. n. (88 h). *Male*: Superficially like *penia*, differing in details. The lines finer, on forewing the antemedial outangled on costa, the postmedial more deeply angled, on hindwing slightly outcurved. Wings below as above, the hindwing without a line before the postmedial. Expanse: 32 mm. Paso del Quindiu, Colombia. Vein 5 on forewing near lower angle.

16. Genus: **Alheita** gen. n.

Male: Palpi short, hairy, slightly ascending, not reaching frons. Antenna bipectinate, the tips serrate. Tibiae hairy, the hind tibiae with short terminal spurs. Forewing falcate, the termen sinuous. Vein 2 from before middle of cell; 3 and 4 from lower angle slightly apart; 5 from middle of discocellular; 6 from upper angle; 7 and 8 stalked; 9 absent; 10 and 11 from cell. Hindwing: termen rounded or slightly oblique from apex to vein 5; vein 2 from before lower angle; 3 and 4 from lower angle; 5 from middle of discocellular; 6 and 7 from upper angle.

Type: *anoca* Schs.

anoca.

A. anoca Schs. (88 h). *Male*: Body and wings pinkish buff suffused with olivaceous without darker irrorations; cilia dark faintly tipped with pinkish buff; the line fine, olive brown, followed by a buffy brown narrow shade. Forewing: a fine antemedial line; a dark streak on discocellular; costal edge olive brown, edged below with light pinkish cinnamon; the line inbent from vein 10 to inner margin followed by a narrow olivaceous wood brown shade, expanding from vein 4 to inner margin and a similar terminal shade from vein 3 to vein 8; an olive brown streak below vein 10 to apex edged below with vinaceous buff. Hindwing: the line medial to inner margin below middle followed by an olivaceous wood brown shade. Wings below warm buff with an olivaceous tinge mottled with some darker hairlike scales. Forewing: discal spot larger; termen from vein 10 to slightly below vein 4 raw umber, edged inwardly by a curved pale vinaceous pink line which is outbent to termen above vein 8. Expanse: 34 mm. French Guiana; Amazons.

pulloides.

A. pulloides Dogn. (88 h). *Male*: Very similar to *anoca*. Forewing with the line vertical or slightly outbent to inner margin near tornus, very fine, ochraceous, the veins beyond light buff to near termen, edged above and below with buffy brown; termen with brownish suffusions. Hindwing: the line from costa near apex to below middle of inner margin, followed by a brownish shade and veins marked as on forewing. Forewing below: the dark terminal space edged inwardly by pale vinaceous pink, less curved and not outbent to termen. Expanse: 36 mm. Medina, Colombia.

bercaldia.

A. bercaldia sp. n. (88 h). *Male*: Similar to *pulloides*. Forewing: the postmedial line vertical; terminal space between veins 8 and 9 mottled with pearl grey; on both wings the veins beyond line are not dark edged. Forewing below with the terminal patch narrower, the white edging outbent to termen below vein 9. Hindwing below with a fuscous point on discocellular, and a subterminal darker line double from costa to vein 4. Expanse: 30 mm. Cayuga, Guatemala.

pulla.

A. pulla Dogn. *Male*: Body light cinnamon drab, the abdomen dorsally mottled with darker scales. Wings to line light cinnamon drab mottled with fine natal brown hairlike scales. Forewing: the line fuscous outwardly edged with cinnamon buff and faintly sinuous; a faint outcurved antemedial line; a black point on discocellular; termen broadly verona brown crossed by cinnamon buff veins, the interspaces irrorated with the same colour; a greyish streak below vein 9 to termen. Hindwing: the line verona brown outwardly edged with clay colour; outer space mikado brown, the veins clay colour. Wings below sayal brown; forewing with the terminal patch as in *bercaldia*; hindwing irrorated with verona brown, and with a similar subterminal shade. Expanse: 32 mm. San Antonio, Cali, Colombia.

cymbelina.

A. cymbelina sp. n. (88 h). *Male*: Body avellaneous. Forewing: base to a faint dark antemedial line vinaceous buff consisting of coarse hairlike scales; costa fawn colour; medial space cinnamon drab; a faint black line on discocellular; postmedial line slightly sinuous, cinnamon buff inwardly edged by a fine dark line, outwardly followed from vein 9 by a buffy brown shade expanding to tornus, and a similar terminal shade from vein 8 narrowing to a point at vein 4; a light vinaceous fawn shade incurved from below apex to termen below vein 4. Hindwing: base to line vinaceous fawn, also to termen from below vein 4 to inner margin; line dark, postmedial; termen from apex to vein 4 mostly army brown. Forewing below vinaceous wood brown irrorated

with fuscous hairlike scales; a prominent black line on discocellular finely edged with whitish scales; the dark terminal patch broadly edged above and inwardly with pale vinaceous fawn. Hindwing below like forewing without any markings. Expanse: 27 mm. Taperinha, Amazons; French Guiana.

A. subnotata Dogn. (88 h). *Male*: Body and wings to line light fawn colour, terminal area cinnamon *subnotata*. drab; line vinaceous brown outwardly faintly edged with light russet vinaceous. Forewing: a very faint darker line on discocellular; postmedial line inbent from costa to beyond middle of inner margin; a pale greyish vinaceous streak above vein 8 at termen, and traces of a similar sinuous shade from vein 5 to termen at vein 3 then to tornus. Hindwing: the line postmedial downbent near inner margin. Wings below cinnamon drab irrorated with chestnut brown. Forewing: a thick fuscous line on discocellular; on termen before apex a chestnut brown space from below costa to below vein 4 inwardly edged by a curved whitish line. Hindwing: some white hairs on costal margin; an apical dark patch as on forewing from apex to vein 4 inwardly edged by a curved white line, continued from vein 4 to inner margin as a wavy chestnut brown line. Expanse: 37 mm. Pebas, Amazons.

A. rionica sp. n. (88 h). *Male*: Body and wings deep purplish grey slightly tinged with brown. Forewing: *rionica*. apical third of costa deep chrome and orange; a wavy black antemedial line; postmedial line faint, almost straight and vertical defined by raw sienna spots at veins 3 and 1; an incurved lilacine line from below apex at termen to termen at vein 2, followed by argus brown; cilia tipped with pinkish cinnamon. Hindwing: a raw sienna spot beyond lower angle of cell. Wings below mostly deep mouse grey mottled with darker scales; cilia clay colour. Forewing: a black and whitish line on discocellular; termen from vein 8 to vein 2 fuscous black, inwardly edged with pale drab grey. Hindwing: fuscous black suffusions at apex. Another male with similar genitalia and from the same locality is darker, the raw sienna spots at inner margin of forewing and on hindwing larger; apex of forewing with some chrome markings greatly reduced. A female also from Teffé, submitted by the Berlin Museum, is dark fawn colour with a purplish tinge. Forewing with a fine dark postmedial line and a raw sienna spot at inner margin. Hindwing somewhat darker; a fine medial dark line and a round raw sienna spot beyond lower angle of cell. Forewing below deep vinaceous grey; a large cinnamon buff spot beyond cell from subcostal to vein 3; a black line on discocellular; a dark postmedial line outcurved, well defined, not reaching inner margin; the dark terminal shade without the pale edgeing. Hindwing mostly deep brownish drab; some dark scaling at discocellular; a medial dark line vertical to vein 4 and curved to inner margin. Expanse: male, 32 mm; female, 35 mm. Teffé, Amazons.

A. caudina Schs. (88 i). *Male*: Body fawn colour. Forewing to line buffish fawn colour, with a few scattered black scales; a black streak on discocellular; postmedial line white, slightly incurved from costa and inbent from vein 5; terminal area chiefly liver brown, towards apex pale drab grey. Hindwing: base to line fawn colour; termen sanford's brown; line white, medial. Wings below vinaceous russet with a few black scales. Forewing: a black streak on discocellular; line white incurved from costa, outcurved at veins 4 and 3, then inbent, followed from vein 4 to termen and costa with chestnut brown. Hindwing: a black streak on discocellular; line white, postmedial, vertical from costa to vein 4, then slightly upcurved to inner margin; the anal angle with a tuft of inbent chestnut brown hairs. Expanse: 33 mm. French and British Guiana; Amazons; Venezuela.

A. subrubiginosa Dogn. (88 i). *Male*: Body dusky drab. Forewing: costal edge cinnamon brown; base *subrubiginosa*. broadly deep brownish drab tinged with fawn colour above inner margin; an oblique black line in cell; a medial dark greyish brown shade, outcurved to discocellular spot and inbent to before middle of inner margin; discal spot oval, deep quaker drab followed by a dark splash; postmedial line remote, broad on costa, dark greyish brown, outbent, angled at vein 8, inbent, narrow, sepia, followed by a narrow light brown shade; terminal area deep brownish drab; an incurved chestnut brown shade from termen at vein 8, below vein 4 brick red and expanding to termen at vein 1; costal margin beyond postmedial cinnamon buff; termen very narrowly and cilia brick red. Hindwing deep brownish drab, line fuscous, just beyond middle; a brick red subterminal shade from vein 3 expanding to termen from vein 2 to anal angle. Wings below raw sienna. Forewing: a black spot on discocellular; line very fine and faint, fuscous at inner margin, the fuscous extending to base; a subterminal fine cinnamon brown and broader hair brown shade from vein 8 to vein 4. Hindwing: a fine chestnut brown line on discocellular; line fine, postmedial, slightly outcurved. Expanse: 39 mm. Medina, Colombia; Merida, Venezuela.

17. Genus: **Tarema** Schs.

Male: Antenna bipectinate, the tips serrate. Forewing broad, termen only slightly inbent: vein 2 from before middle of cell; 3 before lower angle; 4 from lower angle; 5 from middle of discocellular; 6 from upper angle; 7 and 8 stalked; 9 and 11 from cell. Hindwing: costa slightly convex; termen rounded; vein 2 from beyond middle of cell; 3 close to angle; 4 from lower angle; 5 from middle of discocellular; 6 and 7 from upper angle.

Type: *T. rivara* Schs.

fuscosa. **T. fuscosa** Jones (88 i). *Male*: Body and wings olivaceous drab. Forewing: costal edge light buff; a long dark oblique line on discocellular finely edged with whitish buff; a faint antemedial line; postmedial line more remote than in *rivara*, whitish buff, slightly inbent from costa to vein 5, then more inbent, followed by a parallel white line, diverging from vein 5 to termen at vein 2, the space between from below vein 2, and the termen from apex to vein 3 army brown, the terminal part crossed by a whitish line on vein 7. Hindwing: a small dark streak on discocellular; an army brown line from costa near apex to below middle of inner margin, inwardly pale edged; terminal space somewhat darker with some rufous at line from vein 5 to vein 2. Forewing below hair brown in disc, below cell and vein 2, also close to line irrorated with whitish and massicot yellow; the discocellular spot as above. Hindwing below: a partly double whitish line filled in with dark scaling; some reddish scaling at apex. Expanse: 32 mm. Nova Friburgo; Santa Catherina, Brazil. Easily distinguished by the white terminal line along vein 7 of forewing.

rivara. **T. rivara** Schs. (88 i). *Male*: Head and collar light buff. Thorax buff pink, abdomen light pinkish cinnamon. Forewing: costal edge white to postmedial line; base to postmedial below cell to inner margin and terminal space apricot orange; cell and to costa and postmedial line mottled pale drab grey and buffy brown; a faint outbent antemedial line; an oblique fuscous spot edged with white on discocellular; postmedial line inbent from costa, white, outwardly edged with hair brown; a white line from costa near postmedial slightly incurved and outbent expanding to termen between veins 4 to 2; cilia buff white. Hindwing apricot orange; costal margin whitish to line; a benzo brown line on discocellular; line benzo brown, postmedial at costa, straight to middle of inner margin. Forewing below as above, but the inner margin broadly white to line which is subterminal, double, excurved from costa to vein 4, then outcurved to close to termen, and inbent below vein 2. Hindwing below duller; a round fuscous spot on discocellular; line fine, subterminal and sinuous. Apices of both wings below ferruginous. Expanse: 27 mm. Castro, Parana.

macarina. **T. macarina** sp. n. (88 i). *Female*: Head and collar drab grey, the thorax and abdomen suffused with light pinkish cinnamon. Forewing: costal margin whitish; cell and above vein 2 to line mottled tawny and pinkish buff, below cell to inner margin pinkish cinnamon; discocellular spot, postmedial and subterminal lines as in *rivara*; the terminal space cinnamon brown. Hindwing: costal margin to line white; base below cell pinkish cinnamon; a black streak on discocellular; line from beyond middle of costa to middle of inner margin, whitish, outwardly broadly bister; termen broadly buff grey irrorated with brown, the veins cinnamon buff. Wings below light buff mottled with cinnamon brown, the discal spots and lines as in *rivara*; termen below apex of forewing, and patch at apex of hindwing cinnamon brown; the subterminal line of hindwing closer to termen. Expanse: 27 mm. São Paulo, Brazil. A male of this species is in the Berlin Museum.

18. Genus: **Aceclostria** gen. n. (*Th.-Mieg i. l.*)

Male: Antenna bipectinate, diminishing towards tips. Palpi upturned, short, hairy. Forewing produced, excurved below apex and sinuous. Cell long, two-thirds of length of wing; vein 2 from beyond middle of cell; 3 near lower angle; 4 from angle; 5 from middle of discocellular; 6 from upper angle; 7 and 8 moderately stalked; 9 and 11 from cell. Hindwing with termen rounded; cell half the length of wing; vein 2 from beyond middle of cell; 3 close to angle; 4 from angle; 5 from middle of discocellular; 6 and 7 from upper angle.

Type: *A. mus* Vuill.

mus. **A. mus** Vuill. (= *deprava* Schs.) (88 i). *Male*: Body and wings varying from pale drab to light mouse grey with light drab suffusions and some black irrorations. Forewing: an inbent hair brown antemedial line, inbent from a small black spot on costa; a round hair brown spot at discocellular crossed by a greyish line; postmedial line fine hair brown outcurved beyond cell and sinuous, marked by a black spot on costa; costal edge dresden brown; cilia dresden brown tipped with white. Hindwing: the line postmedial better defined towards inner margin. Wings below: anterior half light cinnamon drab, otherwise pale drab grey, all more thickly irrorated with dark scales. Forewing: the greyish line on discocellular more prominent; postmedial line thicker, less sinuous. Hindwing: the line thicker, outcurved, nearer termen. Expanse: male, 31 mm; female, 35 mm. São Paulo, Brazil; Paraguay; Tucuman, Argentina.

19. Genus: **Adalgisa** gen. n.

Male: Frenulum present. Antenna bipectinate to beyond middle, terminally serrate. Palpi short, upturned, not reaching frons. Tibiae with long tufts. Forewing falcate, the tips rounded; vein 2 from close to end of cell; 3 and 4 stalked; 5 from middle of discocellular; 6, 7, 8 stalked; 9 and 11 from cell. Hindwing: costa and termen evenly rounded; inner margin prolonged at anal angle; vein 2 from near angle; 3 and 4 on short stalk; 6 and 7 from upper angle.

Type: *A. croesa* Schs.

A. croesa *sp. n.* (88 i). *Male*: Body snuff brown with darker scaling at base of abdomen. Wings to *croesa*. line cinnamon drab with a few black scales. Forewing: an antemedial, almost medial snuff brown line, dentate vertical across cell, inbent below cell to near base of inner margin, followed in cell by a fuscous shade to the sinuous fine white line on discocellular; interspaces beyond cell to line fuscous, the veins buffy brown; costal margin to apex buff brown, the costal edge vinaceous fawn; outer line incurved from vein 10 to vein 5 chestnut brown edged inwardly with white, below vein 5 outcurved and crenulate inwardly edged with white from vein 2 to inner margin and between veins 4 and 2 by quadrate hyaline spots; the line is followed from vein 8 to below vein 3 by warm buff irrorated with ochraceous salmon and black; at vein 10 the line is outcurved widening to apex, with an elongated hyaline spot below it to vein 8, this latter white at termen; termen light, cinnamon drab. Hindwing: the line vertical, black from costa to vein 6 inwardly edged with white, from vein 6 to inner margin wavy, crenulate, cinnamon brown inwardly edged with light buff from vein 6 to vein 4, and from vein 2 to inner margin with white; between veins 4 and 2 the line widens and is preceded by a small hyaline spot in fork of veins 4 and 3, and by a larger hyaline spot between veins 3 and 2; between vein 4 and 2 the line is followed by a rufous patch; termen broadly light cinnamon drab. Wings below light cinnamon drab; the edging of lines pinkish buff, followed on hindwing by fuscous shading from vein 7 to vein 4, and small fuscous spots at inner margin. Expanse: 36 mm. Sta. Catherina. Brazil: Oyapock River, French Guiana.

A. stellifera *sp. n.* (88 i). *Male*: Body light cinnamon drab. Forewing: base light drab limited by a *stellifera*. curved inbent fawn colour line outwardly edged with light buff; medial space drab crossed by a fine silvery white inbent line on discocellular; postmedial line cream colour outwardly edged with army brown, incurved from vein 9 to stalk of 7 and 8, then crenulate on each interspace, the line preceded by semihyaline silvery white spots between veins 2 and 4, by army brown to discocellular, and between veins 2 and 4, with some black scales on the army brown; following the line some ochraceous buff in fork of 7 and 8, and some warm buff between 7 and 4 well irrorated with fuscous, from vein 4 to just below vein 2 an expanding light buff shade irrorated with olive grey; termen fawn colour, widest between veins 4 and 8; costa from above discocellular to near apex drab; a white line from postmedial at vein 9 to termen at vein 8. Hindwing: base drab; a medial line as on forewing preceded by a small hyaline spot below vein 3, and a minute spot above 3: no pale shading beyond the line; outer space fawn colour with a round postmedial orange cinnamon spot between veins 3 and 2. Wings below duller. Expanse: 28 mm. Molinas, Paraguay.

20. Genus: **Roelmana** *gen. n.*

Male: Antenna bipectinate, short beyond middle. Palpi upturned to frons, thickly scaled, smooth. Frenulum slight. Forewing: apex acute, falcate, termen slightly sinuous: vein 2 from before middle of cell; 3 close to 4; 4 from lower angle; 5 from middle of discocellular; 6—8 stalked. Hindwing: anal angle bluntly produced; vein 2 well beyond middle of cell; 3 close to 4 at lower angle; 5 from middle of discocellular; 6 from upper angle; 7 before angle. Replaces in the *Lacosominae* *Roelofa* of the *Mimalloninae*.

Type: *R. maloba* Schs.

R. maloba Schs. (88 i). *Male*: Head and collar pinkish cinnamon. Thorax and forewing cinnamon *maloba*. drab. Abdomen and hindwing vinaceous russet. Some fan-shaped white scales along costa of forewing and inner margin of hindwing; discocellular spots hyaline broadly B-shaped. Forewing: an antemedial pinkish cinnamon spot below cell, and similar scaling mottled with vinaceous russet at base of inner margin; line fine from a small black spot on costa, oblique, excurved with bluish white scaling above it, angled and inbent from vein 7, crenulate outwardly, finely edged with bluish white scaling and a cream white spot between veins 6 and 7, and from vein 3 to inner margin followed by a large triangular white patch crossed by a dark dentate line; some terminal blue white scaling from vein 4 to apex. Hindwing: a fine and faint dark line almost sub-terminal followed by white spots at apex and above anal angle. Wings below as above, somewhat duller. Expanse: male, 45—55 mm; female, 57 mm. Guatemala; French Guiana: Amazons: Joinville, S.E. Brazil. Also in the Berlin Museum.

The following two species have not been identified:

Mimallo saturata Wkr. Female: Reddish brown. Thorax with luteous hairs laterally behind. Abdomen red with *Mimallo* yellow hairs and a lateral orange stripe; anal hairs luteous. Forewing: outer two thirds slightly tinged with purplish: discal *saturata*. spot small, testaceous, edged with black; a slender whitish somewhat oblique line outwardly edged with blackish from near tip of costa to inner margin at three fourths. Hindwing: reddish, a very oblique medial purplish line. Expanse: 52 mm. Rio de Janeiro. Type in Fry collection, probably lost.

Perophora albescens Jones. Male: Head, palpi, and antenna ochreous. Body white mottled with ochreous and scattered black scales; dark dorsal tufts on segments 4 to 6 of abdomen. Wings white irrorated slightly with black. Forewing: *Perophora* costa and lines mostly ochreous: a wavy antemedial line more distinct from vein 2 to inner margin; postmedial line irregular. *albescens*.

reddish from vein 3 to costa, projecting at veins 7 and 8, preceded by ochreous suffusion filling medial area below vein 2, except a small triangular space between base of vein 2 and antemedial line; terminal area suffused with ochreous fuscous except a narrow line following postmedial; a darker lunular patch from veins 3 to 5. Hindwing outwardly suffused with ochreous; a very indistinct diffuse, ochreous antemedial line, heavily suffused with reddish brown at inner margin and at veins 3 and 4. Wings below ochreous white irrorated with black; postmedial line distinct; terminal area paler. Expanse: 30 mm. São Paulo, S.E. Brazil. Type in British Museum.

Alphabetical List

with reference to the original descriptions of the forms of the American *Mimallonidae*.

* signifies that the form is also figured at the place quoted.

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Additions

By the kindness of Dr. SCHAUS we have been enabled subsequently to figure also the following species from water-colour sketches by Mr. NOYES:

<i>Aleyda accipiter</i> (p. 641)	pl. 86 g
<i>Lacosoma asea</i> (p. 662)	pl. 86 g
<i>Lacosoma zonoma</i> (p. 662)	pl. 86 g
<i>Lacosoma valva</i> (p. 663)	pl. 86 g
<i>Tolypida amaryllis</i> (p. 664)	pl. 86 g
<i>Vanenga mera</i> (p. 664)	pl. 86 g

11. Family: Bombycidae.

The American faunistic region, according to our present knowledge, contains about 200 forms which are more or less correctly placed to this group the principal range of which is the Indo-Australian region. For particulars about this family we refer the readers to Vol. X, p. 433. In the palaearctic and Ethiopian regions there occur so few characteristic representatives of this family that we mentioned in a very brief way their systematical morphological relations in Vol. II, p. 189, and Vol. XIV, p. 283. We are sorry to confess that we know almost next to nothing about the biology of the American representatives: the early stages are entirely unknown, so that nothing whatever can be said about the outward appearance of the *Epiinae* (see below) being evidently closely allied to the genuine *Bombycidae* in their early stages. The second subfamily joined with the *Bombycidae*, the *Zanolinae*, differs biologically — only the larvae of 2 North-American representatives are known hitherto — so widely from the usual types of the genuine Bombycid larvae that an unprejudiced observer will at first object to the insects being ranged here. As to the latter divergent group, the *Apatelodes* — presumably named owing to the resemblance of the larvae to the Noctuid genus *Apatela* (= *Acronycta*) — have undergone many systematical changes; they were probably the most correctly inserted by PACKARD in the Notodontid tribe, whilst they were hardly less justly regarded as *Eupterotidae*. According to recent researches, however, they are morphologically so closely allied to the *Bombycidae* that we decided to annex them to this group as a subfamily, although they are hardly connected with them by their outward appearance. The genus *Zanola* resembles more certain *Liparidae*. A much greater external resemblance to the smaller eastern Bombycid forms is exhibited by the *Epiinae*, especially in the shape of the wings. Particularly similar is the genus *Quentalia*, formerly known as *Carthara*. Some representatives of *Colla* recall the *Ocinera* etc. The imagines are exclusively nocturnal insects, being only captured at night on the lantern, where they sometimes appear in great numbers, as for instance the Mexican small species of *Apatelodes*. We had formerly mentioned at another place that the inner margin of the hindwing in the resting insect remains uncovered and consequently exhibits a colouring similar to that of the forewing, in contrast with the otherwise pale hindwing.

As to the early stages we merely know that, as we stated above, the larva of *Apatelodes torrefacta* is very similar to that of the palaearctic *Apatela*; moreover, the entirely flat plateshaped eggs exactly correspond with the disk-shaped flat ones of *Acronycta*, which are partly deposited like tiles one above the other. (M. DRAUDT.)

No typical species of *Bombycidae* occur in America, but the *Epiinae* are well represented in tropical America, though none have been found as yet in the United States. The true *Bombycidae* have vein 8 on hindwing highly arched from base and usually connected with vein 7 by a bar, whereas in the *Epiinae* and *Zanolinae* (DRAUDT) vein 8 is deflected near base, touching vein 7, or anastomosing with it and then continuing almost straight towards apex.

The *Epiinae* and *Zanolinae* can be separated by vein 8 on forewing, which in the former is downbent or down arched as in the *Bombycidae*, whereas in the *Zanolinae* vein 8 is straight or convex; in many species veins 8, 9, 10 on costa are also convex. Nothing is known of the larvae of the *Epiinae*. All the genera have vein 10 absent except *Arotros* in which it is present. (W. SCHAUS.)

Key to the genera of Epiinae.

A. Forewing with apex rounded.

a. Vein 10 absent.

a¹. Vein 3 of forewing well before lower angle.*Epia*.b¹. Vein 3 of forewing close to or from lower angle.*Colla*.

b. Vein 10 present.

Arotros.

B. Forewing with apex not rounded.

a. Forewing with apex produced.

Quentalia.

b. Forewing with apex acute.

a¹. Abdomen not extending beyond hindwing and without tufts.a². Veins 3 and 4 on forewing from cell.*Anticla*.b². Veins 3 and 4 on forewing stalked.*Cheneya*.b¹. Abdomen extending beyond hindwing and with tufts.*Tamphana*.1. Genus: **Epia** Hbn. (=Anthocroea Btlr.)

Male: Palpi short, upturned, smoothly scaled. Antenna bipectinate. Legs and base of tarsi hairy; hind tibia with two terminal spurs. Forewing: costa straight; apex usually rounded; termen slightly inbent; vein 2 from middle of cell; 3 well before angle; 4 from lower angle; 5 from above middle of discocellular; 6—9 stalked; 10 absent; 11 from cell. Hindwing rounded; anal angle faintly acute; vein 2 from middle of cell; 3 well before angle; 4 from lower angle; 5 from just above middle of discocellular; 6 and 7 stalked; 8 connected with 7 near base.

Type: *E. domina* Cr.*domina*.

E. domina Cr. Female: Body and wings cinnamon. Forewing slightly darker at base, and traces of a medial fascia below cell; postmedial line double, the inner broad, broken by veins, the outer fuscous from costa to vein 4 preceded by a white line, followed by large white spots reaching vein 3. Hindwing brighter at anal angle; a well marked postmedial line. The underside according to Cramer dark yellow with four transverse brownish red, outcurved lines. Expanse: 69 mm. Surinam. The figure shows distinctly the characters of venation present in the other species placed in *Epia*.

muscosa.

E. muscosa Btlr. (♂ = *cuneifera* Btlr.) (89 a). Male: Forewing vinaceous drab, vinaceous fawn or pale olive ocher; antemedial line fine, black, outcurved with some olive ocher on either side at inner margin; a large elongated pale olive ocher spot on costa from before middle to close to postmedial line, edged behind with fuscous; an oblique mottled spot from inner margin postmedially to above vein 2, sometimes enclosing a round greenish white spot at vein 2, and edged with hazel or chestnut brown; postmedial line almost vertical, fine, black, partly edged outwardly with white and followed from vein 5 to costa by a narrow fuscous shade; termen usually from vein 2 to costa pale olive ocher, frequently with darker olive mottling. Hindwing variable as on forewing; the postmedial lines approximated at inner margin, the outer line with a small yellow angled line and brazil red suffusions above anal angle which has some terminal yellow scaling. Forewing below very much as above, but the costal spot diffuse, not dark edged behind, its outer edge continued as a first postmedial line. Hindwing below variable in colour, medial pale olive ocher fascia to vein 4 inwardly defined by a long black line on discocellular, outwardly by the postmedial line; some similar colouring at anal angle and slightly at middle of outer margin. Female: Forewing largely ochraceous tawny, the termen except towards apex cinnamon brown; costa, end of cell, medially below cell, and subterminally from vein 5 to near apex oil yellow; antemedial line fine, army brown, outcurved; postmedial line faint sinuous, bifurcating at vein 4, the inner part inbent to inner margin near antemedial, followed from costa by a fine fuscous vertical line partly edged with pale quaker drab. Hindwing vinaceous cinnamon suffused with English red above and beyond a yellowish spot on termen at anal angle; inner margin mottled with white scales and black lines; the outer lines fuscous, wide apart, converging near inner margin, with a yellow spot near it. Wings below mostly mustard yellow. Forewing: space between outer lines and termen except near apex onion-skin pink. Hindwing: a fuscous and purplish streak at inner margin expanding to outer line. Expanse: Male 40 mm; female 56 mm. Guatemala to Bolivia; Amazons; French Guiana.

vulnerata.

E. vulnerata Fldr. (89 a). The species I have identified as *vulnerata* is very similar to *picta*, and the chief difference is its smaller size and the white shading at the anal angle of the hindwing on the underside. FELDER's figure shows a much paler form, the subbasal angled line double and a small spot on costa at apex as in my specimens: in *picta* there is no apical spot on costa and the subbasal line is broad and diffuse. In *madeira* the angled line is single and there is no apical spot, otherwise it approaches *vulnerata* in colour. Expanse: 33—35 mm. Amazons; French Guiana; Peru.

E. picta Schs. (89 a). Male: Body rufous; palpi in front yellow on second joint; antennae light brown, *picta*. the shaft irrorated with white; collar mottled behind with white hairs; a few white irrorations on tegulae. Forewings: base of costa rufous, below it a lilacine shade mottled with brown; basal half of inner margin light brown; a yellowish streak below cell and vein 2 to near termen cut by the rufous lines; a rufous streak below this broadening to inner margin on outer half; a dark brown shade in cell antemedially, extending as a dull grey shade between veins 2 and 3 to termen; above this in cell and between veins 3 and 4 a lilacine grey shade suffusing with a similar broad outer shade from costa, leaving a triangular brownish shade on costa within the postmedial line; antemedial line outcurved, wavy, dark red; a dark medial line below vein 2; postmedial slightly lunular, dark red from veins 5 to 7, and below vein 2 fine, greyish and hardly perceptible on the pale portion of wing; a fine deeply lunular outer dark grey line; some subterminal rufous spots, and a small white spot between veins 2 and 3; termen shaded with dark grey from below vein 6; the tornus rufous. Hindwings rufous brown, becoming dark red at anal angle; the two outer lines fine, fuscous, separated by a yellow shade near inner margin; inner margin fuscous brown with white irrorations. Forewings below pale reddish, the inner margin broadly yellowish white; the costa ochreous yellow; postmedial line straight, fuscous brown and thick, from costa to vein 4; outer line finer, lunulate; apex yellow; termen dark rufous. Hindwing below purplish. the base and costal margin rufous; postmedial line almost straight, the outer line finer, lunular. Female: Body and wings paler rufous; abdomen with darker subdorsal lines. Forewings: a greyish purple shade between veins 2 and 4 from cell to termen; white irrorations on costal margin and broadly at apex; costa ochreous yellow; a faint fuscous postmedial line, finely lunular and hardly in bent. Hindwings: anal angle broadly dark red; fuscous lines only visible near inner margin; whitish shadings medially on inner margin. Forewings below dark grey, becoming brownish yellow at apex and terminally; the costa dark ochreous yellow; traces of a fine dark postmedial line; outer line fine, lunular, well defined to near inner margin. Hindwings below dark brown, the basal half shading to light brown terminally, the disc heavily irrorated with white: postmedial line very faint; outer line fine, lunular, well defined. Expanse: Male, 45mm; female, 60 mm. Antioquia, Colombia (elevation, 5 000 feet).

E. madeira Schs. (89 a). Near *vulnerata*. Male: Head reddish brown; palpi in front buff. Thorax *madeira*. lilacine brown. Abdomen reddish brown. Forewings chiefly grey, the inner margin below vein 2 pale reddish brown; costa reddish brown streaked with white; a yellowish white space at base limited by a reddish brown line, from costa at base to vein 2 near cell, sharply angled and in bent to submedian; basal third of inner margin below submedian yellow; geminate medial and postmedial fine lines from vein 2 to inner margin; a black line on discocellular followed by a similar oblique streak to costa, edged anteriorly by an olive buff shade; a fine dark outer dentate line being part of the geminate postmedial line; faint subapical yellowish shading; a subterminal white spot between veins 3 and 4, and a similar point below veins 3. Hindwings pale reddish forming a darker subterminal shade, which is more pronounced and reaches termen from vein 2 to inner margin; a fine fuscous outer line shaded on either side with yellow. Forewings below pale roseate buff, the costa and space above vein 4 reddish brown, crossed by a short black streak on discocellular; a postmedial in bent black line and a lunular outer line; the subterminal white spots as above. Hindwings below roseate, the costal margin reddish brown; the postmedial and outer lines faint; a dark streak below cell and vein 2 from base to postmedial line. Expanse: 38 mm. Rio Madeira, Brazil.

E. intricata Drc. "Male: Head, antennae, collar, tegulae, thorax, and abdomen pale olivebrown. Forewings *intricata*. pale olive-brown, crossed from the costal to the inner margin by two rather wide dark olive-brown bands, which are united just below the cell; the base and the apex of the wing olive-brown; a greyish-white marking on the outer margin above the anal angle and a black dot at the end of the cell; the cilia yellowish brown: hindwings pale yellowish fawn colour, with some dark markings on the inner margin. Expanse: $1\frac{3}{4}$ inch. S. E. Peru; Santo Domingo, 6 000 feet."

E. casnonia Drc. (89 a). Male: Head light vinaceous cinnamon. Collar pale greenish buff. Thorax dark *casnonia*. olive buff. Abdomen above vinaceous fawn. Forewing cream buff; inner margin except at base suffused with fawn colour to median and vein 3; lines army brown; antemedial outcurved, vertical below vein 2; a faint paler parallel medial line bifurcating below vein 2 and enclosing a round spot of ground colour, its outer edge really part of inner postmedial line; postmedial double, vertical; termen with dark suffusions especially between veins 4 and 5. Hindwing cinnamon buff with a greenish tinge, almost cinnamon at anal angle; medial line vertical, faint, in bent at inner margin, the postmedial parallel with it, army brown well defined. Wings below largely isabella colour, the outer lines well marked, wider apart; anal space of hindwing partly white. Female: Forewing to postmedial, also apex, orange cinnamon; antemedial and postmedial lines hardly traceable, between them below cell a dark purple shade; termen from vein 6 to inner margin, also space between postmedial lines, suffused with dark purple; small cream coloured spots on outer edge of line between veins 3 and 4, and 5 and 6. Hindwing orange cinnamon, the lines black. There is considerable variation especially in the male which sometimes has the forewing drab grey. Expanse: Male 34 mm; female 44 mm. Guatemala to Costa Rica.

E. lebethra Drc. Male: Forewing: costal margin to postmedial olivaceous, below it from base of inner *lebethra*. margin a broad creamy white fascia, also to postmedial, edged behind by a fuscous line, the triangular space

below it, also between postmedial line and partly on termen, cinnamon drab faintly tinged with olivaceous; postmedial line double, the first line heavily marked, the second line very fine diverging somewhat towards inner margin; small cream coloured spots on termen between veins 3 and 4, and 5 and 6, and similar mottling towards apex. Hindwing vinaceous tawny; first postmedial line darker slightly incurved, the second line hair brown slightly outcurved and well marked; termen narrowly pale orange yellow. Forewing below greenish yellow, the hindwing partly suffused with vinaceous tawny, the lines as in *casnonia*. Female: Forewing: the fascia below costa and apical space vinaceous fawn, the costa, triangular space above inner margin, and termen below vein 5 deep brownish vinaceous. Hindwing orange cinnamon, the lines faint. Expanse: Male 34 mm; female 45 mm. The Guianas.

hiemalis.

E. hiemalis *Bltr.* Male: Head cinnamon. Body above dark vinaceous drab, underneath usually orange cinnamon. Forewing mostly bay, the inner margin suffused with chestnut; costal edge orange cinnamon; cell except base and a large apical space irrorated with white hairs; some white hairs on costal margin above a dark postmedial patch; antemedial dark line outcurved and dentate on veins; postmedial line single, fuscous, lunular preceded by dark olive between veins 2 and 4, and a small spot below vein 2, also followed by some small greenish spots; a large round greenish spot medially below vein 2 at antemedial line. Hindwing bay or ochraceous tawny, the postmedial fine, sinuous, the medial broader and diffuse. Forewing below deep brownish drab or buffy brown, the costal edge and postmedial line as above. Hindwing below brownish drab or buffy brown, the lines as above. Female: Forewing rather brighter than the male, the markings more confused, the greenish spots above vein 1 larger, but sometimes absent; traces of two postmedial lines well defined on underside; no white scales in cell nor at apex. Hindwing usually orange cinnamon darker shaded along inner margin. Expanse: Male 30 mm; female 47 mm. French Guiana; Amazons.

lunilinea.

E. lunilinea *Schs.* (89 a). Male: Head: palpi brown; frons whitish buff; some brown hairs at base of antennae; shaft of antennae white, the pectinations brown. Body and wings dull purplish grey. Forewings with the lines slightly darker; antemedial line geminate, wavy, slightly outcurved; a medial lunular line outbent and touching the dark discocellular line, the lunules inverted and touching the postmedial, forming indistinct spots; postmedial geminate, lunular. Hindwings tinged with whitish on costal margin; a postmedial geminate line, hardly visible; some dark shadings on inner margin. Wings below duller with only the postmedial lines faintly indicated. Expanse: 58 mm. Rockstone, Essequibo River, British Guiana.

erdae.

E. erdae *sp. n.* (89 b). Male: Body above dark greyish brown mottled with olivaceous buff hairs, underneath light buff with dark transverse lines. Forewing acute, the outer margin straighter, hair brown, the inner margin and termen suffused with fuscous; the disc more thinly scaled; costal edge drab; postmedial line fuscous double, slightly inbent, lunular; termen narrowly and cilia light drab irrorated with fuscous; cilia on inner margin avellaneous on basal half. Hindwing chaetura drab, the disc pale drab grey, semihyaline; cilia on inner margin avellaneous; the two lines near termen only defined on underside where the anal angle is partly orange buff. Expanse: 33 mm. Upper Amazons, Brazil. Type in U.S. Nat. Museum Washington.

2. Genus: **Colla** *Wkr.*

Male: Palpi short, upturned, hardly reaching frons; hind tibia with 2 terminal spurs. Forewing: apex rounded; termen usually rounded, in male of *glaucescens* straight and inbent; vein 2 from beyond middle of cell; 3 close to or from angle; 4 from angle; 5 from near upper angle; 6—9 stalked; 10 absent; 11 from cell or sometimes stalked with 6—9. Hindwing: vein 2 well beyond middle of cell; 3 and 4 from lower angle; 5 above middle of discocellular; 6 and 7 stalked; 8 connected with 7 near base.

Type: *C. glaucescens* *Wkr.*

rhodope.

C. rhodope *Dru.* (= *opalina* *Bltr.*) (89 b). Male: Body above isabella colour; tegulae partly white; abdomen laterally and below white. Wings rather thinly scaled, white. Forewing: costal edge antemedially and postmedially isabella colour, the markings light greyish olive; an antemedial spot in cell and an inbent line below cell; a fine line on discocellular; an inbent double and irregular postmedial line, outbent below vein 3; a marginal macular line; a terminal line. Hindwing: inner margin densely scaled; a dark spot above angle sometimes preceded below vein 2 by a postmedial and subterminal spot, more distinct on underside. Forewing below showing most of the markings in transparency. Female: Forewing: the markings similar to male but all broader; outer postmedial line lunular, also the marginal line. Expanse: Male 39 mm; female 40—48 mm. Mexico to Paraguay; the Guianas.

netrix.

C. netrix *Stoll.* Female: Body above yellow ocher. Thorax with a lateral white line; abdomen laterally white. Wings white. Forewing: lines yellow ocher; antemedial fascia wide on costa outcurved ending in a

point on inner margin; a broad postmedial fascia; broad subterminal and terminal lines. Hindwing; a postmedial line from costa to inner margin; a short line at inner margin above anal angle. Expanse: 40 mm. Surinam. It is possible that this species is the same as *rhodope*, but for the present I prefer to keep them separate as I have seen no specimens agreeing with STOLL's figure.

C. glaucescens Wkr. (= *margaritacea* Mschlr., *blandatrix* Fldr.) (89 b). Male: More intensely marked *glaucescens*. than *rhodope*, the termen of forewing more oblique, the hindwing longer on inner margin. Female: The markings greyish olive, forming a large antemedial patch at costa and thick double lines below cell; postmedial fascia broad the lines largely suffusing, tinged with cinnamon buff on inner margin; the broad marginal line usually interrupted at vein 5; terminal line broad. Hindwing: a double or a single line not reaching costa tinged with cinnamon at inner margin; a subterminal macular line and sometimes a broken marginal line. Wings below with the markings showing in transparency. Expanse: Male 39 mm; female 50–65 mm. Guatemala; Costa Rica; Colombia; Rio de Janeiro, Brazil.

C. gaudialis Schs. (89 b). Male: Head and thorax white. Abdomen lilacine brown above, white below; *gaudialis*. anal hairs brown. Forewing: basal two-thirds brownish white; the costal margin olivaceous, extending into cell antemedially, interrupted medially by a buff shade, also buff at apex; a silvery white streak on discocellular; a faint ochreous medial shade on inner margin; ochreous shades on veins beyond cell; a silvery white line from costa at three-fourths from base curved to vein 4, and preceded by a broad greyish shade and silvery points on veins, also preceded by grey on inner margin; the outer margin white with a subterminal and a marginal grey shade. Hindwing thinly scaled, white, a dark medial spot on inner margin; reddish-brown shades subterminally at and near inner margin. The cilia ochreous red at anal angle. Expanse: 29 mm. St. Jean, Maroni River, French Guiana.

C. coelestis Schs. (89 b). Male: Legs white shaded with brown. Palpi brown. Head and thorax white; *coelestis*. some brown on frons. Abdomen olivaceous brown above, laterally and underneath white. Wings white opalescent. Forewing: some antemedial and postmedial ochreous spots on costa; a broad subterminal space from vein 4 to costa broken by the veins and divided by a fine white line; a single subterminal spot between veins 2 and 3, these spots are apparently grey but also opalescent in the proper light; a marginal grey shade, not opalescent, cut by the veins, a terminal white line; cilia white outwardly, grey basally. Hindwing: some olivaceous-brown spots on inner margin, a grey spot above anal angle, and some marginal grey spots between angle and vein 4. Female: Wings dirty white. Forewing: a basal space, and two antemedial smoky shades, slightly curved; a geminate postmedial shade curved from costa to vein 4, partly coalescing, followed by a broader similar shade, interrupted between veins 3 and 4. Hindwing as in the male. Expanse: Male 27 mm; female 34 mm. Sixola River, Costa Rica.

C. lilacina Dogn. (89 b). Female: Head and collar white. Thorax vinaceous buff. Abdomen vinaceous *lilacina*. buff above and below, laterally white. Forewing thinly scaled, light brownish drab; costal edge white; termen pale ecru drab beyond a fine outer army brown line, lunular from costa to vein 6, outbent to vein 4, inbent along vein 4, excurved and outbent to vein 3, downbent to vein 2 and slightly inbent below; in places a fine white line precedes this brown line, this latter broader at costa; inner margin light buff; traces of subbasal, antemedial, and medial outcurved lines which are well defined on inner margin; a white spot on discocellular. Hindwing white suffused with pinkish buff on disc to postmedial line and inner margin; from beyond base to postmedial the inner margin is cinnamon brown cut by white lines; postmedial line very faint; a terminal pale smoke-grey shade. Forewing below paler, iridescent, the pattern of upperside visible in transparency. Hindwing below cream colour, the postmedial line with an army-brown spot near inner margin. Expanse: 33 mm. French Guiana.

C. micacea Wkr. (= *albescens* Schs.). Male: White. The abdomen above reddish brown. Forewing: *micacea*. the costa finely light brown; a grey spot on inner margin near base; a small grey spot between veins 2 and 3; an interrupted grey postmedial shade; an interrupted subterminal grey line below vein 4; a marginal grey shade between veins 2 and 7; a terminal fine ochreous line; cilia grey between 2 and 7. Hindwing: inner margin spotted with olivaceous brown; a grey subterminal spot near inner margin; some faint grey marginal spots. Expanse: 22 mm. St. Jean, Maroni River, French Guiana.

C. opalifera Dogn. (= *manni* Schs.) (89 b). Male: Body white: a dark greyish olive spot at base of *opalifera*. abdomen dorsally; anal segment cinnamon. Wings white, thinly scaled. Forewing: a line of silver scales on submedian fold, on discocellular, and on vein 5, not reaching termen, and interrupted by a postmedial square dark greyish olive spot with some black on the vein; costal edge light buff; double greyish olive postmedial marks on costa, the spot on vein 5 sometimes divided; subterminal dark greyish spots, and a broken marginal line. Hindwing: medial and postmedial dark spots on inner margin, and marginal greyish spots from below vein 4 to anal angle. Female: Similar to male. Expanse: Male 24 mm; female 30 mm. French Guiana; Upper Amazons.

umbrata. **C. umbrata** Schs. (89 c). Male: Palpi brown. Head and thorax white. Abdomen pale brown above, white underneath. Wings white. Forewing: the costa finely light brown, a greyish basal shade on inner margin; a greyish medial shade from cell to inner margin; a greyish postmedial shade not extending above vein 5, but continued as two fine brownish lines from vein 4 to costa; an olivaceous spot on the inner line at vein 5; outer margin broadly shaded with grey; a large terminal olivaceous patch from veins 5 to 7; cilia olivaceous. Hindwing shaded with grey below vein 4; the inner margin light brown and olivaceous. Expanse: 23 mm. Amazons.

amoena. **C. amoena** Dogn. (89 c). Male: Frons light buff. Collar white. Thorax buffy olive. Abdomen above tawny olive, laterally and below white. Wings white. Forewing: the lines greyish olive, the costal edge dark olive buff; an outcurved antemedial line followed by a double medial parallel line; a double slightly outcurved postmedial line, closely followed by a short narrow band, and from below 6 by an expanding shade suffusing with a broad terminal shade, this latter also upbent to vein 7 and connected with costa by a fine line. Hindwing: three short lines medially on inner margin and cilia, and some similar darker lines postmedially. Hindwing below with a dark olive elongated spot below vein 2, cut by a fine white line. Expanse: 29 mm. São Paulo de Olivença, Amazons. When faded the markings become paler and more of an olive buff.

similis. **C. similis** Fldr. Male: Body and wings as in *amoena* but the white space on forewing between medial and postmedial lines narrower and the termen with more white above tornus. Expanse: 29 mm. Locality unknown. If FELDER's figure is not correct the species will probably have priority over *amoena*.

klagesi. **C. klagesi** Warr. Female: Forewing: very pale mealy green, thinly scaled and semitransparent, stained with dull rufous olive as far as the submarginal line, which is irregularly waved and lunulate, from costa shortly before apex to anal angle, forming a strong sinus inwards between veins 3 and 4; just before the edge of this stain a slightly darker fascia can be traced, the edges of which are marked with darker on the veins; the marginal area, a narrow costal space, and the discocellular streak remain of the pale greenish ground-colour; cilia pale green slightly mottled with darker; inner margin with darker rufous olive marks. Hindwing: pale green, with the inner margin and a curved submarginal line rufous olive. Underside pale green; the forewings with an opalescent pink sheen beneath the stained area above; hindwings with a double rufous blotch where the submarginal line crosses the submedian fold. Head, shoulders, and patagia pale green; abdomen and tips of patagia rufous olive. Expanse: 30 mm. Suapure, Caura River, Venezuela. This species is unknown to me; the genus *Agriochlora* Warr. has been created for it.

aminula. **C. aminula** Drc. This species is unknown to me. "Forewing and hindwing quite hyaline; the costal, outer, and inner margins and the veins yellow; the base of the costal margin white; the hindwing with a small black spot on the inner margin a little above the anal angle. The head greyish; collar yellow; thorax and abdomen dark reddish brown; antennae and legs yellowish brown. Expanse: $1\frac{1}{4}$ inch. S.E. Brazil. A distinct species, allied to *opalina* Butl."

aerila. **C. aerila** sp. n. (89 c). Female: Head and collar pale drab grey. Thorax and abdomen drab grey. Forewing pale drab grey irrorated with ecru drab and white; costal edge pinkish buff; inner margin pale cinnamon pink; lines light vinaceous cinnamon except those from vein 4 to costa; subbasal, antemedial, and medial lines outcurved; medial space from vein 3 to fold somewhat hyaline and iridescent; lines above vein 4 dark olive buff; postmedial outcurved, lunular, closely followed by a finer parallel line and four small quadrate spots edged with white; some olive yellow before postmedial and between the lines irrorated with golden primrose-yellow scales; below vein 4 the lines are lunular wavy and very fine. Hindwing: costal margin broadly whitish, then light cinnamon drab suffused with fuscous drab on termen; a faint dark medial line; inner margin light ochraceous buff crossed by cinnamon and white lines above anal angle. Hindwing below buff-white irrorated with hair brown on outer half; postmedial hair double, lunular. Expanse: 30–32 mm. São Paulo de Olivença; Upper Amazons. Type in U.S. Nat. Museum Washington. A paratype in STAUDINGER collection from Upper Amazons.

3. Genus: **Arotros** Schs.

Male: Antenna bipectinate to tips. Palpi porrect extending slightly beyond frons, thickly scaled, the third joint almost hidden in hairs. Hind tibia with two pairs of spurs. Forewing broad, the apex and outer margin rounded; vein 2 from beyond middle of cell; 3 near 4; 5 from middle of discocellular; 6–10 stalked; 11 from cell. Hindwing: costa slightly convex; apex and outer margin rounded; vein 2 from middle of cell; 3 and 4 apart; 5 from middle of discocellular; 6 and 7 stalked; 8 anastomosing shortly with cell near base.

Type: *striata* Schs.

striata. **A. striata** Schs. (89 c). Male: Body light ochraceous buff, the collar fuscous shaded in front. Abdomen with fine cinnamon buff lines from base to tip. Forewing light ochraceous buff, the veins and lines on interspaces finely cinnamon buff; base suffused with dark mouse grey, its outer edge inbent from costa before middle to inner margin near base; a faint postmedial cinnamon buff shade. Hindwing light buff; veins and lines on interspaces fainter than on forewing. Expanse: Male 40 mm; female 44–50 mm. Nova Friburgo, Brazil; Tucuman, Argentina.

4. Genus: **Quentalia** *nov. gen.*

Male: Palpi short porrect. Antenna shortly bipectinate. Legs hairy, two spurs on hind tibia. Forewing with apex produced; termen excised below apex, rounded at vein 4 and slightly inbent; vein 2 from just beyond middle of cell; 3 and 4 from lower angle; 5 from middle of discocellular; 6—9 stalked; 10 absent; 11 from cell. Hindwing: costa nearly straight; termen rounded; anal angle rounded or slightly produced; vein 2 beyond middle of cell; 3 and 4 from lower angle, sometimes slightly stalked; 5 from middle of discocellular; 6 and 7 stalked; 8 connected with 7 near base. This genus will contain the many species described under *Carthara* Wkr. which was first used in Cat. Lep. Het. B. M. 33, p. 914 and does not belong to the *Bombycidae*. In Vol. 35, p. 1871 WALKER again used the name *Carthara* for a species of some other family and on page 1984 substituted the name *Synadia* for it.

Genotype: *Pamea vittata* Walk.

Sect. I. Hindwing rounded. Postmedial and subterminal lines of forewing connected between veins 4 and 6 by a triangular spot.

Q. vittata Wkr. (89 c). Male: Head and collar ochraceous salmon, vertex white. Thorax pale pinkish buff crossed by a fine tawny line. Abdomen pinkish buff. Forewing pale pinkish buff; inner margin suffused obliquely to termen at vein 3 with light tawny olive, and similar shading on basal third of costa; an antemedial tawny olive line very oblique from costa and outangled near end of cell closely followed by a wavy medial line; two black points on discocellular; postmedial line tawny olive, oblique, inbent, lunular from vein 4 to inner margin, between veins 4 and 6 followed by an oblique and triangular brownish olive patch; subterminal line white, vertical from costa, inwardly edged with tawny olive, more broadly so distally and extending to apex, below vein 4 the line is tawny olive, lunular and parallel with postmedial; cilia tawny olive. Hindwing cream colour; a broad fuscous fascia from base to termen between veins 4 and 6; fine medial and postmedial wavy lines and cinnamon terminal shading. Forewing below cream colour with dark suffusions beyond postmedial in place of the triangular patch. Hindwing below irrorated with cinnamon, the dark fascia not reaching termen, the lines more heavily marked. Expanse: 31 mm. S. E. Brazil.

Q. orizava Schs. (89 e). Male: Head and thorax pallid mouse grey. Collar light cinnamon drab. Abdomen drab grey. Forewing pale ceru drab, the base suffused with light cinnamon drab; antemedial and medial lines close together, wavy, almost vertical, drab grey; two black points on discocellular; postmedial from a dark costal spot followed between veins 4 and 6 by a benzo-brown quadrate spot; subterminal whitish between 4 and 6, outwardly edged from vein 6 to costa by benzo-brown expanding towards costa; below vein 6 both lines lunular, parallel; cilia at sinus below apex benzo-brown. Hindwing largely colonial buff, the termen broadly drab grey; medial line faint; subterminal fine, distinct, defined by white near inner margin. Forewing below mostly drab, the inner margin whitish. Hindwing below largely suffused with light pinkish cinnamon; a dark line on discocellular; medial line outcurved distinct; postmedial line and termen as above, some dark shading between the lines from vein 2 to near anal fold. Expanse: 33 mm. Orizaba, Mexico.

Q. altura Schs. (89 e). Male: Very much like *orizava*. Body and wings darker, the forewing suffused with brownish, the lines more distinct. Hindwing suffused with vinaceous cinnamon, darkest on termen; the lines fine, and rather faint; inner margin mottled with mikado brown and white hairs. Forewing below with basal half cinnamon buff, outer half sayal brown; inner margin white. Hindwing below cinnamon; a fine black line on discocellular; postmedial and subterminal lines verona brown, connected by a similar shade before inner margin, the subterminal with a white line at outer edge near anal angle. Expanse: 34 mm. Volcan Santa Maria, Purula, Guatemala.

Q. maevia Drc. (= *umbrata* Schs. ♂, nec ♀; = *subrufa* Schs.) (89 d). Male: Body above dark greyish brown mottled with white hairs. Forewing: base and terminal third brownish drab with paler mottlings; medial space clearer, light cinnamon drab; the antemedial and medial line wavy as in previous species; postmedial line well defined, outangled and faintly sinuous, not lunular like the subterminal; the patch between veins 4 and 6 fuscous. Hindwing cinnamon, the disc somewhat yellowish; costal margin cream colour; dark suffusions on inner margin, especially at anal angle; the two outer lines well defined. Forewing below orange cinnamon, the inner margin white; costa yellowish to subterminal, the apex English red; the lines fine, fuscous, outcurved not reaching below vein 2; some white scaling along termen from vein 3 to vein 7. Hindwing below burnt sienna partly mottled with orange rufous; the two lines fine, fuscous, parallel, preceded and followed by some light buffish scaling below vein 2; a fuscous streak from base to termen before anal fold. Expanse: 34 mm. Costa Rica; Chiriqui, Panama.

Q. tolima Dogn. (89 d). Male: Body above brown, varying in intensity. Forewing above very similar to *maevia*, the lines and patch between veins 6 and 8 similar. Hindwing largely cinnamon rufous, the costal margin hardly paler; the lines fine, slightly curved, smooth; some fuscous shading at veins 4—6 between lines, also between lines below vein 2. Forewing below drab, the basal half suffused with vinaceous buff; lines distinct at costa; apex English red; inner margin whitish. Hindwing below burnt sienna; postmedial line smooth,

black, outcurved; outer line finely erenulate, outwardly edged with white; fuscous shading at veins 4—6 between lines, and again below vein 2, this last extending to termen. Expanse: 32 mm. Tolima, Colombia.

subumbrata.

Q. subumbrata Dogn. (89 d). Male: The type very similar to *maevia*, the basal two thirds of forewing more pale buffish, the terminal third cinnamon drab; the postmedial line below vein 4 straight. Hindwing above as in *maevia* with a little less yellow in disc. Forewing below from base to postmedial naphthaleneyellow with a reddish streak below costa and a distinct black line on discocellular; postmedial line outcurved beyond cell, slightly inbent from below vein 4; terminal space orange rufous, thickly irrorated with white except at apex; a burnt sienna terminal line partly edged inwardly with white. Hindwing below as in *maevia*, the basal half and inner margin more vinaceous. Expanse: 36 mm. Colombia. Some specimens have the hindwing largely suffused with pale yellow extending on terminal space.

moratina.

Q. moratina sp. nov. (89 d). Male: Body deep olive buff. Forewing pale olive buff to postmedial; antemedial pale line defined by citrine drab shading on either side; two black points on discocellular; postmedial line dark, sinuous below vein 4, the patch between veins 4 and 6, and towards apex deep olive; subterminal line fine, white, sinuous from costa to vein 4, then lunular; space between lines and termen olivaceous grey. Hindwing pale olive buff on basal half and along costal margin; outer space from below vein 6 olivaceous grey crossed by the parallel lines, the subterminal edged with white near inner margin; anal angle with dark suffusions. Forewing below deep olive buff, thickly irrorated with white hairs; costa and inner margin yellowish white; line on discocellular very faint; postmedial line outcurved beyond cell, smooth, the subterminal faint, outcurved and lunular. Hindwing below deep olive buff; a long dark line on discocellular; lines black, lunular, the space between buffy olive, still darker between veins 4 and 6, and below vein 2 where this colour extends to anal angle; the white line below subterminal very distinct. Expanse: 33 mm. Chiriqui, Panama; Juan Vinas, Costa Rica; Volcan Santa Maria, Guatemala. What I described as *umbrata* ♀ belongs to this species. Type in U.S. Nat. Museum.

melchthala.

Q. melchthala sp. nov. Male: Allied to *moratina* to which it bears a strong resemblance. Forewing similar in colour; antemedial line black, oblique from costa to median, then downbent, sinuous, inwardly edged with white from cell to vein 1; postmedial below vein 4 lunular, but less so than subterminal, the dark spots following it between veins 6 and costa much smaller. Hindwing with the two lines distinctly lunular. Forewing below to postmedial yellowish mottled with dull red, especially below costa; inner margin yellowish white to termen below vein 2; a dark streak on discocellular; postmedial line fuscous, well outcurved beyond cell and crenulate; terminal area dull red, clearer at apex; subterminal line fine, black, crenulate, almost vertical; some white terminally between veins 4 and 5. Hindwing below yellowish thickly irrorated with orange cinnamon hair; a black line on discocellular; the two lines fuscous, conspicuously erenulate, the subterminal with some white edging near inner margin; anal angle suffused with mikado brown. Expanse: 42 mm. Rio Songo, Bolivia; Medina, Colombia; Cachi, Costa Rica. Type in U.S. Nat. Museum.

sheila.

Q. sheila sp. nov. (89 d). Male: Body above cinnamon buff, the collar cinnamon. Forewing light ochraceous buff; antemedial line cinnamon brown, inwardly pale edged, defined by a darker basal shading; a dark medial shade most distinct on costa; an interrupted cinnamon brown line on discocellular; postmedial line broader from costa, outangled at vein 4, slightly incurved to vein 1 and inbent; the patch between veins 4 and 6 orange citrine, also the costal shade edging postmedial line, this line fine, white, with darker edging, lunular from vein 4 to inner margin; space between lines and termen darker shaded, with terminal white shading between veins 4 and 7. Hindwing pale apricot buff, the costal margin and base to postmedial line yellowish, except on inner margin. The lines fine, fuscous, very slightly wavy. Forewing below: costa narrowly, inner margin broadly cream colour; cell and beyond to postmedial peach red mottled with yellowish hairs; postmedial fuscous, thick, slightly outcurved and faintly incurved below vein 4; terminal space, except costa, mottled mars orange and fuscous; faint traces of subterminal line; termen narrowly white opposite cell. Hindwing below light cinnamon rufous; a pale yellowish streak from base and below vein 2; lines black, heavily marked, the subterminal somewhat lunular. Expanse: 34 mm. Merida, Venezuela. Type in U.S. Nat. Museum.

lapana.

Q. lapana Schs. (89 d). Male: Head and thorax light cinnamon drab. Abdomen pinkish cinnamon. Forewing ecru drab, the half below cell and vein 3 suffused with light pinkish cinnamon; antemedial and medial lines faint, wavy; a dark line on discocellular; postmedial line from a small, dark, costal spot, outangled at vein 4, inbent, wavy to inner margin, the quadrate patch olive brown; postmedial line white from costa to vein 4 outwardly edged with sayal brown, below vein 4 dark, fine, lunular; termen narrowly dark brown from apex to vein 4. Hindwing whitish yellow suffused with pinkish cinnamon between veins 4 and 6 from postmedial line to termen, also along termen from apex to anal angle. Forewing below costa narrowly, inner margin broadly pale yellow; otherwise suffused with cinnamon becoming orange cinnamon at apex; some whitish mottling terminally between veins 3 and 5. The lines faintly indicated. Hindwing below pinkish cinnamon; postmedial line orange cinnamon; subterminal line fuscous with some white before inner margin. Expanse: 30 mm. Jalapa, Mexico. The female has the general tone of the male with markings less distinct, the postmedial patch on forewing very faint. Expanse: 42 mm.

Q. lapanensis *sp. nov.* (89 e). Male: Head ochraceous buff, some cinnamon mottling on frons. Collar *lapanensis*. English red tipped with light buff. Thorax dark naphthalene violet shaded in front with light ochraceous buff. Abdomen dorsally dusky drab. Forewing pale ochraceous buff; lines orange cinnamon on costa otherwise dusky avellaneous; antemedial double, wavy, outbent to vein 2, and downbent; black points on discocellular; postmedial line connected with natal brown patch between veins 4 and 6, not interrupted as in the closely allied *lapana*; postmedial fine outwardly edged with light buff and a narrow orange cinnamon shade to vein 6, the last two lines parallel, lunular to inner margin. Hindwing pinkish buff; lines fine, lunular, hair brown; a dark point on discocellular; some mikado brown on inner margin at lines and anal angle; a faint dusky shade from cell to termen between veins 5 and 6. Forewing below as in *lapana*; the hindwing below somewhat paler than in that species, the lines closer together and connected by a fuscous black patch below vein 2, also with white edging below it. Female: Head and thorax brownish drab. Abdomen vinaceous cinnamon. Forewing pale vinaceous drab below cell and vein 3 and beyond cell to postmedial, otherwise buffy brown; antemedial line darker, outangled at median and vein 2 and followed by a duller shade to medial which is outcurved from costa; a dark line on discocellular; postmedial fine outcurved to vein 4, then wavy; whitish to vein 4 followed above vein 6 by some olive brown, below vein 4 deeply lunular; some white scaling on termen between veins 4 and 7. Hindwing orange cinnamon, the lines fuscous, the first faint, the second well defined lunular dentate distally edged with white near inner margin. Forewing below fawn colour, the inner margin white; a dark medial line outbent from costa to inner margin; postmedial line fuscous, wavyly lunular from costa to vein 4, followed to apex by a large apical English red space; some white terminally between veins 4 and 6. Hindwing below: basal half light pinkish cinnamon irrorated with orange cinnamon; a black line on discocellular; postmedial line mikado brown followed by orange cinnamon to outer line, this latter black, lunular outwardly edged with white; termen orange cinnamon with some light greyish scaling on termen between veins 4 and 7. Expanse: Male 28—30 mm; female 47 mm. Male type from the Berlin Museum without locality. Female type from Eastern Colombia.

Q. ojeda *Dogn.* (89 e). Male: Body and forewings pinkish buff (Type) or greyish. Forewing: antemedial *ojeda*. line fine, outangled at median, then vertical; medial diffuse, outcurved; two fuscous points on discocellular; postmedial on costa and outer edging of subterminal from costa to vein 4 Kaiser brown, the quadrate patch argus brown; below vein 4 the postmedial is almost straight, the subterminal faint, lunular. Hindwing light ochraceous buff (Type) or greyish; lines distinct, fine; inner margin with dark and white mottling. Forewing below ochraceous buff, the inner margin whitish; a short dark streak on discocellular; postmedial line clay colour, outbent from costa to vein 4, then incurved; subterminal almost vertical to vein 4, edged on costa with white, below vein 4 slightly incurved. Hindwing below buckthorn brown; a black line on discocellular; postmedial fuscous, outcurved, smooth; subterminal finer, black, outwardly narrowly edged with white, outcurved and faintly lunular; the white below vein 2 broader. Female: Usually greyish avellaneous, the lines darker, all well defined, the shading beyond subterminal from vein 4 to costa much broader. Expanse: Male 29 mm, female 35 mm. Loja, Ecuador.

Q. napima *sp. nov.* (89 e). Male: Wings above similar in colour and markings to *pamina* but larger. *napima*. Forewing below vinaceous cinnamon, the inner margin whitish; apex orange cinnamon; a fuscous patch above vein 6 outwardly edged by a subterminal, black, lunular line, very faint towards vein 2; termen suffused with fuscous, expanding between veins 3 and 6. Hindwing below cinnamon, a pale, fine, smoke grey streak on discocellular edged with black; lines rather close together, black, lunular, the subterminal edged with white near inner margin, the termen below it garnet brown. Expanse: 31 mm. Joinville, S.E. Brazil. Type in U.S. Nat. Museum.

Q. subrubicunda *Dogn.* (89 e). Male: Forewing vinaceous tawny; a reddish shade at base; lines distinct; *subrubicunda*. antemedial and medial outcurved, wavy, parallel; outer lines both wavy below vein 4; subterminal from costa to vein 4 vertical, white; the quadrate patch and outer edging of subterminal walnut brown. Hindwing testaceous, costa whitish; lines faint, the subterminal better defined with black between veins 4 and 6, and with black and white near inner margin; anal angle mars orange. Wings below mars orange. Forewing slightly paler, inner margin whitish yellow; subterminal line fine, black from costa to vein 3; slight dark terminal suffusions. Hindwing: postmedial faint; subterminal black, lunular well defined; a streak of dark mottled scaling before inner margin; black streaks on discocellular of both wings. Expanse: 30 mm. São Paulo, Brazil.

Q. pamina *Schs.* (89 e). Male: Very similar to *lapana*, but smaller. The thorax darker. Forewing *pamina*. differs in having postmedial line from vein 4, inbent, straight, not wavy. Hindwing vinaceous tawny; costal margin paler; lines very faint, better defined between veins 4 and 6; the subterminal edged with white above anal angle; inner margin with mahogany red and white lines, the fold with light buff hairs; anal angle brazil red. Forewing below onion-skin pink, the costa and inner margin whitish, the markings very faint. Hindwing below buff pink; a black streak on discocellular; the lines faint, wavy, well defined with black near inner margin where the subterminal is edged with pale vinaceous pink, and again with black. Female: Body and forewing cinnamon drab; space between antemedial and medial lines, and between postmedial and subterminal from vein 4 to inner margin vinaceous brown. Hindwing dull russet vinaceous, the lines faint. Expanse: Male 25 mm; female 35 mm. Castro, Parana, São Paulo, Brazil.

crenulosa. **Q. crenulosa** Dyar. (89 e). Male: Similar to *lapana*. Forewing: the patch beyond cell very small, sayal brown; outer edge of subterminal towards costa cinnamon, narrow; the postmedial at costa orange cinnamon. Hindwing orange cinnamon; costal margin and hairs along inner margin light buff; lines faint except near inner margin where they are suffused into a fuscous patch. Forewing below tawny; inner margin whitish; costa light buff, not reaching apex with a postmedial and a subterminal small tawny patch. Hindwing below uniform clay colour; the lines black, distinct, connected by a black spot near inner margin; the subterminal faintly edged outwardly with light buff, near inner margin with white. Expanse: 24 mm. Zacualpan, Mexico.

coarya. **Q. coarya** sp. nov. (89 e). Male: Body above vinaceous fawn. Forewing vinaceous buff, suffused on basal third and along inner margin with vinaceous fawn; lines all fawn colour; antemedial and medial lines outbent from costa, slightly inbent below cell, both wavy; a fuscous line on discocellular; postmedial forming a triangular spot on costa, below vein 4, smooth, slightly incurved, the patch between veins 4 and 6 small; subterminal line inbent from costa, fine and lunular below vein 4. Hindwing brownish vinaceous, the outer margin from apex to vein 2 broadly hair brown on interspaces; lines barely visible. Forewing below benzo-brown, the basal third, inner margin, and subterminal line light russet vinaceous; costal margin light pinkish buff. Hindwing below coral pink to medial line; a black line on discocellular; medial line black, well marked, downbent near inner margin; outer half dark brownish vinaceous with some white scales; outer line fine, black, slightly lunular. Expanse: 30 mm. Coary, Amazons, Brazil. Type in U.S. Nat. Museum.

drepanoides. **Q. drepanoides** Wkr. Male: Thorax and forewing vinaceous fawn. Abdomen fawn colour. Forewing with paler suffusions below and beyond cell to postmedial; lines fawn colour; antemedial line bluntly outangled; medial line outcurved; a black line and point on discocellular; postmedial very oblique to vein 4, forming with the incurved white postmedial a large triangle from costa filled in at its apex with chestnut brown, below vein 4 the postmedial is incurved, the subterminal lunular faintly defined by white; the outer edge of subterminal towards costa bordered with chestnut brown. Hindwing ochraceous tawny, darkest on termen; postmedial line faint; subterminal fine, fuscous outwardly edged with white. Hindwing below etruscan red, the lines as above, but connected below vein 2 by a black patch. Expanse: 30 mm. Mexico to Southern Brazil. The above description is made from a Bogota specimen, the locality of WALKERS type, which also has an expanse of 30 mm.

surynorta. The type of — **surynorta** Schs. (89 f) is from Mexico and has the forewing greyer. There are 35 males in the National Museum, and they may represent several species when the genitalia are examined. As yet only a slide has been made of a Mexican typical specimen of *surynorta*.

numalia. **Q. numalia** sp. nov. (89 f). Male: Similar to the greyish form (*surynorta*) of *drepanoides*, but larger, and the genitalia very different. Expanse: 38 mm. Juan Viñas, Costa Rica. Type in U.S. Nat. Museum.

The genitalia differ markedly from those of *drepanoides* in details of the harpe, aedoeagus, and in the shape of the sternite and tergite of the eighth abdominal segment. (In the *Bombycidae* the eighth abdominal segment is highly chitinized, strikingly modified and involved with the genitalia proper.) In *drepanoides* the harpe (or what also might be interpreted as the ventral arm of the harpe) has a long thorn like projection from costa near apex, marking the apex two pronged; while in *numalia* the harpe is simple and bluntly pointed. The aedoeagus is similarly shaped in both species, but in *numalia* the apex is considerably more enlarged. In *numalia* the heavy plate of the sternite is produced caudally into a pair of widely separated, long, slender horns; while in *drepanoides* this part has a central projection which is roughly T shaped, with the base of the T broadened. The tergal plate in *numalia* is produced into a strong, short, broad central hook; in *drepanoides* its caudal margin contains four very stout, evenly spaced spine-like projections. (C. HEINRICH.)

viridans. **Q. viridans** Dogn. (89 f). Male: Head and collar honey yellow; tegulae and abdomen dorsally mottled hair brown and glaucous grey, the abdomen otherwise honey yellow. Forewing: base dark olive buff; end of cell and beyond to postmedial honey yellow, also the inner margin before postmedial; antemedial line hair brown, wavy, and outangled below cell, partly suffusing with a dark olive buff medial line; fuscous points on discocellular; some glaucous grey mottling on basal half of inner margin and medially below cell; postmedial line chestnut brown at costa, vertical to vein 8 well outcurved and inbent to vein 4, then vertical lighter brown to inner margin, followed above vein 6 by a large glaucous grey patch; between 4 and 6 a fawn colour shade; subterminal line lunular from costa to vein 4 outwardly edged with light buff, below vein 4 fine, buffy brown, lunular; space between lines from below vein 4 dark olive buff with glaucous grey irrorations between veins 3 and 4; similar irrorations on the terminal space. Hindwing honey yellow; inner margin chestnut brown crossed by white lines; costa paler; lines barely visible, very fine. Forewing below ceru olive; lines fine, fuscous; a line on discocellular; postmedial slightly outcurved from costa; subterminal slightly lunular. Hindwing below chamois; a black line on discocellular with some white on edge; lines olive brown, the postmedial faint, the subterminal lunular well marked, outwardly edged with white. Expanse: 32 mm. Rio Songo, Bolivia.

pallida. **Q. pallida** Maass. Male: Body and wings light buff. Forewing: subbasal and medial lines light ochraceous buff, diffuse, outcurved. Antemedial line, fine, more distinct, angled at median; postmedial outbent, fuscous,

postmedial almost vertical from costa finely defined by fuscous, both lines lunular and parallel from vein 4 to inner margin; the small patch between veins 4 and 6 dark or obsolete, two black points on discocellular; terminal space from postmedial below vein 4 to tornus and beyond subterminal from vein 4 to apex suffused with dark olive buff. Hindwing: the lines fuscous finely wavy, lunular, and distinct. Forewing below warm buff; a faint dark line on discocellular; the outer lines fuscous, partly lunular. Hindwing below largely suffused with cinnamon buff; a black line on discocellular; the two lines fuscous, distinct, lunular, sometimes with a fuscous shade between veins 4 and 6. Expanse: 33—42 mm. Peru; Loja, Ecuador.

Q. paminella Dogn. (89 f). Male: Head and part of collar light ochraceous buff. Thorax cinnamon drab, *paminella*. Abdomen reddish cinnamon. Forewing vinaceous brown; a medial and a postmedial ochraceous buff streak on costa; costa, cell, and beyond to postmedial line light russet vinaceous limited below by a vinaceous grey line from base of inner margin upcurved to subterminal at vein 4; a dark antemedial and medial, outbent to below cell, then vertical; a sinuous black line on discocellular; a dark postmedial line outangled at vein 4, then slightly inbent, straight; the patch and broad outer shade of subterminal suffusing, maroon indistinctly edged with black; the costal space above patch light drab; postmedial line white at costal edge, then very faint to vein 6 and outbent, still fainter to vein 4, below 4 defined by light buffish points on veins; termen from apex to vein 4 light vinaceous drab. Hindwing ochraceous tawny; postmedial line very faint, the subterminal fuscous partly defined by whitish near inner margin; anal angle burnt sienna. Hindwing below with the lines well defined, fuscous, the subterminal outwardly edged throughout with white; a large fuscous patch between the lines near inner angle. Expanse: 30 mm. Medina, Colombia.

Q. incurvata Dogn. (89 f). Male: Head and body deep brownish vinaceous. Forewing vinaceous *incurvata*. cinnamon, paler beyond cell to postmedial and below the lines at vein 4 to near termen; a darker medial shade outangled below median; two black spots edged with whitish on discocellular; postmedial very oblique to near termen at vein 4, the patch small, maroon; subterminal fine, white, incurved, and outbent, broadly edged outwardly with maroon and black to close to apex on costa; below 4 the line is extremely fine and faint with pale dark edged points on veins. Hindwing cinnamon, the lines not visible; cilia tipped with dark livid brown at anal angle. Wings below vinaceous tawny. Forewing: inner margin pale vinaceous; some whitish marks on costa at lines, these latter very faint. Hindwing: the lines fine and well defined fuscous, the subterminal wavy lunular outwardly edged with white; a slightly darker shade between the lines towards inner margin. Expanse: 34 mm. Peru.

Q. oaxacana Schs. (89 f). Female: Body pale ochraceous buff. Forewing light buff; tornal area to *oaxacana*. vein 3 and obliquely from middle of wing suffused with greyish buff; a diffuse medial deep olive shade outangled below cell; two dark points on discocellular; postmedial line brownish grey very oblique to vein 4 and subterminal close to termen, the subterminal whitish, incurved, and oblique, the space between with avellaneous and light drab suffusions, but no distinct patch between veins 4 and 6; subterminal from vein 6 to apex outwardly followed broadly by sayal brown and yellow ocher. Hindwing ochraceous buff with some greyish shading, especially between the lines between veins 4 and 6, and below vein 2; the postmedial very faint, the subterminal defined by distal white edging; termen from vein 2 to inner margin drab. Forewing below largely isabella colour, the inner margin whitish, also termen narrowly from vein 3 to apex. Hindwing below honey yellow; a fine line on discocellular; postmedial line isabella colour, the subterminal drab with white edging from vein 2 to inner margin; dark shading below vein 2 from postmedial to termen. Expanse: Male 37 mm; female 35—42 mm. Oaxaca, Mexico. Cocoons found on bark of trees; they are long and thickly woven.

Q. dolorosa Jones. (89 f). Female: Head and thorax ecru drab, the collar fuscous in front. Abdomen *dolorosa*. light cinnamon drab. Forewing pale ecru drab irrorated with hair brown, the lines fine drab; antemedial and medial lines outcurved; an interrupted streak on discocellular; postmedial line outbent and sharply angled at vein 4, then incurved; postmedial only slightly outbent, curved and inbent. Hindwing drab with buffish shading at base; the first line medial, the second postmedial, faint, hair brown, the postmedial with a little white on outer edge near inner margin. Forewing below about the same as above, but postmedial line very faint. Hindwing below pale vinaceous buff irrorated with hair brown; both lines fine, distinct. Expanse: 31 mm. Castro, Parana, Brazil.

Q. minasa sp. nov. (89 f). Female: Head and front of collar light buff, remainder of collar and thorax *minasa*. dark purple drab. Abdomen above with alternating fuscous and buffy brown lines. Forewing falcate, light purplish grey; costal edge to just beyond postmedial cinnamon; cell, inner margin narrowly, antemedial and vein 3 to outer line black, conspicuous; postmedial outbent benzo-brown suffusing with a similar shade between medial shades benzo-brown; discocellular, a line on vein 2 and veins 4 and 6; postmedial line light buff slightly outbent and curved at vein 4, then more faintly marked, wavy; median and veins 4, 6, 7 beyond postmedial mottled with buff; a benzo-brown shade beyond postmedial from vein 4 to costa; cilia on sinus

below apex fuscous. Hindwing brown, the costal margin and veins cinnamon brown. Forewing below hair brown, the termen suffused with drab grey. Hindwing below mottled cinnamon drab and deep mouse grey partly irrorated with whitish; the lines dark, fine, the outer line wavy partly edged with white distally. Expanse: 34 mm. Passa Quatro, Minas, Brazil. Type in coll. W. HOPP-Charlottenburg.

granisca. **Q. granisca** Schs. (89 g). Female: Head: frons dark purple; vertex brown mottled with white hairs; palpi brown tipped with yellow. Thorax light reddish brown, the collar and tegulae dark purple with some white hairs. Abdomen above reddish brown, underneath paler. Forewings purplish brown; base mottled with olive yellow, except around purple spot; first antemedial line fuscous, outcurved to vein 2, slightly incurved below it; second line less curved, and not so distinct; medial space narrow, paler, but broadened beyond cell; two black points on discocellular; postmedial line outbent to vein 4, then inbent along this vein to lower discocellular point below which the line is almost straight to inner margin; outer line remote on costa, somewhat lunular and slightly oblique to vein 4 then deeply lunular to inner margin outwardly finely edged with whitish especially on costa; termen broadly lilacine from vein 4 to costa leaving a brown shade beyond the outer line. Hindwings brownish red; postmedial line fine, black, hardly visible; outer line indistinct, but thickening to black shades between veins 4 and 6 and below vein 2 to postmedial; a distinct white line outwardly runs along this last black shade and is upbent to inner margin at postmedial line. Forewings below dull purplish, the termen shaded with red, the inner margin pale reddish. Hindwings below dark brownish red; a black line on discocellular; postmedial fuscous surmounted by white scaling on a dark streak below vein 2; postmedial line fuscous, with some white scaling between veins 4 and 6, and a distinct white line from vein 2 to inner margin; some white irrorations at anal angle. Expanse: 55 mm. Purula, Guatemala.

purulhana. **Q. purulhana** Schs. (89 g). Female: Palpi reddish; frons purple brown. Collar reddish brown. Thorax and abdomen above dark slate mottled with white hairs. Body below pale reddish brown. Forewings dark slate colour, the veins, costa, and inner margin finely reddish brown; base of inner margin yellowish; a fine fuscous streak on discocellular followed by a greenish yellow shade between veins 4 and 6; the geminate antemedial line hardly visible; a fine postmedial dark line outcurved around the yellow postdiscal shade, geminate, and hardly visible below vein 4; the outer portion of line reddish brown from vein 4 to costa edged on either side with greenish yellow; cilia purple brown, shaded with black toward apex. Hindwings slate colour, the veins, cell, and interspaces near cell between veins 2 and 4 pale reddish; a dark grey streak from base to termen below cell and vein 2; a dark red brown streak along inner margin with the cilia mottled black and white; cilia on termen black tipped with yellow. Hindwings below purple brown; a yellowish medial shade; a yellow streak below cell and vein 2; first outer line almost medial, dark, well defined, the second line fine and indistinct; a dark red brown shade at anal angle. Expanse: 43 mm. Purula, Guatemala.

tremulans. **Q. tremulans** Schs. (89 g). Male: Head and thorax buff. Collar and abdomen light reddish brown. Forewings reddish brown mottled with yellow scales, except on base; first antemedial line inwardly edged with yellow, the second line darker, ill defined; postmedial line darker outcurved on costa, wavy below vein 4; a subterminal yellow line, almost straight to vein 4; then slightly lunular to tornus its inner edge faintly dark shaded; termen shaded with grey from apex to just below vein 3. Hindwings pale reddish; the outer line fuscous, finely wavy, outwardly edged with yellow; a faint yellow shade at end of cell; a dark reddish brown shade at anal angle; hairs on inner margin yellow spotted with brown. Forewings below red, the apex broadly shaded with fuscous grey, crossed by a subapical whitish line, the inner margin yellow. Hindwings below red shaded and irrorated with yellow; postmedial line reddish; outer line fuscous, outwardly edged with yellow becoming white near inner margin and there crossing a dark shade from anal angle to postmedial line; a fine red streak on discocellular. Expanse: 28 mm. Jalapa, Mexico.

demerida. **Q. demerida** Schs. (89 g). Male: Head rufous shading to white on vertex; shaft of antennae white, the pectinations brown streaked with white close to shaft. Collar dark rufous. Thorax pale rufous brown mottled with white hairs. Abdomen pale rufous, with small dark brown subdorsal spots on basal segments. Forewings light ochre buff, with rufous irrorations; a white streak on costa at base, followed by antemedial and medial dark reddish brown streaks separated by white scaling, and a smaller dark spot postmedially; lines very fine, darker, almost imperceptible, the antemedial geminate, slightly outcurved across cell, the postmedial geminate, wavily lunular; a fine dark streak across discocellular, cilia dark brown. Hindwing pale rufous, dark streaks on inner margin; dark rufous shading at anal angle. Forewings below rufous darkest at apex, the inner margin yellow; costa yellowish, the dark spots very small; some whitish shading at middle of outer margin. Hindwings below rufous, the costa shaded with dark grey; a black streak on discocellular; a lunular, geminate postmedial fine black line terminating at a dark streak before inner margin which extends to termen; a small white spot on outer edge of the line adjoining the dark streak. Female: Body and wings yellowish buff. Forewings: the lines more distinct filled in with a slightly darker shade, the postmedial marked with minute rufous spots on costa; some whitish shading at middle of outer margin. Hindwings slightly tinged with rufous; an antemedial rufous spot on inner margin; a postmedial geminate line as on forewing, but less lunular. Wings below yellowish

buff, the hindwings with a geminate postmedial dark line, outcurved, the two lines almost meeting on inner margin where they are shaded with lilacine white; a dark shade on termen at anal angle. Expanse: Male 32 mm; female 40 mm. Volcan de Santa Maria, Guatemala.

Q. intranea *Dogn.* (89 g). Male: Head avellaneous. Collar and thorax mottled clay colour and pinkish cinnamon with some white hairs. Abdomen pinkish buff, with chestnut brown dorsal tufts on basal half. Forewing: base tawny mottled with rufous on costa, and some benzo brown and white scales on base of median; traces of an antemedial rufous line; cell and beyond to postmedial light buff faintly suffused with pale olive; a fine medial line, rufous from costa to median, then fuscous and double to inner margin; two black points on discocellular; postmedial line inbent from costa, slightly sinuous, tawny; subterminal parallel with postmedial, lunular, fuscous outwardly edged with white; space between lines partly cinnamon, between veins 4 and 6 irrorated with fuscous; termen cinnamon, darker on sinus below apex, towards inner margin partly cream colour. Hindwing cream colour; a black discal spot; inner margin narrowly ferruginous; postmedial line pale tawny, distinct; subterminal faint and very fine and lunular; an orange cinnamon space at anal angle. Wings below cream colour; forewing with a cinnamon shade below costa at base; discal spot on hindwing black, well defined, the subterminal line better defined than above and with a dark spot near inner margin, and sometimes another near anal angle. Expanse: 30—40 mm. Cali, Colombia. *intranea.*

Q. lividia *Dre.* (89 g). Male: Head and body extremely variable through all shades of grey and brown. the abdomen with or without darker, transverse lines, sometimes interrupted by a pale dorsal line. Forewing usually light buff or whitish, the base and termen with cinnamon mottling; antemedial and medial lines cinnamon, parallel, bluntly outbent at median and incurved to vein 1; a fine dark line on discocellular; postmedial from a cinnamon spot on costa outcurved to vein 5, but usually interrupted to that point, where it is close to the subterminal which is slightly lunular from costa; below vein 5 both lines are parallel and deeply lunular, sayal brown; space between lines benzo-brown, drab grey, or light cinnamon drab; the termen is also variable. Hindwing hair brown, cinnamon drab or vinaceous cinnamon, frequently only the basal half suffused with ochraceous tawny. Female: Body and forewing hair brown or cinnamon drab, the subterminal line outwardly edged with cinnamon brown from vein 4 to costa; hindwing usually benzo-brown. Expanse: Male 31—39 mm; female 45—53 mm. Mexico to Colombia, Venezuela, Amazons, Peru. Of the 35 males in the National Museum, genitalia slides have been made of the more variable forms showing them to belong to one species. *lividia.*

Sect. II. Forewing denticulate.

Q. denticulata *Schs.* (89 g). Male: Frons light brown. Vertex fuscous brown. Collar brown. Thorax grey-brown; fuscous shadings on patagia. Abdomen dark ochreous brown. White irrorations on vertex and patagia. Forewings dull greyish brown, with a few scattered white scales; the costa, inner margin narrowly, and veins ochreous brown; the lines dark brown except on costa where they are reddish; the medial sinuous; the postmedial almost coalescing with medial at vein 2 and on inner margin; the outer line dentate lunular; the outer margin produced at veins 3 and 4; cilia ochreous brown, tipped with white between 3 and 4, and 5 and 7. Hindwings broadly fuscous brown on costal and outer margins; from base and vein 4 to inner margin a large yellowish space shaded with brown and crossed by reddish; finely dentate postmedial and outer lines, the latter outwardly shaded with yellowish white; the termen crenulate from vein 4 to anal angle. Forewings below brownish; the inner margin luteous; the costa ochreous yellow irrorated with red, and with origin of lines red; terminal interspaces fuscous. Hindwings below fuscous brown with a few white irrorations; the lines reddish, outwardly whitish shaded on inner half; some reddish and yellow suffusions below cell and vein 4 to inner margin. Expanse: 28 mm. Tuis, Costa Rica. *denticulata.*

Q. excisa *Maass.* (89 g). Male: Frons russet. Collar brownish drab. Thorax and abdomen dorsally deep brownish drab, abdomen laterally fawn colour. Forewing: costal margin clay colour; base to postmedial tawny olive with benzo-brown suffusions antemedially above inner margin; faint traces of an outangled medial line; two black points on discocellular; postmedial outcurved, subterminal sinuous, both very faint, fuscous; termen from postmedial to just above vein 6 benzo-brown. Hindwing benzo-brown, the disc and inner margin suffused with pinkish cinnamon; lines very faint, the subterminal defined with white near inner margin, which is narrowly streaked with fuscous. Forewing below saccardo's umber, the costa clay colour; a faint trace of postmedial line. Hindwing below pecan brown; a black line on discocellular; postmedial line wavy, fuscous, the subterminal tawny, both marked with English red near inner margin where the subterminal is also edged with white. Female: Body and wings vinaceous buff or drab, the termen more narrowly benzo-brown; the lines well defined, the medial double. Expanse Male: 30 mm; female 34 mm. Incachaca, Bolivia; San Antonio, Colombia. *excisa.*

Sect. III. The following species have the discal spot on underside of hindwing white.

Q. roseilinea *Schs.* (= *secata* *Dogn.*) (89 h). Male: Forewing light brownish drab, the lines partly deep brownish drab; a pale pinkish line from base along median and veins 3 and 4 to termen, the space between these veins pallid, mouse grey; the lines across wing interrupted by the pinkish line; a subbasal line: antemedial *roseilinea.*

and medial lines outbent on costa and cell; postmedial outbent, the patch beyond and outer shading of subterminal tinged with dark olivaceous; subterminal fine, white to vein 3, slightly outbent; both lines inset, vertical, wavy, dark below vein 3; termen narrowly white from apex to vein 3. Hindwing dull cinnamon drab, costa whitish; a hair brown fascia from discocellular to termen between veins 4 and 6; postmedial line indistinct; subterminal line fine, fuscous, outwardly whitish between 4 and 6, and below vein 2. Forewing below benzo-brown, the inner margin whitish, the costa light buff; lines very faint; termen irrorated with white from near apex to vein 2. Hindwing below benzo-brown; inner margin and termen partly drab grey; a white streak on discocellular; lines fuscous outcurved, downbent above anal angle and connected by black scaling. Expanse: 30 mm. Castro, Parana, Brazil. The type of *secata* and a specimen from São Paulo have the hindwing partly russet vinaceous.

secalina. **Q. secatina** *sp. nov.* (89 h). A series of specimens from Peru and Colombia including a specimen labelled *secata* (co-type) differ in the following respect. Male: Forewing: base cinnamon; medial space clay colour; space between veins 3 and 4, and termen partly drab grey; antemedial, medial, and postmedial lines mikado brown, the latter outbent to vein 4, then slightly inbent; the patch between 4 and 6 sayal brown; postmedial line cinnamon buff, below vein 4 lunular, darker edged inwardly, the subcostal patch mahogany red. Hindwing light orange cinnamon; lines fuscous, connected by darker shades between veins 4 and 6, and below vein 2, the subterminal partly edged outwardly with white. Forewing below cinnamon, the lines fuscous almost vertical; inner margin light vinaceous cinnamon; termen with lilacine shading. Hindwing below orange cinnamon; a white streak on discocellular; postmedial mikado brown; subterminal black, well edged outwardly with white. Expanse: 32 mm. Carabaya, Peru (Type); Pacho, Colombia. The Colombian specimens are not so vivid.

macerina. **Q. macerina** *sp. nov.* (89 h). Male: Frons ochraceous buff; vertex whitish; collar pinkish cinnamon in front, then sayal brown tipped behind with white. Thorax drab grey. Abdomen cinnamon buff. Forewing: base citrine drab crossed by darker basal, subbasal, antemedial, and medial lines, the antemedial fine and well defined, fuscous, the medial diffuse outangled below cell at vein 3; space beyond to postmedial avellaneous; postmedial sayal brown outcurved from costa, below vein 4 hair brown nearly straight; space between lines buffish on costa, the patch benzo-brown, below vein 4 to inner margin citrine drab; postmedial line white, very faintly outcurved, more vertical than in any other species of the genus, below vein 4 lunular; termen largely suffused with citrine drab below vein 4; a terminal white line from vein 4 to apex, expanding to postmedial line at vein 5. Hindwing mostly cinnamon buff; a mikado brown fascia from base to subterminal line between veins 4 and 6; postmedial line dark, the subterminal broadly edged with white and down angled above anal angle. Forewing below dark olive buff, inner margin whitish; lines dark, faint; terminal white markings as above. Hindwing below cinnamon buff irrorated with white hairs; the fascia of above fuscous, from near base, on its upper edge a small black and white spot; postmedial line sayal brown lunular dentate; subterminal line lunular from below vein 6 outwardly edged with white. Expanse: 29 mm. A specimen without locality received from the Berlin Museum.

callinicia. **Q. callinicia** *sp. nov.* (89 h). Male: Body avellaneous. Forewing; some black and white scales at base of costa; costal margin to subterminal, base and space below cell clay colour, except a light drab streak above vein 1; a snuff-brown streak at cell; a black line on discocellular surrounded with some light drab scaling; space between veins 2 and 4 drab grey, between 6 and 7 fuscous with some white scales; postmedial sayal brown, outcurved and suffusing with the sayal space between veins 4 and 6, below 6 faint and slightly inbent; subterminal distinct, incurved and outbent, rounded at vein 4 near termen, and sinuous to inner margin, white to vein 3, then hair brown edged outwardly with mikado brown which expands to costa, between veins 3 and 1 followed by a cinnamon shade. Hindwing dull, pinkish cinnamon with a dark fascia from within cell and between veins 4 and 6 to termen; postmedial line very faint; subterminal line black, coarse, outwardly edged with white below vein 2. Forewing below light cinnamon drab, darker towards termen, the inner margin paler; lines sinuous, very faint. Hindwing below buckthorn brown with some warm buff mottling; a white line on discocellular; lines fuscous, both well outcurved; the postmedial faint, the subterminal partly edged with white; a fuscous patch below vein 2 with an inbent branch. Expanse: 29 mm. Brazil. Described from a specimen in the Berlin Museum.

caulea. **Q. caulea** *sp. nov.* (89 h). Male: Head buffish. Collar and thorax tawny olive. Abdomen light greyish buff. Forewing: base pale olive lake with some white scales before antemedial line; the antemedial benzo-brown wavy, outbent, angled at vein 2, inangled on fold and again outangled on vein 1, followed by a fainter paler parallel line, more distinct from vein 2 to inner margin; cell and beyond to postmedial olive lake; a black line on discocellular; costal margin medially white; postmedial line benzo-brown outbent to vein 4 followed by a benzo-brown patch between 4 and 6, faint to vein 3 then distinct and vertical to inner margin; space between veins 3 and 4 between lines pale drab grey irrorated with white; postmedial line fine, white, lunular inwardly edged with black inwardly and followed at costa by a brownish olive spot; termen white suffused with glaucous grey from vein 4 to apex; from vein 4 to inner margin a subterminal broken, olive lake shade. Hindwing drab grey, the costa white, the termen broadly buffish; a wavy fuscous outer line; inner margin light buff with

transverse black and cinnamon lines; anal angle cinnamon. Forewing below drab, the inner margin white. Hindwing below drab; the termen paler; a black and white spot on discocellular; first line buffy brown, second line fuscous, lunular, the lines connected by a fuscous black spot near inner margin with some white scaling above and below it. Expanse: 24 mm. Passa Quatro, Minas, Brazil.

Q. ragna *sp. nov.* (89 h). Male: Body light drab; vertex whitish; frons, collar in front and abdomen dorsally sayal brown. Forewing greyish avellancous, the lines and discocellular spots cinnamon drab; antemedial and medial lines outcurved, wavy; postmedial line well outbent and curved, inbent from vein 4, faintly sinuous; subterminal line benzo-brown, lunular, outwardly edged with whitish scales, followed from costa to vein 6, and from vein 4 to inner margin by some pinkish cinnamon shading; some drab and cinnamon shading between veins 4 and 6; cilia pinkish cinnamon. Hindwing light drab on interspaces, the veins and termen narrowly vinaceous cinnamon; lines very faint, the subterminal distally edged with white near inner margin. Forewing below vinaceous cinnamon dark shaded at apex, the inner margin whitish. Hindwing below dull cinnamon buff; a black and white spot on discocellular; lines fine, distinct, wavily dentate connected by a verona brown patch near inner margin, with white scaling above postmedial and outwardly on subterminal. Female: Thorax light drab. Abdomen avellancous. Forewing: base and space between antemedial and medial lines dull cinnamon drab, the two lines slightly darker, parallel angled on median between veins 2 and 3, and inbent; space to postmedial prominently ecru drab; dark points on discocellular; postmedial line hair brown, outangled at vein 4 and inbent; subterminal hair brown outwardly slightly edged with pale drab grey, incurved, remote from origin of postmedial, the triangular space from costa to vein 4 between the lines buffy brown; below vein 4 the subterminal lunular, the space between the lines to inner margin drab; subterminal followed from costa by sudan brown, broadly on costa, then diminishing; termen between apex and vein 4 pale drab grey. Hindwing as in male, but duller. Forewing below drab with faint traces of outer lines. Hindwing below light cinnamon drab, the lines fuscous, distinct; a black streak with a few white scales on discocellular. Expanse: Male 28 mm; female 31 mm. Passa Quatro, Minas, Brazil. Type in the Berlin Museum.

Q. medinara *sp. nov.* (89 h). Male: The wings above like *lapana*. Forewing below also similar. Hindwing below differs in having a broad white line edged with fuscous on discocellular. Expanse: 25 mm. Medina, Colombia. Type in U. S. Nat. Museum.

Q. punctilinea *Dogn.* (89 h). Male: Head light ochraceous buff. Collar and tegulae ochraceous tawny. Thorax drab. Abdomen russet, the basal segment liver brown. Forewing: space below cell to terminal points drab mottled with cinnamon rufous forming lines and a broad medial band separated by some buffish scaling; costa with basal third ochraceous buff, medial third light buff, apical third partly light drab; cell cinnamon rufous; a buff line on discocellular with fuscous point at lower angle; space from cell to postmedial light greyish olive; space between veins 3 and 4 to subterminal pale violet plumbeous, also between 2 and 3 from cell to postmedial; postmedial, quadrate spot, and outer edging of subterminal fuscous, the enclosed space above vein 6 between lines fuscous irrorated with pale violet plumbeous; postmedial outbent to vein 4 fuscous, from vein 3 to inner margin inbent; postmedial slightly incurved from costa to vein 6 lilac grey then to vein 4 naples yellow followed by a broad naples-yellow shade not reaching termen; from vein 3 to inner margin with cream colour streaks on veins; termen between 4 and 7 narrowly lilac grey, below vein 4 hair brown; cilia mostly fuscous with a whitish line at base. Hindwing chiefly deep purplish grey, the inner margin mottled with fuscous and sudan brown (Type), sometimes with morocco red; lines rather faint, the postmedial diffuse black, the subterminal defined by some pale scaling. Forewing below hair brown, inner margin with white hairs; lines between 4 and 7 defined, followed by the same colours as above. Hindwing below benzo-brown; a well marked white spot on discocellular; a broad cream colour streak medially near inner margin; the lines faint, the subterminal defined by faint white scaling, and a cream colour spot near inner margin. Expanse: 33 mm. Rio Songo, Bolivia.

Sect. IV. Wings broader, the forewing more deeply excised below apex.

Q. veca *Dre.* (89 h). Male: Head cinnamon. Thorax vinaceous drab. Abdomen cinnamon with dark greyish brown dorsal crests. Forewing nearest vinaceous fawn tinged with pale purplish brown, the lines snuff brown; antemedial outangled on median inwardly edged with whitish and some brown basad; medial line fuscous on costa and discocellular, then paler, inbent; postmedial outcurved to a small fuscous spot between veins 4 and 6; subterminal pinkish buff, sinuous to vein 4, outwardly followed below costa by some Hay's russet, below vein 4 both lines sinuous to inner margin; a curved shade on termen from vein 3 to tornus. Hindwing cinnamon rufous; inner margin mottled with fuscous, at angle with Hay's russet; lines very faint, the subterminal with some white near inner margin. Wings below largely cinnamon rufous. Forewing with inner margin buffish. Hindwing: a black and white streak on discocellular; the lines faint, becoming fuscous and downbent near inner margin with some whitish scaling. Female: Forewing light cinnamon drab; inner lines very faint; a dark line on discocellular; postmedial outcurved to vein 4 then lunular; subterminal pinkish buff; straighter than in the male, outwardly edged with fuscous to vein 4, then lunular, parallel with postmedial. Forewing below drab; hindwing below cinnamon rufous; the lines and discal spot as in male. Expanse: Male 26 mm; female 38 mm. Panama; Costa Rica.

chromana.

Q. chromana *sp. nov.* (89 i). Male: Head and front of collar cinnamon brown. Thorax Prout's brown irrorated with pale silvery blue hairs. Abdomen chestnut. Forewing benzo-brown thinly irrorated with pale silvery blue scales, the lines verona brown placed as in *veca*; subterminal line fuscous suffusing with fuscous shading between veins 4 and 6; the space between veins 3 and 4 sometimes light greyish olive; termen largely greyish olive partly edged by a submarginal fuscous line below vein 4 and costa. Hindwing silky benzo-brown, the costa pale drab grey; termen narrowly and inner margin more broadly Sanford's brown. The lines black, very faint. Forewing below hair brown, the costa and apex English red. Hindwing below dull English red, brightest on termen; a small black and white discal spot; lines fine, black, with some white on subterminal near inner margin; a raw-umber shade at anal angle. Female very similar to *veca*, but darker and with scattered pale silvery blue scales. Expanse: Male 29 mm; female 37 mm. Tuis, Costa Rica; Chiriqui, Panama.

amisena.

Q. amisena *Drc.* "Male: Primaries dull brown, crossed by three waved darker brown lines, and close to the apex an elongated reddish-brown spot. Secondaries brown, with three short white streaks along the inner margin. The head, thorax, and abdomen yellowish brown; antennae dark brown. The female is considerably larger and much darker in colour, the primaries being much irrorated with grey scales; the secondaries are also blacker. Expanse: Male $1\frac{3}{4}$ inch.; female 2 inches. Ecuador, Sarayacu (Buckley, Mus. Druce). A very distinct species, allied to *veca*, from the Volcan de Chiriqui." This species is unknown to me.

reissi.

Q. reissi *Maass.* Male: Only known to me by the figure in STÜBEL Reise. Forewing drab grey with lines as in *veca*. The underside of hindwing shows a black point without any white. Similar in size to *veca*. Colombia.

figus.

Q. figus *H.-S.* (= *cachiana* *Schs.*) (89 i). Female: Head, collar, and thorax greenish buff. Abdomen ochreous; a dark grey dorsal line and transverse black band on basal segment. Forewings: basal third greenish buff, limited by the inner line, which is whitish, finely edged with fuscous grey, oblique to median between veins 2 and 3, angled and inwardly oblique; space to outer line greyish, tinged with green on costa, crossed by a medial and a postmedial fuscous shade; the outer line whitish, tinged with lilacine, straight to vein 4, then slightly inbent and faintly lunular between veins; the outer margin greenish from vein 5 to costa, below 5 silvery grey, leaving a greenish shade along outer line from 3 to inner margin; a subterminal brownish shade from 5 to 7; veins 5—7 terminally brownish. Hindwings dull greenish buff; the inner margin dark olive-green, crossed by a white antemedial line, and a downbent semioval white line postmedially; a fuscous postmedial shade followed by lilacine shading from vein 2 to inner margin; the outer line lilacine white, edged with fuscous, terminating at anal angle, which is considerably produced. Wings below greenish ochre, the apical area of forewings and outer margin of hindwings brighter; a fuscous postmedial line; the outer line whitish; a white discal spot on hindwings. The line on underside of hindwings is more like the line on the species of *Anticla*. Expanse: 57 mm. Cachi, Costa Rica.

5. Genus: **Anticla** *Wkr.*

Palpi slender, smoothly scaled, upturned to frons. Antenna bipectinate. Legs moderately hairy. Forewing: costa slightly curved, apex acute; termen nearly straight; vein 2 from middle of cell; 3 and 4 from lower angle; 5 from middle of discocellular; 6—9 stalked; 10 absent; 11 from cell. Hindwing: termen rounded; inner margin somewhat prolonged, the anal angle slightly produced; vein 2 from beyond middle of cell; 3 and 4 stalked; 5 from middle of discocellular; 6 and 7 well stalked; 8 and 7 connected near base.

Type: *A. antica* *Wkr.*

flavaria.

A. flavaria *Cr.* (= *flavifuscula* *Hbn.*) (89 i). Male: Body and forewing pinkish buff. Forewing: fine darker antemedial, medial, and double postmedial lines, the first two wavy, the last lunular followed on costa by a large saccardo's olive spot reaching vein 6 and edged with whitish; postmedial line below vein 3 filled in with tawny olive, and a similar broad terminal shade; a dark point on discocellular. Hindwing pinkish buff, the costa suffused with cream colour, the termen with light vinaceous cinnamon; cilia drab tipped with white; double olive brown lines on inner margin. Forewing below antimony yellow; costa and apex broadly ochraceous salmon preceded by a dark olive grey shade. Hindwing below drab grey to outer line; some warm buff shading from base to postmedial line below cell; termen mostly antimony yellow; the postmedial line faint, the outer line fine, hair brown downbent to inner margin above angle. Female: Forewing isabella colour suffused with purplish; base antimony yellow, also the costa expanding before apex and on terminal space at postmedial line from vein 4 to vein 1; the lines as in male; a dark point on discocellular; cilia white at base on interspaces. Hindwing deep chrome, the inner margin and anal angle brownish drab cut by white lines; transverse lines faint. Wings below deep chrome, the lines fine, benzo-brown well marked. Forewing: a large purplish triangular space on termen, hindwing with a similar shade at anal angle. Expanse: Male 28 mm; female 34 mm. French Guiana; Amazons.

A. antica Wkr. (= *rutula* Drc., *carya* Drc., *amycla* Drc.) (89 i). Male: Very similar to *flavaria*. Forewing *antica*. with the costal spot smaller, and forming two spots one above and one below vein 7. The colour varies from pale drab grey to avellaneous and light buff. Postmedial line usually filled with darker colours below vein 4. Female: Also very similar to that sex of *flavaria* but the base of cilia on interspaces is never white. Expanse: Male 24 mm (average); female 34—40 mm. Costa Rica; Panama; Colombia; Venezuela.

A. ortygia Drc. (= *ampea* Drc.) (89 k). Male: Forewing acute, slightly falcate; veins 3 and 4 on hindwing *ortygia*. sometimes from angle. Forewing pale vinaceous fawn or pinkish buff suffused below cell with pinkish cinnamon; lines dark and very similar to *antica*; a black point or line on discocellular; dark triangular shading on termen opposite cell. Hindwing usually vinaceous cinnamon, the lines faint; inner margin with a light buff spot and similar short lines alternating with chestnut-brown lines. Wings below mostly vinaceous cinnamon. Forewing with dark smoky shading from costa before apex oblique to termen. Hindwing: a black line on discocellular; medial line very fine, faint, to inner margin beyond middle; postmedial line slightly curved, dark olivaceous brown outwardly edged with white, reaching inner margin in a little above anal angle. Female: Forewing ochraceous tawny, the lines slightly darker; antemedial vertical, double; outer lines lunular, wider apart on costa, the subterminal with clusters of white scales at veins. Hindwing rufous or orange buff, only the outer line distinct. Expanse: Male 38 mm; female 35—38 mm. Costa Rica; Colombia; Peru.

A. limosa Schs. (89 k). Male: Forewing light greyish buff, the inner margin suffused with light *limosa*. ochraceous buff; faint traces of a slightly darker lunular line; two fuscous spots on discocellular; postmedial line double, well apart, fine lunular with black points on veins; termen narrowly buffy brown from vein 3 to apex. Hindwing light ochraceous salmon; a fine outer line near inner margin, the latter zinc orange and white. Forewing below avellaneous; costa ochraceous salmon; a subapical fuscous shade. Hindwing below avellaneous, the inner half somewhat whitish; a faint darker medial line; outer line more distinct somewhat punctiform. Expanse: 26 mm. Rio de Janeiro, Brazil.

A. tarasia sp. nov. (89 k). Male: Body vinaceous buff with some ochraceous buff mottling on collar *tarasia*. and tegulae. Forewing light olivaceous drab; antemedial and postmedial lines hair brown, double filled in with drab; costal edge tawny cinnamon; some white mottling below costa and on veins of termen; an interrupted terminal black line. Hindwing avellaneous suffused with vinaceous fawn on termen; inner margin tawny cinnamon crossed by white lines; lines very faint, fuscous. Forewing below avellaneous, the apical third suffused with fuscous; costa tawny; a black line on discocellular. Hindwing below vinaceous buff, the lines hair brown, distinct; a hair brown line on discocellular. Expanse: 21 mm. Santa Catharina, Brazil. Type in STAUDINGER collection (Berlin Museum).

A. symphora sp. nov. (89 k). Male: Antenna black. Head and thorax vinaceous buff. Abdomen light *symphora*. ochraceous salmon. Forewing cinnamon drab; base narrowly and costa clay colour; a double antemedial fuscous line, outbent on costa to median; postmedial line double, fuscous, outcurved on costa and vertical, the outer part lunular; a narrow terminal dark shade from vein 2, bifurcating above vein 4. Hindwing zinc orange with dark terminal shading at anal angle. Wings below ochraceous orange, the apex of forewing broadly buckthorn brown. Expanse: 21 mm. Petropolis, Brazil. Type in U.S. Nat. Museum. This species is of delicate build, the antenna with very long pectinations and the abdomen not reaching beyond middle of inner margin of hindwing, otherwise agreeing with *Anticla*.

6. Genus: **Cheneya** gen. nov.

Male: Palpi short, porrect. Antenna bipectinate, the pectinations long. Forewing: costa arched at apex, excised below apex. Vein 2 from beyond middle of cell; 3 and 4 stalked; 5 from middle of discocellular; 6, 7, 8, 9, 11 stalked; 10 absent. Hindwing: termen rounded slightly prolonged at anal angle; vein 2 from near end of cell; 3 and 4 well stalked; 5 from middle of discocellular; 6 and 7 on long stalk; 8 anastomosing with 7 near base.

Type: *Ch. morrissa* Schs.

Ch. morrissa sp. nov. Male: Body vinaceous fawn, underneath avellaneous. Forewing rather thinly *morrissa*. scaled, vinaceous fawn; faint traces of darker antemedial double, and medial wavy lines; a dark point at lower angle of cell; postmedial line double, lunular; terminal fawn colour shading at sinus. Hindwing thinly scaled pinkish buff; scaling denser on inner margin fawn colour with whitish transverse lines medially and post-medially. Expanse: 20 mm. St. Jean, French Guiana.

Ch. irrufata Dogn. Male: Body and forewing pale honey yellow, the wings thinly scaled. Forewing: *irrufata*. costa cinnamon buff; two tawny olive points on discocellular; a remote whitish outer line well outcurved, below vein 4 incurved to vein 2 then slightly outcurved, defined on inner edge by slightly darker honey yellow.

Hindwing: a tawny olive point on discocellular; a subterminal whitish line, incurved between veins 4 and 2. Wings below paler with markings as above. The termen is evenly rounded. Expanse: Male 22 mm; female 29 mm. Pacho, Quindiu, Colombia. The female is more of a smoke grey. The type specimen bears a label of WARREN saying it belonged to his genus, *Agriochlora*, but it does not agree with his diagnosis.

rovena. **Ch. rovena** *sp. nov.* (89 k). Male: Superficially like some of the species of *Quentalia* but in venation belonging to *Cheneya*. Head and collar pinkish cinnamon; thorax pale pinkish buff. Abdomen cinnamon. Forewing mostly sayal brown irrorated with white hairs, the lines darker; antemedial and medial wavyly outcurved, the former with pale scaling on inner edge; an incurved black line on discocellular; space beyond to postmedial patch cinnamon buff; postmedial outbent suffusing with cinnamon brown patch between veins 4 and 6, below vein 4 wavy; outer line white to vein 4 slightly inbent and followed by cinnamon brown widest at costa, below vein 4 lunular; base between veins 2 and 3, between veins 3 and 4 to beyond postmedial, above patch to costa, and broadly on termen more thickly irrorated with white; veins from postmedial to termen irrorated with light ochraceous buff. Hindwing cinnamon rufous; a black spot on discocellular, and fuscous shade from it to termen; a fuscous outer line distally edged with white between veins 4 and 6 and near inner margin; cilia cinnamon brown tipped with white. Forewing below sayal brown; fine parallel outer lines. Hindwing below cinnamon; a fuscous line with some white hairs on discocellular; the lines as in *Quentalia* fuscous, lunular, connected by a chestnut brown patch near inner margin with white scaling above and below it. Expanse: 25 mm. Oaxaca, Mexico (type); another specimen without locality.

7. Genus: **Tamphana** Schs.

Male: Palpi upturned, reaching frons, hairy well fringed in front, the third joint small, porrect. Abdomen extending beyond hindwing with lateral and anal tufts. Forewing with termen slightly rounded; venation as in *Anticla*. Hindwing with anal angle prolonged; vein 2 from beyond middle of cell; 3 and 4 from lower angle; 5 from middle of discocellular; 6 and 7 stalked; 8 and 7 contiguous near base.

Type: *T. marmorea* Schs.

marmorea. **T. marmorea** Schs. (89 k). Male: Forewing largely fawn colour; consisting of fine striations on a pale drab grey ground; antemedial and medial lines fine black, the former from subcostal to vein 1, the latter from costa to inner margin, the space between them pale drab grey inbent on inner margin to base; a white spot on discocellular; postmedial line slightly outcurved, fine, double, chestnut brown, somewhat lunular; a large apical space on costal margin whitish crossed by an inbent light drab grey fascia from costa to vein 5; a small fuscous spot at tornus; a white streak beyond postmedial between veins 2 and 3. Hindwing fawn colour; some chestnut brown and white mottling on inner margin; anal angle benzo-brown; cilia mottled with white. Wings below vinaceous buff, the termen darker; forewing with a whitish streak from apex; hindwing with lines buffy brown, the medial sinuous downbent near inner margin, the postmedial outcurved; a hair brown patch at anal angle. Expanse: 27 mm. Palmeiras, S. E. Brazil; Amazons; Panama.

lojanara. **T. lojanara** *sp. nov.* Male: Very much like *marmorea*. Forewing: a white spot at base below cell; a fine antemedial whitish outcurved line and a more erect medial line converging towards inner margin, the space between buffy brown; two white points on discocellular; the apical white space more quadrate crossed by a sinuous subterminal buffy brown shade; the white space between veins 3 and 2 cut by a dark line and extending to tornus. Hindwing cinnamon drab; cilia tipped with white. Wings below partly suffused with wood brown; the outer line fawn colour minutely wavy; hindwing with a less distinct medial line and some marginal darker shading. Expanse: 31 mm. Loja, Ecuador.

inferna. **T. inferna** Dogn. Male: Head and body mars brown. Forewing: costal and inner margins and a broad antemedial space Prout's brown; base, disc, and termen subterminally above vein 3 to apex dull ochraceous tawny; a white point at upper angle of cell; postmedial line fuscous, indistinct; a similar sinuous subterminal line edging outwardly the ochraceous tawny shade. Hindwing cinnamon brown. Wings below cinnamon drab. Forewing: a white point on discocellular followed by a fine darker, vertical line; the outer line fine, fuscous, almost vertical, preceded and followed on costa by some light ochraceous buff. Hindwing below suffused with buff to outer line; medial line cinnamon brown; postmedial line benzo-brown; russet tufts of hair on inner margin postmedially. Expanse: 28 mm. French Guiana.

maoma. **T. maoma** Schs. (89 k). Male: Palpi dark brown. Antennae light brown. Head, collar, and thorax lilacine brown; a fuscous dorsal line on collar and thorax. Abdomen dull brown. Forewings brown faintly tinged with lilacine and with a few scattered black scales; an antemedial, inbent, fuscous shade; a white point on discocellular; a fine geminate, lunular, postmedial line, indistinct and scarcely darker than ground colour;

small subterminal semihyaline black spots between veins 4 and 7. Hindwings brown; inner margin white with white cilia; the produced anal angle darker shaded. Wings below bone colour shaded with brown terminally. Forewings: the postmedial lines straighter, brown; the subterminal spots as above. Hindwings: some scattered black points; a black spot on discocellular; two brown outer lines, lunular dentate. Expanse: 30 mm. St. Jean, French Guiana.

T. orion Dogn. Male: Body as in *maoma*. Forewing: basal third cinnamon buff followed by a vertical *orion*. mikado brown stripe edged with verona brown; a white point on discocellular. Wing beyond cinnamon buff shading to pinkish buff on terminal space from vein 5 to inner margin; postmedial line faintly inbent, double, lunular. Hindwing cinnamon, somewhat paler on base and termen; verona brown mottling on inner margin. Wings below pinkish buff; black points on discocellular. Forewing: first postmedial line sayal brown, broad, the second line very fine; a subterminal fuscous spot between veins 5 and 6; cilia sayal brown. Hindwing: first line medial, inbent from vein 3 to inner margin; outer line fine, very faint. Expanse: 30 mm. French Guiana. DOGNIN's co-type is the same as *maoma*. The two species are closely allied.

T. praecipua Schs. (89 k). Male: Head and thorax violaceous brown. Abdomen reddish brown. Fore- *praecipua* wing brown, darkest at base, and shaded with lilacine below cell and vein 4; a buff spot on costa before middle, followed by a dark line, angled at end of cell, inwardly oblique to inner margin at one third from base, and followed by a reddish brown parallel line; a postmedial curved, finely dentate, reddish brown line, followed below vein 7 by a blackish lunular line; some buff on costa before apex, shaded below with reddish brown. Hindwings reddish brown. Underneath pale buff, with fine brown lines; a postmedial and subterminal line on forewings; a medial and a postmedial line on hindwings. Expanse: 26 mm. St. Jean, Maroni River, French Guiana.

2. Subfamily: Zanolinae *subf. nov.*

Vein 8 of forewing straight or concave towards costal margin.

1. Genus: **Apatelodes** Pack.

Palpi well developed, thickly haired, stout, erect and projecting beyond the broad frons, last joint very small, hidden. Antennae pectinate to the tips. Forewing broad triangular, with a sharp, often almost falciform apex before which the costal margin is sometimes excavated, distal margin below it likewise with a low indenture, between 5 and 6 with a more or less distinct angle. Vein 2 behind the centre of the cell, 3 shortly before the lower angle, 4 from the latter, 5 from the centre of the cross-vein, 6 and 7 on a short stalk, 7—10 close together from the same stalk, 11 from the cell. Hindwing broad, outside rounded or slightly angular, as long as or shorter than abdomen; 3 and 4 from the same place or separated, 6 and 7 on a rather long stalk, cross-vein rather oblique. Hind tibiae uncommonly broad, of an oval shape and very densely haired. Larva densely clad with long soft hairs, on the 2nd, 3rd and 10th rings with one long thin dorsal pencil each, between them shorter dorsal pencils.

Type: *A. torrefacta* Abb. & Sm.

A. torrefacta Abb. & Sm. (104 a). Greyish-brown, in the ♂ in the costal half more light silvery or *torrefacta*. violettish-grey, near the base of the inner margin with a large chestnut-brown spot, behind it 4 fine brownish transverse lines, the postmedian line bent around the cell, below it slightly incurved, subterminal line dentate, behind it a small subapical hyaline spot. Hindwing red-brown, at the inner margin whitish with small chestnut-brown spots and a fine light median line. Larva yellow, adult larva mostly with white or grey hair, pencils black, dorsal spots black. It lives on numerous foliage trees, preferably Prunus, willows, ash-trees etc. Widely distributed in the U.S.A. from New York to Texas and Florida. The form from Florida: — **floridana** H. Edw. *floridana* has a redder ground-colour, weaker lines, a distinctly prominent whitish discal spot; under surface fox-coloured.

A. adrastris Drc. (= *diffidens* H.-Edw.) (140 a). light greyish-brown, more or less tinted yellowish *adrastris*. ochreous, lines much like those of *torrefacta*, from the first quarter of the costal margin a dark line extends towards the anal angle; the basal inner-marginal spot broadly parted by vein 1, red-brown with a bronze tint; a whitish discal spot rather distinct. Hindwing somewhat lighter, otherwise of the same tint. Mexico, Guatemala. — **costaricensis** f. n., from Costa-Rica, are greyer, smoother and glossier, lines more regular, not so strongly wavy. *costaricensis*.

inviolata. **A. inviolata** Dogn. (140 a) is somewhat like *adrastris*. Forewing above yellowish-grey, transverse lines hardly darker and rather indistinct; before the centre 2 lines, the extrabasal one twice angled and strewn with black, the exterior one bent, wavy; the postmedian line excurved behind the cell, the undulately dentate subterminal line blackish with more prominent vein-dots and, like *adrastris*, with a deeply dentate antemarginal line between 4 and the apex; above the whitish-scaled cross-vein a light reddish spot; subterminal and marginal areas strewn somewhat darker. Hindwing somewhat more reddish, at the inner margin marked brown with a white oblique streak above the anal angle. Expanse of wings: 44–48 mm. San Antonio, Cali, Colombia.

sublunulata. **A. sublunulata** Schs. (140 a) is very similar to *adrastris*, ground-colour more whitish; basal area defined by a white line extending very obliquely distad from the 1st fifth of the costal margin, returning acute-angled on the median and then almost vertically to the inner margin; the inner-marginal spot is almost entirely absent and only indicated by a brown border of the white line; lines as in *inviolata*; a white subterminal line extends from the costal margin to 6 vertically downwards and is then interrupted by a spot of darker irroration, below it undulately dentate again and widened. Hindwing ochreous with a fine double postmedian line filled with white. Under surface not so red as in *adrastris*, the black, distally white postmedian line of the hindwing is wavy between 5 and the inner margin. Venadio, Sinaloa, Mexico.

brückneri. **A. brückneri** sp. n. (140 a) resembles a pale *sublunulata*, of a soft greyish-brown colour, without any trace of the oblique line from the costal margin to the anal angle; lines as in the preceding species, but all very fine, the two median ones double, somewhat faded and in feebly darker brownish clouds; the two basal inner-marginal spots are situate one above the other and punctiform; the subapical small white hyaline spot is very small, outside pupilled black. Hindwing somewhat lighter, at the inner margin whitish with 3 brown strigiform spots near the anal angle. Under surface very pale and indistinctly marked. Guatemala. Type 1 ♂ in the Berlin Museum.

banepa. **A. banepa** Drc. was not before me. According to the kind information by SCHAUSS it is very near to *heptaloba*; greyer, the dark basal inner-marginal spot very distinct; postmedian line bifurcating below the costal margin and expanded into a triangle with dark spots and a small hyaline spot. South-Eastern Peru, S. Domingo.

heptaloba. **A. heptaloba** Drc. (= *bunca* Dyar) (140 a) is larger than the preceding ones, in marking almost the same, in colour red-brown with a cinnamon pink tint; the basal inner-marginal spots reduced to two narrow streaks one above the other, behind the antemedian line with an obsolete broader wavy shadow which is connected below the cell with the similar postmedian shadow by similar irroration. Subterminal line fine undulately dentate with a blurred spot-like parallel shadow behind it; below the apex a small white subapical spot. Hindwing lighter pinkish-brown with 2 indistinct obsolete nebulous antemedian and postmedian bands being darkened like spots at the inner margin. Mexico. According to the kind information by TAMS the figure in the Biologia is not good, the inner margin of the hindwing in the type shows the usual marking and is not without markings.

sericea. **A. sericea** Schs. (= *erecta* Dogn.) (140 b) has narrower wings than the preceding species, the apex not produced, with a uniform distal margin. Forewing light reddish-brown, marked very much like *heptaloba*, the fine antemedian line rectangularly angled on the median, from there almost vertical to the inner margin, double, filled with lilac white, interior line bordered with dark brown, exterior line distinctly blackish-brown, slightly notched, behind it in the feebly darker inner-marginal shading 2 transverse streaks of lilac white scales. Brazil (Rio de Janeiro, São Paulo).

palma. **A. palma** Drc. (140 b) is much larger than *heptaloba*, with more elongate wings, colour of wings more blackish-brown with a more yellowish tint, marking the same though somewhat less distinct, in the distal inner-marginal half shaded with blackish, with 2 very large velvety black basal inner-marginal spots, the lower one wedge-shaped with the point basad, the upper one more oval. Hindwing with a slight reddish tint, a large black subanal spot, and a short white line below it. Colombia, also from the Songo (Bolivia).

milma. **A. milma** Dyar (140 b) is very much like *heptaloba*, but almost by two thirds smaller, of a duller and lighter colouring, less red, markings very similar though much finer. Hindwing but little lighter. Mexico.

sadisma. **A. sadisma** Dyar (140 b) is still somewhat lighter, similarly coloured and marked as *milma*, the basal 2 inner-marginal spots which are small, strigiform in *heptaloba*, are represented here by dull brownish grey clouding; two small, subapical, white, semitransparent triangular spots, inwardly bordered by blackish-brown.

schreiteri. Mexico, Misantla. — **schreiteri** Schs. (140 b) of which there are several specimens before me from Argentina is hardly a different species, although the far remote patiae are very remarkable; still somewhat smaller with somewhat finer markings; I can find no other difference. The origin of 3 and 4 from the same place, as it is stated for *schreiteri*, or separated, varies in both forms and is no constant mark of distinction.

velutina. **A. velutina** Schs. (140 b). Head and tegulae violettish grey, mesothorax dark brown, the brown abdomen scaled grey on the posterior edges of the segments. Forewing basally light brown, bordered by a dark line which is strongest at the costal margin; it extends obliquely to below 2, whence it turns towards the inner

margin, the basal inner-marginal spot before it appears as a dark brown shadow; median area velvety grey with a light streak at the cell-end and outside bordered by the dark undulate postmedian line; at the distal margin reddish mixture; a dark subapical velvety brown spot inside bordering on 2 small transparent white spots. Hindwing reddish brown, anally much darker, above it with the beginning of a transverse line. Described from 1 ♀ with an expanse of 38 mm, from São Paulo.

A. zikani *sp. n.* (140 b) is very closely allied to *velutina*, somewhat larger, greyer, but otherwise with *zikani*. the same scheme of markings; the basal inner-marginal spot is larger, more distinctly defined blackish-brown; the oblique stripe extending from the first quarter of the costal margin towards the anal angle is particularly stronger in the upper half; at the cell-end there is a small heap of more whitish scales; at the margin between 3 and 7 some copper-bronze shading, being broadest on 5. Hindwing somewhat redder than forewing with a feebly darker median band which is almost rectangularly angled on 5 and outside bordered by a fine light line. Passa Quatro, Minas, Southern Brazil; type a ♂ in coll. J. ZIKAN.

A. thinaha *sp. n.* (140 c) is near to *brückneri*; more coarsely scaled, of a darker blackish-brown ground- *thinaha*. colour, the oblique costal-marginal stripe is merely a fine nebulous line, instead of the basal inner-marginal spot there is only a very hazy, small, hardly darker cloud; the fine undulately dentate exterior line is much straighter and not indented behind the cell as in its allies; the exterior median line forms a broad, faded, dark median shadow; subapically only a small white triangular spot on both sides bordered with blackish-brown. Hindwing almost darker greyish-brown than forewing, at the inner margin with a distinct white postmedian oblique streak, above and below bordered by blackish-brown. Passo Quatro, Minas. Type 1 ♂ in coll. ZIKAN.

A. lacetania *Drc.* (= *hiantha* Dyar) (140 c). Light grey, feebly strewn with brownish; anterior transverse *lacetania*. line double, indistinct, at the inner margin it forms 2 small lunular spots one above the other, inside bordered with black; the costal-marginal oblique streak is outside shaded with brownish grey, it is crossed on 2 by the slightly curved postmedian line; the exterior transverse line is undulately dentate as in the preceding species; a short white subapical undulate line to which an isolated round white spot is attached between 6 and 7, inwardly bordered by long, strong black wedge-streaks; marginal area feebly darkened. Hindwing slightly redder with a curved whitish median line which turns whiter at the inner margin, above and below bordered with blackish-brown here. Mexico, Zacualpan; somewhat smaller, browner and darker from Mexico City, apparently very variable.

A. parvula *Schs.* (140 c) is smaller than the preceding species; body brownish-grey; base of abdomen *parvula*. and 2 transverse bands on the thorax darker; forewing grey, strewn with brown, the basal inner-marginal spot very large, dark brown, not reaching the base, outside feebly bordered light; the oblique band from the costal margin brownish, not reaching the anal angle; the veins situate outside the oblique band are all lighter than the ground; at the cell-end a light patch; exterior transverse line distinct whitish, indented behind the cell; 2 semitransparent small subapical spots inside bordered with blackish-brown. Hindwing brown, inner margin greyer and darker, with a whitish postmedian line. Expanse of wings: 28 mm. Castro, Parana; Paraguay.

A. amaryllis *Dyar* (140 c) is a larger beautiful species, olive grey, with distinct light veins, of the two *amaryllis*. basal inner-marginal spots the upper one is extended almost to the base as a long black wedge-streak, the lower one only half as long and more indistinct; anterior transverse line whitish, in the costal half as the interior border of the darker oblique band; of the two distal transverse lines the interior one is fine olive brown, the exterior one white, forked to the costal margin on 6, enclosing a black triangle parted by white between. Hindwing lighter with a slightly darker median band, distally bordered by a white line which is angled submedianly and on 5. Mexico.

A. pudefacta *Dyar* (= *uvada* Barnes) (140 c) is light grey, with black basal inner-marginal spots, the *pudefacta*. lower one larger, outside bordered with whitish, then again dark; the white oblique costal-marginal streak borders on a brownish oblique band which is widened at the inner margin towards the anal angle; at the cell-end a whitish patch; the interior line of the two distal transverse lines is quite indistinct and hardly darker, the exterior one white and shaped as in *amaryllis*. Hindwing likewise as in *amaryllis*. — **doramia** *Dyar* is only a *doramia*. more brownish form from the same habitats, with all kinds of transitions. Arizona to Mexico.

A. jessica *Dyar* (140 c) is extraordinarily similar to *pudefacta*, but from the same patria without any *jessica*. transitions, for which reason it is regarded a distinct species. Altogether smaller, greyer, the basal inner-marginal spot small, of a dull brownish grey, obsolete, not distinctly bipartite, the interior one of the two distal lines finer and more distinct than in *pudefacta*; the whitish median line on the hindwing uniformly bent, not angular. Mexico (Zacualpan). — **maudamia** *Dyar* is a northern form from Sinaloa, approximating more *pudefacta* by *maudamia*. the more curved line on the hindwing and the distinct blackish-brown basal inner-marginal spot on the forewing; the white distal line is less distinct and the blackish-brown subapical spots are outside not bordered by 2 separate white spots, but by a white short undulate line. — **floramia** *Dyar*, from Guatemala, likewise approxi- *floramia*. mates *pudefacta*, but the oblique white line from the costal margin cuts here the dark distal line and is prolonged to the white subterminal line near the anal angle; on the hindwing the white line is angular as in *pudefacta*, far proximad remote from the margin and proximad to it there is a parallel dark line.

lescambia.

A. lescambia Dyar (140 c) resembles *jessica*, but it is much smaller, with narrower wings, the distal margin not so convex. Light grey, base of abdomen with a dark belt. Forewing basally lighter, the very broad white oblique costal-marginal line extends along 2 as far as the white subterminal line, where it forms a very pointed tooth, returning on the submedian fold to the oblique white antemedian line, on the inside of which the indistinctly bipartite basal oblique inner-marginal spot is situate; behind the white distal line which is inside finely bordered with dark there is another white subterminal line parallel to the margin, touching the preceding line above the anal angle and on 5; in the fork there are two small black triangular spots. Hindwing somewhat more brownish with a eurved whitish median line. Mexico (Tehuacan).

paraguayana.

A. paraguayana Schs. (140 g). Forewing pale yellowish loam-coloured, in the median area dusted with olive grey, the basal inner-marginal spot a long narrow black spot obliquely distad above, the feeble antemedian line angular behind the end of the spot, the postmedian line rectangular on 5, below it distinctly black, towards the margin somewhat concave; the subapical dark spot inside indistinct; outside straightly bordered with white, the apex behind it feebly darkened. Hindwing olive-grey, in the costal half with a slight chestnut-red reflection, with a strong whitish postmedian line above which there is a small black spot at the inner margin. Paraguay.

batima

A. batima Dyar, described after a ♀, is ashy grey, forewing clouded with olive brown, the basal inner-marginal spot brown, parted lighter, behind it the brown, eurved, interrupted interior line extending on the median vein and 2 towards the anal angle; the brown median line is inwardly shaded; at the cross-vein a pale spot; the interior one of the two distal lines is brown, shaded, behind the cell far excurved and submedianly somewhat less, the exterior line is finer, blackish, behind the cell likewise excurved and submedianly somewhat less, the exterior line is finer, blackish, behind the cell likewise excurved; subapically two white punctiform spots, inside bordered with brown, below them brown shading at the distal margin. Hindwing suffused with dull reddish with a white line and before it a feeble reddish line, both intensified at the inner margin. Expanse of wings: 44 mm. Iguala, Guerrero, Mexico.

gladys.

A. gladys Dyar (140 d) is very closely allied to *batima*, but the forewing is dark brown with a reddish cinnamon tint, with fine lines, the two distal ones excurved behind the cell and very feebly waved between the veins; the oblique line from the costal margin extends along 2, whence it turns, distally shaded, between the two distal lines vertically to the inner margin, with dull basal inner-marginal spots; a small round white subapical spot. Hindwing hardly more reddish with a feeble median line angular between 5 and 6, intensified at the inner margin. Mexico, Zacualpan.

verena.

A. verena Drc. (= *horina* Schs.) (140 d) is larger than the preceding species, with somewhat more elongate wings, more blackish grey, similarly marked though well discernible by the double postmedian line the parts of which are hardly more than 1 mm distant from each other, feebly excurved behind the cell, inwardly concave between 2 and 4, slightly excurved again below 2; two basal inner-marginal deep velvety brownish black spot one above the other, the oblique costal-marginal line rather indistinct. Hindwing marked as in the allies. Mexico.

turrialba.

A. turrialba Schs. (140 d) is very similar to *verena*; palpi velvety blackish brown, head and thorax brownish mixed with grey, on the hindhead blackish; abdomen somewhat lighter. Forewing grey, transverse lines and vein 2 finely black; 3 antemedian lines close together, the innermost oblique from the costal margin to 2, then undulate to the inner margin, before it 2 small black spots above and below the submedian fold, the median line being faint and interrupted, the exterior line feebly bent, distinct; 2 postmedian distantly separated lines, obliquely from the costal margin, feebly bent below 4, between them a fine indistinct dark double shadow; between 6 and 7 a small white subterminal spot. Hindwing basally dark grey, behind it a broader still darker median shadow, angular on 6 and submedianly; distal half somewhat lighter silky-glossy grey; at the anal angle white-sealed with a blackish inner-marginal shadow above it. Volcano of Turrialba (Costa Rica), from an altitude of 5800 ft.

firmiana.

A. firmiana Stoll (140 d) introduces a group of externally very similar large species with yellowish-grey forewings with darker transverse lines. *firmiana* is characterized by the very feebly developed subapical triangular dark costal-marginal spot which may be almost absent; the basal inner-marginal spot is blackish-brown, large, not parted and above rounded; the first olive grey, somewhat feebler transverse line forms a very pointed angle distad above the submedian fold, the second (antemedian) line forms on 2 a rectangular angle or a more rounded curve; the postmedian line extends from close behind the centre of the costal margin to close before the anal angle in a feeble distally convex curve, the median area between the two latter often being strewn somewhat olive grey; the subterminal line arises about 5 mm farther outside, forming a larger curve and extending directly into the anal angle; the subapical triangle is but very feebly darkened, outside bordered by a straight whitish streak behind which the upper marginal half is darkened olive grey. Hindwing blackish-brown with a slight copper reflection and a light, on 5 angular postmedian line; in the lower inner-marginal half a dark brown spot above and below bordered with light; a feeble darker antemedian band is mostly very indistinct. Beneath on the forewing with a short discal streak, a rather straight line behind it and a bronze brown subapical marginal triangle which is proximad straightly defined by whitish; hindwing with a bronze brown triangle below the cell from the base to the subterminal line which is concave here towards the margin. Guiana, Colombia, Brazil to Sa. Catharina. In the Berlin Museum there is a very small specimen of an expanse of only 36 mm, from Colombia.

A. diana Dogn. (140 e) has broader wings and is darker, the first transverse line is only somewhat angular *diana*. on the median vein, the 2nd antemedian line is almost quite straight, the postmedian line as in *firmiana*, but it ends farther before the anal angle, the subterminal line is less bent, dying away more and more towards the costal margin; a large subapical blackish-brown spot, inwardly faded, distally somewhat angular and bordered by a purer white. Hindwing slightly darker brown, without distinct lines. Beneath on the forewing the red-brown apex is traversed by 2 white subapical streaks; on the hindwing the postmedian and subterminal lines form an irregular V, being broad at the costal margin and united at the inner margin; the red-brown wedge is smaller. Colombia.

A. mehida Drc. I do not know, according to the kind information by TAMS the type was not to be found; *mehida*. it must be very similar to *diana*, but the red-brown hindwing shows above an undulated light greyish-brown band from the centre of the costal margin to the centre of the inner margin. Beneath the hindwing is dark red-brown, with a light submarginal line, and the abdomen beneath is dark brown. South-Eastern Peru.

A. dianita Dogn. (140 e) is above yellowish greyish-brown on the forewing, the basal inner-marginal spot *dianita*. is bipartite, the lower half a long wedge extending almost to the base; the first antemedian line in its upper portion somewhat wavy, inside bordered by a lighter shade; the 2nd antemedian line and the postmedian line are almost straight, between them often a discal dot, the subterminal line angular between 6 and 7, the subapical triangular spot inside sharply defined, outside adjacent to its white border mostly yet a punctiform spot between 6 and 7. Hindwing greyish-brown, the light postmedian line on 5 with a distinct angle. Beneath on the hindwing the postmedian line is situate farther towards the margin, inside of it the hindwing is blackish-brown, distally lighter. Bolivia (Songo).

A. princeps Dogn. (140 d), described after a female, is very similar, browner, the basal inner-marginal *princeps*. spots smaller, more distinctly separated, outside bordered by an almost pure white colour; the 2nd antemedian line is more bent, the postmedian line S-shaped, between both a distinct cell-end dot or streak. Hindwing hardly darker than forewing, the light postmedian line less bent, not angular. Hindwing beneath brown, with a darker median band outside bordered with light, inside with dark. Colombia. The figured browner ♂ from the Coll. W. HOPP-Charlottenburg from Chachatoy, Colombia, undoubtedly belongs to it.

A. ilia Dogn. (140 e) is likewise very similar to *firmiana* from which it chiefly differs in the large *ilia*. subapical blackish-brown triangular spot of the forewing, which is surrounded by the white fork of the straight subterminal line; in *firmiana* the median area, in *ilia* the space between the postmedian and subterminal lines is darkened. Hindwing: the whitish postmedian line is quite straight between the costal margin and the submedian fold, or it shows a slight angle on 6. The larger ♀ is mostly lighter yellowish-grey. Hindwing beneath also similar as in *firmiana* in which, however, the median band forms a very pointed distal angle on 5, whilst here it extends as above, rather concave towards the margin. Colombia, Brazil.

A. imparata Dogn. (140 f) looks like a small specimen of *ilia*; ground-colour much lighter; the basal *imparata*. inner-marginal spot and the subapical triangular spot are much smaller and paler, the former more strigiform. On the feebly reddish hindwing the light, somewhat bent transverse line is much nearer to the margin. Described from Paraguay.

A. quadrata Jones (140 g) is somewhat like *imparata*; forewing very light greyish-yellow, the basal inner- *quadrata*. marginal spot very large, deep velvety brownish-black; the two antemedian lines feeble, the postmedian line more intense; the subapical triangular spot is bipartite, the upper portion smaller. Hindwing reddish-brown, the marking from beneath feebly showing through, this marking being very characteristic and forming a large chestnut-brown trapezoid spot with a tail-like appendage between 5 and 6 almost to the margin, another one to the white-dusted inner margin near the anal angle, and a very short one to the costal margin behind the centre; the spot itself begins pointed at the base. Brazil; before me from S. Paulo.

A. pandara Drc. (140 e) the female type of which is before me from Panama (Chiriqui) c coll. STGR. is *pandara*. most similar to *ilia* which it resembles almost entirely in the marking; but the colour is quite different, on the forewing reddish light brown, on the hindwing distinctly red-brown; on the forewing the first antemedian line is continued analwards as an oblique stripe along vein 2, as it is the case e. g. in the *adrastria*-group. Beneath likewise marked as *ilia*, but the colour is a warm red-brown. Panama to South Brazil.

A. pandarioides Schs. (140 e) is very similar, on an average somewhat smaller, more pinkish-brown. *pandarioides*. the postmedian line almost quite straight. Hindwing beneath the same, but much more clearly and distinctly marked, especially the almost pinkish-white postmedian line. Guiana, Amazons to Brazil.

A. pithala Dogn. (140 f) resembles *pandarioides* in the colour, but the wings are more stretched with *pithala*. an obliquer rounded distal margin; the basal inner-marginal spot is very large, the subapical triangular spot, however, altogether absent; all the lines only feebly marked, slightly bent, the subterminal line which is outside

finely bordered with light not angular on 6 but rounded. Beneath the dark wedge below the cell of the hindwing is indistinct. Bolivia.

lapitha. **A. lapitha** Drc. (140 f) is very much like *pithala*, but with a less red tint, and purple grey dusting towards the anal angle and margin; the fine light subterminal line is inwards hardly bordered with dark, being situate much nearer to the margin, much straighter and forming a very short fork between 6 and 7, in the angle of which there is a tiny dark dot; also on the hindwing the subterminal line is much nearer to the margin. Mexico to Colombia.

kotzschi. **A. kotzschi** n. sp. (140 f) is presumably the Brazilian representative of *lapitha*. Wings still more stretched, with an obliquer distal margin forming a slight angle on 5. The colouring is more loamy, not so pink; the marking otherwise very similar excepting the whitish subterminal line which is much obliquer and extends straight into the apex and does not bifurcate below the costal margin; behind it the marginal area is intensely darkened blackish-brown as far as into the apex, in *lapitha* the apex itself remains light. On the hindwing the fine light postmedian line is much more removed into the centre of the wing. Type: 1 ♂ from Sa. Catharina e coll. WERNICKE-Dresden.

cirna. **A. cirna** Drc. (140 f) shows resemblances to the 3 last species; ground-colour light ash-grey, at the costal margin much lighter, at the inner margin tinted ochreous, the basal inner-marginal spot large, pointed towards the base, outside rounded, here finely bordered with white, with 2 fine red-brown short lines behind it, the exterior line finely crenulate; the two transverse lines very fine and feeble, the exterior line angular on 5; at the cell-end a very fine dark dot, marginal area somewhat darkened. Hindwing monotonously ash-grey, at the lighter inner margin with 2 fine brownish-black angular streaks near the anal angle, the lower one being outside bordered with a purer white. Mexico.

cerrita. **A. cerrita** sp. n. (140 f) cannot be compared with any other species. Basal area light cinnamon-brownish, central area light chocolate, marginal area lighter and more yellowish than the basal area; from the first quarter of the costal margin a very thick oblique stripe extends to vein 2 and along it to the exterior transverse line; instead of the basal inner-marginal spot a very large irregularly roundish spot strewn with black and somewhat more distinctly bordered with black; before the double, finely dentate exterior transverse line, which begins close before the apex, 2 black oblique costal-marginal streaks, behind it between 6 and 7 two small hyaline spots; marginal area in the upper half dusted somewhat grey. Hindwing unicoloured light red-brown, at the inner margin two dark spots interrupted by light. Tegulae of the colour of the basal area, before their black margin with a black parallel line. Described after 2 ♂♂, type from Passa Quatro, Minas, Brazil, in the Coll. ZIKÁN, eo-type in the Senckenberg Museum at Frankfurt on the Main.

singularis. **A. singularis** Btlr. (140 g) is likewise a very peculiar species, originally described as a Geometrid (*Endropia*). Light brownish, in the marginal area more whitish, at the costal margin at about equal distances 4 narrow, small, black longitudinal spots; the basal inner-marginal spot as in *paraguayana* very long and thin, outside accompanied by a fine parallel line; the antemedian line is very irregular, forming a very wide bow, below the cell behind it a somewhat thicker spot; in the cell and behind it along vein 5 a dark longitudinal wedge to the margin; postmedian line angular on 5, above it indistinct, below it towards the margin concave, fine, a little dotted on the veins; the outermost costal-marginal spot is situate in a white arcuate line which belongs to the otherwise hardly visible subterminal line. Hindwing somewhat darker reddish-brown with a broad lighter median band on both sides bordered with a darker colour. Not mentioned where it was found.

datanoides. **A. datanoides** n. sp. (140 g) is a small species looking exactly like a small *Datana*; cinnamon red-brown with 3 darker transverse lines, the first on the median vein with a rounded angle, the second being postmedian, almost straight, thicker than the others, the third about 2 mm behind it somewhat concave towards the margin; fringe somewhat darker brown. Hindwing hardly lighter, without lines with darker fringe and the usual small inner-marginal spots. According to 2 males from Mexico (exact habitat not stated); type in the Berlin Museum.

castanea. **A. castanea** Jones I do not know, it may belong near to the preceding species. Body chestnut-brown, thorax suffused with purple, the basal abdominal segments with purple brown rings. Forewing chestnut with distinct dark feebly excurved antemedian and postmedian transverse lines; above 6 a small white subapical spot, and at the cross-vein a small dark dot. Hindwing chestnut, towards the base ochreous. Beneath on the chestnut forewing the basal half, excepting the costal margin, dusted with grey, the white subapical spot larger than above. Expanse of wings: 40 mm. Castro. Parana.

erubescens. **A. erubescens** sp. n. (141 a) is quite isolated. Forewing light reddish-yellow, strewn with red-brown, the most densely in the basal inner-marginal spot, in the median area as far as the subterminal line and before the margin, the space behind the subterminal line remaining purest yellowish; a curved antemedian line is very indistinctly traceable, the somewhat more distinct reddish-brown postmedian line extends from close behind the centre of the costal margin to shortly before the anal angle and it is slightly undulated outwards between the veins; the subterminal line distinctly borders on the dark median area, being obtusely angled on 5 from where it runs in a straight line to the anal angle. Hindwing paler with a slightly darker median and

marginal band, both being darkest at the inner margin. Beneath the hindwing is somewhat darker cinnamon brownish and besides a fine dark median line as on the forewing with a whitish submarginal line being inside bordered with a darker colour. Type a ♀ from Brazil in the Berlin Museum.

A. paulista Jones is not before me, but it may belong to this group. Palpi red-brown; head and thorax grey, abdomen yellowish-brown. Forewing grey, strewn with yellowish brown, with a light brown undulate antemedian band and a broader similar postmedian band the outer border of which is darker and undulately dentate; marginal area dusted with brown, fringe brown, at the cell-end a whitish spot. Hindwing yellowish-brown with indistinct median and postmedian lines and grey fringe. Beneath the forewing is yellowish-brown with faded brown median and postmedian lines, behind the latter a brown shadow. Hindwing similar, the postmedian line angular on 5; marginal area suffused with grey, a white discal spot. ♀ similar, darker. Expanse of wings: ♂ 47, ♀ 57 mm. South Eastern Brazil (S. Paulo).

A. striata Drc. (140 f) is quite a different species. Body and forewing fawn, forewing with 6 angular lines near the apex; at the apex a white spot and near the base of the inner margin a small black spot; fringe fawn. Hindwing fawn with lighter veins. Under surface light fawn, hindwing in the centre with 2 undulate light lines and at the apex with a large brown spot. Peru, La Union, Rio Huacamayo, from an altitude of 2000 m.

A. corema Schs. (140 g) is light reddish-brown with undulate greyish-white antemedian and postmedian transverse lines, between them a fine black discal dot; at the costal margin between the lines with 4 small whitish diffuse spots, the lower half of the median area dusted with greyish-white; between 4 and 6 two small submarginal hyaline spots, below them a rather straight subterminal line. Hindwing monotonously reddish brown. South-Eastern Brazil (S. Paulo), described after a ♀.

A. paratima Schs. (140 g) is very light yellowish grey, with hardly any transverse lines, only their beginnings at the costal and inner margins being indicated by small blackish-brown spots, in the disc a small central dot, subapically with the white subterminal fork in which there are two small black triangular spots. Hindwing somewhat darker and more reddish with a feeble whitish submarginal line on both sides shaded darker. Costa Rica to Colombia (before me from Mocoa c coll. Hopp). — **lilacina** Jones (140 g) is a darker Brazilian form; forewing tan-coloured yellow, strewn with olive brown, the basal inner-marginal spot much larger, the transverse lines more distinct, especially the curved postmedian line, and behind it a sharply crenulate fine dark subterminal line. Hindwing chestnut with a distinct whitish subterminal line. South-Eastern Brazil; Amazons (Tonantins).

A. xanthapex sp. n. (141 a) is evidently very closely allied to the preceding species, but easily discernible by the golden yellow upper marginal half, below it the margin is smoked greyish-brown. Colour of the wings as in *paratima*, the basal inner-marginal spot much larger, extending to the base; the very fine transverse lines are blackish-brown, the antemedian line angular on the median vein, the postmedian line begins with a larger costal-marginal spot, bends round the fine discal dot and runs then finely crenulate towards the margin feebly concave to the inner margin. Subterminal line wavy, with fine black vein-streaks, terminating below the costal margin with a large white spot which sends a branch to the apex; in this fork a large blackish-brown triangular spot. Type: 1 ♂ from Passa Quatro (Minas) in the Coll. ZIKÁN. — **garleppi** f. n. (141 a) I range here for the present, it corresponds to the form *lilacina* of the preceding species. Forewing on the golden yellow ground densely strewn with brown, only the apex remains purely golden yellow though less extensively than in *xanthapex*; linear marking very indistinct in the densely strewn ground, the subapical black triangular spot is parted in two by a broad white vein. Hindwing chestnut with a fine white submarginal line. Type: 1 ♂ from Huayabamba (Peru) in the Berlin Museum (Garlepp leg.)

A. hierax Dogn. (141 a). Forewing grey, behind the base and at the costal margin hued with reddish-brown, the basal inner-marginal spot large; transverse lines indistinct, only their beginnings at the costal and inner margins are marked red-brown; 3 white subapical spots inside bordered with red-brown; subterminal line hardly more distinct than the other lines. Hindwing light red-brown, at the margin hued with grey, with a feeble lighter median line. Described after a ♂ from Joinville (Brazil).

A. anna Schs. (141 a). Forewing violettish-grey, suffused with reddish-brown; anterior transverse line feeble, somewhat dentate, rising from a small darker costal-marginal spot, the posterior line somewhat more distinct, often darkened like a band, slightly angular on 5, below it concave towards the margin; at the cell-end a black dot; 2 large subapical hyaline spots inside bordered with dark, below them a third though not hyaline, whitish patch; marginal area subapically darkened. Hindwing more reddish-brown. Guiana; Colombia.

A. martia Cr. (♀ = *bombycina* Fldr.) (140 h). Like the following *albipunctata* the sexes of which undoubtedly belong together, CRAMERS and FELDERS species also belong together. Forewing of ♂ purple grey, in the basal area, a median band and at the margin especially apically chestnut-red, between them wavy transverse lines and subapically a small white hyaline spot. Hindwing somewhat lighter red-brown. The ♀ — a specimen exactly fitting the ♀ type of *bombycina* is before me — is almost quite the same as *albipunctata*-♀,

but the colour is deeper purple brown, the transverse bands and lines have a straighter course. Guiana; Amazons (Pebas). The figure denoted as ♂ of *bombycina* most positively does not belong to it and looks more like *gaveta* Dogn.

albipunctata. **A. albipunctata** Drc. (140 h) is hardly to be separated specifically from *martia* and probably its northern representative; on the whole larger, lighter, otherwise very similarly marked, the transverse lines more curved and more notched, more distinctly greyish-white, the median band in the ♂ broader and more sharply defined. Mexico.

concerpta. **A. concerpta** sp. n. (140 h) is closely allied to the two preceding species, but much larger, more slender and more extensively chestnut-red or better deep Pompeian red, so that torn greyish-white colouring only appears yet at the apex and subterminally, beside the two strongly and irregularly notched transverse lines and the small discal spot; the marginal area below the apex is also Pompeian red. Hindwing somewhat lighter reddish-brown, marked as in *albipunctata*. Type 1 ♂ from Sa. Catharina in the Berlin Museum. — **fucosa** f. n. (141 a) I reckon to be a form of it; here the last greyish-white colour has disappeared altogether, only instead of the transverse lines there are single light scales, and subterminally below the hyaline spots there is a feeble brightening; all the rest is of a deep brownish red, the hindwing as in the typical form. Type: 1 ♂ from Passa Quatro (Minas) in the Coll. ZIKÁN.

ardeola. **A. ardeola** Drc. (140 h). The figure in the Biologia has been made according to a ♀ and exactly corresponds with ours according to a ♀ from Leopoldina (Esp. Santo) from the Berlin Museum. Forewing grey, basal area and a broad median band deep purple brown, the basal area outside dentately bordered with grey, with a purple brown dentate line behind it; in the median band at the cell-end a narrow grey streak; subterminal line fine, crenulate, double, the inner portion on the veins inwardly projecting with small pointed dents, the exterior portion broader, forming distally faded purple brown bows, bordering above 6 on a large hyaline spot which forms the beginning of a submarginal line extending to almost below 3. Hindwing Pompeian red, at the anal angle greyish-white. SCHAUUS ranges here as ♂ his — **vitrea**, described from Costa Rica: thorax above dark violettish-brown, abdomen red-brown; forewing dark brown, below the cell and 4 blackish-grey, otherwise dusted with reddish; instead of the antemedian line scanty whitish scales, below 5 a fine crenulate lilac grey subterminal line, behind it lilac scales; between 6 and 7 a large hyaline spot, between 7 and 8 a smaller one; distal margin above 6 and below 5 somewhat incurved. Hindwing dark reddish-brown, at the anal angle scaled whitish and spotted darker brown. Expanse of wings: 34 mm. I should much rather consider — **mediana** Schs. (140 h), from Paranà, to be the ♂ belonging to *ardeola* the colouring and marking of which fully corresponds with its ♀ type; our figure originates from a Brazilian specimen. *ardeola* was originally described from Panama and the Amazons.

nina. **A. nina** Cr. (141 b) is a small light grey species with a slight reddish tint, the reddish-brown basal area shaped as in *ardeola*; instead of the median band only 2 chestnut-red spots at the costal and inner margin; subterminal line likewise as in *ardeola*, extending almost straight to close before the anal angle; between it and the hyaline spot a red triangular spot at the costal margin; submarginal line as in *ardeola*. Hindwing lighter red-brown, analwards whitish-grey. Guiana to Brazil.

moresca. **A. moresca** Schs. (141 b) is extraordinarily similar, though larger and much darker on the whole; the grey colouring is less reddish, the red-brown colour deep purple brown; course of subterminal line not so straight but rather somewhat concave towards the margin. Hardly to be separated specifically from *nina* and probably its westernmore representative in Peru and Colombia.

lepida. **A. lepida** Schs. (141 b) also belongs yet to this group. Forewing of a soft light grey, the basal area not darker, outside bordered by a fine notched line, adjacent to the latter at the costal and inner margins one dark red brown spot each, the median area remaining light, at the cell-end a fine black streak; at the costal margin a large postmedian red-brown trapezoid spot; postmedian line very indistinct, with fine vein-dots, an irregular subterminal line is somewhat better marked, between 6 and 7 a hyaline spot; fringe dark brown. Hindwing as in the preceding species though less red. Described from Dutch Guiana.

tropea. **A. tropea** Schs. (141 b), described as *Thelosia*, is now ranged here by SCHAUUS; it looks exactly like a small *Olceclostera*. Forewing grey, in places dusted with brownish and strewn with blackish-brown, with a notched brownish, finely darker edged antemedian band, a light grey cell-end streak, and a brown postmedian band; the interior very dark border-line is not notched, only feebly bent, the exterior line regularly notched, on the outside of it below the costal margin a small white spot and faint traces of a short dark submarginal line in the upper half of the distal margin. Hindwing very light, brownish-white, fringe somewhat darker. Castro (Paranà).

pervicax. **A. pervicax** Dogn. (141 b) was described as *Zanola*; forewing light yellowish red-brown with 3 almost straight transverse lines, the antemedian and postmedian ones on the averted sides bordered with whitish, the

median one at the cell-end distally angular, before the margin a cucullate line as in *Zanola* and *Colabata*. Hindwing hardly lighter with a distinct brown sinuous postmedian line. ♀ of a somewhat lighter and greenish shade. Colombia.

A. infesta Dogn. (141 b) belongs to the same group. Shape of wings narrower; forewing yellowish red-brown with 3 parallel darker brown, almost straight transverse lines, at the cell-end with a fine dark dot; subterminal line inside with traces of a fine parallel double line and outside indistinctly bordered with red-brown, at the costal margin darker in the shape of a spot, likewise with a cucullate line before the margin. Hindwing hardly lighter with a fine discal dot and 2 postmedian lines obtuse-angularly bent between 4 and 5. Colombia (Mt. Tolima, 3200 m), described after a ♀.

A. narda Schs. (141 b) looks different and was described as *Colabata*. Variable. Forewing whitish, more or less densely dusted with ochreous yellow, in some specimens the median area remains whitish with a feebly flesh-coloured tint, traversed by 3 oblique slightly bent parallel lines, the antemedian line inwardly bordered with whitish, the median line plainly red-brown, passing behind the black discal dot, the postmedian line far outside, looking like a white-filled double line, outwards fadedly bordered with brown; before the margin a feebly notched cucullate line. Hindwing white, with or without a rather distinctly defined brownish marginal band, sometimes besides with a fine feeble line before it and a blackish discal dot. Brazil (Castro, Paraná; Minas).

A. gaveta Dogn. (141 c) is only known to me from the figure; it was described as *Datana*, but it probably belongs to this place here and may be a smaller darker form of *narda*. Ground-colour darker cinnamon-reddish, with a broad red-brown antemedian band; the median area with the black discal dot remains lighter; the median line appears here also double like the exterior line, though not filled with white as the latter, but darkened; marginal area behind the cucullate line lighter. Hindwing light reddish brown. Ecuador, Loja.

A. satellitia Wkr. (141 c) is very different from all the species; forewing light violettish-grey, strewn with brownish, at the costal margin, basally, and in an oblique patch from the centre of the lower cell-end behind the centre of the inner margin of a purer bluish grey. Transverse lines fine and indistinct, subterminal line with fine vein-dots; at the cell-end a bean-shaped purple brown spot in a whitish ring; subterminally a purple brown spot comes down from the costal margin, inwardly faded, outwardly bordered by 3 white triangular hyaline spots, outside bordered with reddish-yellow. Hindwing and abdomen reddish-brown. Widely distributed in Brazil.

A. ennomoides Wkr. (141 c) initiates quite a different other group. Forewing light yellow with 2 narrow, very feeble reddish-brown antemedian and postmedian transverse bands, the anterior one being almost straight, the posterior one distally angular behind the cell and submedianly, between them a fine black discal dot; traces of an undulate-dentate subterminal line with vein-dots; marginal area darkened reddish-brown, subapically between 4 and 6 with two small white hyaline dots; fringe dark brown crossed by light. Hindwing lighter, at the margin brownish, with 2 brown straight parallel lines. Guiana to Brazil (Pará).

A. tuisa Schs. (141 c) is very similar to *ennomoides*, strewn with somewhat more brownish, the anterior transverse band consists of but one line which only bifurcates below the costal margin; the discal dot is distinctly white-ringed; postmedian line as in *ennomoides*, between the small hyaline spots spotted red-brown, also at the costal margin subapically a red-brown strigiform spot. Hindwing with a distinct median spot and a curved line close behind it and a less curved line farther outside. Costa Rica.

A. pertuisa Dogn. is similar to the preceding ones, somewhat more intensely marked. Forewing light ochreous yellowish, especially basad strewn darker, the antemedian transverse band blackish, very irregular, behind it 2 very irregular brownish lines with a brownish shadow between; the blackish postmedian line is notched and, behind the cell, strongly angled; margin strewn with brown. Hindwing as in *tuisa*. Venezuela.

A. taperinha Dogn. (141 c) is marked the same, the ground-colour somewhat more whitish, the marking blackish, with cloud-like spots, especially the antemedian band; discal spot larger, oval; the two postmedian lines are distant from each other, both undulate-dentate; of the two lines on the hindwing the interior one is feeble, brownish, the exterior one stronger and blackish. Amazons; Novo Friburgo.

A. olaus Schs. (141 d) almost resembles a *Thelosia*; forewing on the ochreous ground densely strewn with purple brown and lilac white, with 4 brown transverse lines; the two antemedian ones parallel, little curved, the 2nd thicker than the first; median line thickest, feebly S-curved and at the cell-end interrupted by the lilac-white cellular spot; postmedian line fine, rectangularly broken on 6, below it feebly undulate-dentate; behind it another whitish submarginal patch from the apex slightly towards the margin concave to the anal angle. Hindwing ochreous with 2 faint darker lines. Argentina.

A. signata Drc. was not before me, but according to the insignificant description it evidently belongs near *olaus*. Forewing dark brown, densely and finely strewn with whitish-grey, with but one feeble antemedian line; at the cell-end a light spot and behind it a curved dark brown line from the costal margin to the inner margin; a submarginal bent light grey band from the apex to the anal angle; hindwing reddish-brown with 2 feeble brown lines. Expanse of wings: ♂ 2.4, ♀ 3 inches. South-Eastern Peru. S. Domingo, at an altitude of 6000 ft.

2. Genus: **Thelosia** Schs.

Very near to *Apatelodes*, distinguished by the somewhat more produced, more pointed apex of the forewing and the rounded or straighter, on 5 produced distal margin. Neuration exactly as in *Apatelodes* or *Colabata*, but sometimes vein 9 of forewing is absent or it is stalked with 10 on 8. Hindwing of ♂ rounded with a straight costal margin, of ♀ more elongate.

Type: *Th. phalaena* Schs.

phalaena. **Th. phalaena** Schs. (141 d) ♂ above without any markings dark reddish brown; beneath duller brown, at the costal margins in both wings densely strewn with chrome, with black cellular dots and a brown distal transverse line. The ♀ is above dull brown with 2 darker brown almost straight transverse lines which are outside very broadly strewn with light violettish grey like the basal area and the thorax. Abdomen and hindwing light yellowish ochreous with an indistinct cellular dot and a brown postmedian line parallel to the margin. Brazil (Novo Friburgo).

camina. **Th. camina** Schs. is in the female very similar to *phalaena*, but the exterior line is bent from the costal margin to 2 from where it extends straight to the inner margin; the violettish-grey dusting is absent, the forewing is more fawn-coloured, finely strewn with a darker brown. Hindwing with an indistinct dark median line. The median area is sometimes prominently darker brown. Expanse of wings: 38 mm. Castro (Paraná). ♂ still unknown.

resputa. **Th. resputa** sp. n. (141 d). Forewing of ♀ on the very light yellowish grey ground densely strewn with brown with 2 very faint darker brown transverse lines, the anterior one slightly bent, broad, faded, the posterior one narrower, obliquer than in *phalaena* from close before the apex to the last quarter of the inner margin, outside edged somewhat lighter; between them at the cell-end a whitish discal dot. Hindwing light ochreous with a very faint median spot, the postmedian line parallel to the margin. Type: 1 ♀ from an unknown habitat c coll. STGR. in the Berlin Museum.

postflavida. **Th. postflavida** sp. n. (141 d). Thorax brownish-grey, abdomen ochreous. Forewing of ♂ on the light greyish-yellow ground densely strewn with blackish with 3 indistinct darker purple brown nebulous lines, the broadest close behind a faded discal spot, behind it another subterminal line. Hindwing lemon-coloured, two thirds of the inner margin transversely irrorated with blackish, with 2 black transverse shadows obliterating towards the costal margin and running parallel to the distal margin, the median one being strongest, the subterminal one much fainter. Type: 1 ♂ from Passa Quatro, Minas, Brazil in coll. J. ZIKÁN.

truvena. **Th. truvena** Schs. (141 c) ♂ light greyish-brown, finely strewn darker, with a straight brown antemedian line and a brownish shadow behind it; at the cell-end a small black dot with a straight brown line behind it; before the margin besides 2 very fine, rather indistinct lines with darker scales between them. Hindwing light fawn with 2 very indistinct brown transverse lines. South Eastern Brazil, Sao Paulo.

truncata. **Th. truncata** Schs. (141 e), described as *Trabala* also belongs to this place. Forewing of ♂ yellowish brown, with an indistinct basal and an irregular median brown transverse line; a stronger straight brown oblique postmedian line and behind it another feeble one. Hindwing brownish yellow with an indistinct brownish median line. Castro, Paraná. — **rectilinea** Dogn., according to the information by SCHAUS, is merely a local form of it, of a similar colouring, but behind the straight postmedian line we miss the following finer line; nor are the two feeble antemedian lines mentioned in the description. Bolivia (Songo).

jorgenseni. **Th. jorgenseni** Schs. (141 e) is similar though darker, particularly the hindwing. Forewing cinnamon-brownish, the basal area darker, at the cross-vein a small blackish-brown dot; the dark brown postmedian line is quite straight, with a fine somewhat wavy line behind it; another fine submarginal cucullate line from 7—2. Hindwing darker loamy brown, at the margin cinnamon-brownish with a feeble discal dot and a brown indistinct median line. Paraguay.

minois. **Th. minois** Schs. (141 e) is still much darker, deep red-brown, with very faint traces of a darker antemedian line, an indistinct discal dot and a stronger but also nebulous postmedian line which runs as in *jorgenseni*, though it is very feebly concave towards the margin; an antemarginal wavy line. Hindwing still darker brown with golden brown fringe. Brazil (Petropolis).

meldola. **Th. meldola** Schs. (141 e) would almost fit better to *Apatelodes*, but SCHAUS places it here. Forewing basally and at the margin grey, the median area bordered by two light transverse lines is dark reddish-brown, in it a fine oval light-encircled discal spot; subterminal area lighter reddish brown, between 5 and 6 a small light spot; the veins from the antemedian line to the grey marginal area distinctly light. Hindwing almost whitish, at the margin somewhat smoky. Castro, Paraná.

3. Genus: **Falcatelodes** gen. n.

Closely allied to *Apatelodes*, but separated by the quite different shape of the wings resembling that of the following genus *Drepatelodes* from which it differs in the stronger, *Apatelodes*-like structure and the different

neuration. Apex of forewing obtusely falciform. Distal margin very oblique with traces of a slight projection on 5. Hindwing with a long inner margin and a somewhat roundly produced anal angle. On both wings the lower cell-end is produced like a lobe, especially long on the hindwing, and it only despatches vein 4, whilst 3 rises far from it in both wings. 6 and 7 stalked in both wings. Only 1 species:

F. anava *Drc.* (= *laffonti* *Dogn.*) (141 d). Forewing fawn with a slight pinkish tint, dusted darker brown; a light almost straight antemedian and submarginal transverse band; in the median area 2 almost parallel somewhat faded brown transverse lines, behind them a fine, distally light-edged, towards the margin concave subterminal line with fine black vein-dots which, beginning from 5, are enlarged into small black dents; between 5 and 6 a submarginal triangular white hyaline spot; marginal area more darkened. Hindwing pale fawn with 2 oblique brown parallel transverse lines, inner margin darker haired; fringe especially in the lower marginal half very dark. Ecuador; Peru; Bolivia.

4. Genus: **Drepatelodes** *gen. n.*

Closely allied to *Apatelodes*, but the structure is weaker, the body smaller and more slender. Forewing at the costal margin bent towards the apex and terminating in a falcate point, the margin sometimes with faint traces of denticulation. On the forewing 6 is very shortly stalked with 7 + 8 and 3 + 4 (the latter not always), on the hindwing 3 + 4 and 6 + 7 rise on long stalks, 3 + 4 rising with 2 almost from the same place.

Type: *D. tanais* *Drc.*

D. tanais *Drc.* (141 e), originally described from 1 ♀ the type of which from the Berlin Museum could be examined, is brown with 3 almost straight oblique stripes, the two inner ones towards the base, the outer one towards the margin feebly bordered with a lighter shade; behind them follows a strongly undulate-dentate subterminal line rising directly before the apex, its dents on 2 and 3 almost touching the margin and between them receding in a bow. Hindwing with similar lines, subterminal line very irregular. Panama, Chiriqui.

D. friburgensis *Schs.* (141 c) is similar to *tanais*, with much more distinct blackish transverse lines, all 4 of them basally light-edged, not so straight, especially the 3rd somewhat concave towards the margin, the subterminal line hardly visibly notched, obliterated analwards. Hindwing towards the margin darker, the 3 lines rather indistinct. Novo Friburgo.

D. ostenta *Schs.* Forewing yellowish-reddish with a slight lilac shade, scantily strewn dark brown, with 3 fine dark brown oblique lines, the first antemedian one angular on the median vein, the second from close behind the centre of the costal margin to the centre of the inner margin, the third from $\frac{3}{4}$; at the margin a number of light oblique streaks outside bordered with blackish-brown from the end of vein 7, incurved to 4 and then straight to 2; at the cell-end a blackish spot. Hindwing in the basal third light brown, behind it darker brown with a lighter brown postmedian band. Expanse of wings: 36 mm. French Guiana.

D. umbrilinea *Schs.* (141 e) looks like *friburgensis*, lilac brownish, in the marginal area the forewing is of a purer grey, with fine white veins; transverse lines quite similar as in *friburgensis*, the median line more excurved below the costal margin, outside shaded darker brown, the third straight, the subterminal line more distinctly dentate, not so far incurved, i. e. nearer to the margin. Hindwing more greyish-brown. French Guiana.

D. trilineata *Dogn.* is very near to *umbrilinea* and to *tanais*, the ground-colouring without the lilac tint, yellowish reddish-brown, and the median line is quite straight, not bent below the costal margin. It may be only a form of *umbrilinea*, since it originates from the same habitat in French Guiana. Both have an almost entirely white under surface.

D. quadrilineata *Schs.* (141 e) is larger than the preceding ones, light yellowish-brown, with 4 almost parallel oblique lines, all of them inwardly bordered with a somewhat light colour, only the outermost slightly concave towards the margin. Hindwing still lighter, with a feeble median line, and between 3 and 6 with small dark submarginal spots. From the Rio Madeira (Brazil).

5. Genus: **Olceclostera** *Btlr.*

It shows exactly the same structure as *Apatelodes*, but the margin of the forewing is slightly dentate below 5, though often hardly noticeable. Hindwing not so round, but mostly somewhat prolonged at the anal angle, or if that be not the case, the margin is very little dentate. The genus contains quite a number of extremely similar and hardly separable, mostly insignificant grey species, also a North-American representative.

Type: *O. irrorata* *Btlr.*

- truncata*. **O. truncata** Wkr. (141 f) is the most easily discernible species; forewing above yellowish-grey with a slight olive shade and 4 lighter transverse lines, the first from the first third of the costal margin straight to the inner margin and like the second somewhat narrower and more indistinct line distally bordered with brown, the 3rd and 4th subterminally near together and between them with a darker filling; close behind the distal line between 4 and 5 a small dark brown spot, and above 5 a hyaline spot; fringe speckled somewhat darker. Hindwing darker brown with a light median line which is very distinct beneath. Rather common, from Brazil.
- irrorata*. **O. irrorata** Btlr. (141 f) is somewhat smaller, reddish-brown, with dark red-brown scales; and basally and in the proximal half of the inner margin strewn with large lilac-whitish scales, with 4 dark brown transverse lines, the first as in *truncata* inside bordered with lilac white, the second near behind it, somewhat wavy, and distally angled on 1; then follows a fine light cross-vein streak distally bordered with dark; postmedian line curved round the cell-apex, subterminal line angular between 5 and 6, with a hyaline spot behind it. Hindwing somewhat lighter and more reddish. Guiana; Amazons.
- amelda*. **O. amelda** Dyar (141 f) is somewhat similar to *irrorata* by the dense lilac-grey strewing on the brown ground, but the transverse markings are represented here by quite obsolete darker brown bands being only noticeable by less light strewing, one being antemedian, one postmedian, a very feeble subterminal one, and the fourth close at the margin which is hardly dentate here, the projection on 5 is also but little rounded. The hyaline spot is somewhat larger than in *irrorata*, sometimes there is below it another very small one. Hindwing red-brown, with a slightly darker subterminal line. Mexico (Zacualpan).
- cuyabata*. **O. cuyabata** sp. n. (141 f) resembles the following *bilinea*, but it is smaller, darker, and much more variegated owing to the coarser brown strewing; the two antemedian lines are more undulate, especially the outer one which is inwardly angled on the submedian fold and outwardly on 1; at the cell-end a whitish transverse streak; postmedian line behind the cell obtuse-angularly rounded, it is the strongest of the lines, closely followed by the very fine feeble subterminal line, behind it another undulate-dentate submarginal line; the small hyaline spot on 6 is almost quite absent. Hindwing lighter reddish-brown with a median line which is angled on 6, and a feebler subterminal line. Type 1 ♀ from Cuyaba (Matto Grosso) in the Berlin Museum.
- bilinea*. **O. bilinea** Schs. (141 f) shows quite similarly arranged lines as *irrorata*, but the ground is here a brownish light grey, the lines are fine and dark, not edged lighter, 2 somewhat feebler antemedian lines, the 3rd is exactly in the middle and more distinct and darker than the others, almost straight; subterminal line almost undulate-dentate; behind the small hyaline spot there is another line being dentate as in *amelda* and disappearing analwards, behind it the margin is somewhat darker grey. Hindwing light reddish-brown with 2 shadow-like darker transverse lines. Brazil.
- azteca*. **O. azteca** Schs. (141 f) is somewhat larger, bluish ash-grey, strewn with brown, between the two antemedian and between the two postmedian lines of a brighter brown; the two anterior lines are slightly undulate; at the cross-vein a black dot amidst whitish scales; postmedian line almost rectangular on 6, behind the subterminal line especially analwards somewhat more intensely strewn with whitish; behind the yellowish hyaline spot an undulate-dentate short submarginal line disappearing analwards in a whitish brightening. Hindwing light red-brown, in the inner-marginal half and at the distal margin broadly darkened, with 2 rather distinct median and postmedian transverse lines. Mexico and Guatemala.
- avangareza*. **O. avangareza** Schs. (141 g) is extremely similar to *azteca* and probably only a form of it; somewhat smaller, lighter, the transverse lines nearer together, the ground between them less contrastingly brown, the black discal dot absent: the undulate-dentate submarginal line is more distinct and continued to the anal angle; apex of the wing somewhat sharper, like the marginal dents, too. Hindwing lighter brownish. Costa Rica.
- angelica*. **O. angelica** Grt. (= *hyalinopuncta* Pack.) (141 g) is in the male somewhat more slender than the preceding species, the abdomen is longer. Forewing light ashy grey with 2 nebulous light brownish slightly undulating antemedian and postmedian transverse bands; the anterior one has before it one dark dot each on the median and submedian fold, the posterior one behind it a row of vein-dots, which are connected by more or less distinct brownish undulate lines; then follows another very feebly marked brownish subterminal band and subapically a quadrangular and below it a smaller triangular, distally finely brown-edged hyaline spot; fringes brown, at the ends whitish. Hindwing brownish-grey with a feebly darker median line and distally light-edged postmedian line. Atlantic States. — **indistincta** H. Edw. is somewhat more brownish, more coarsely strewn and with quite obsolete transverse markings. Florida. — **seraphica** Dyar differs in the less deeply dentate distal margin, smaller hyaline spots, the upper one of which sometimes disappears altogether, and the grey, not brownish, feeble transverse bands; hindwing also greyer and without any reddish tint. Texas. — The larva of *angelica* is grey with a brown head: on the body fine black longitudinal lines assuming a V-like shape on the dorsum of the segments 5–10 and enclosing 2 small yellowish-green elliptical spots; the head is covered by the long whitish and brown, anteriorly projecting hair; between the long white hairs which are in places densely arranged like brushes there are single shorter stiff red bristles. The larva lives on ashes and lilacs.

O. bifenestrata Schs. (141 g) is probably a southernmore representative and hardly specifically different, *bifenestrata*. It is distinguished by a more complete (at least in the costal-marginal portion) black fine antemedian line, the nebulous band behind it being grey, hardly brownish, and much narrower; at the cross-vein there is often a black dot; the postmedian grey nebulous band is very narrow, too; fringe at the ends of the veins lighter speckled. Hindwing blackish-brown, at the margin darker. Described from Costa Rica, also from Rio de Janeiro and Sa. Catharina there are numbers of similar forms before me, thus apparently widely distributed.

O. maya Schs. (141 g) may be the somewhat more differentiated Mexican intermediate form between *maya*. the two preceding ones. Smaller, of a soft light grey, very scantily strewn with black, the hardly darker grey transverse bands as in *bifenestrata*, the postmedian one outside more distinctly defined by a blackish notched line, at the cell-end with a fine black dot; subapically only a hyaline spot; fringe only between 2 and 4 blackish-brown. Hindwing light reddish-brown. Jalapa; Colima.

O. magniplaga Schs. (141 g). Also like *maya*, somewhat larger, slender, apex of forewing more produced, *magniplaga*. the margin below the angle somewhat more oblique; marked like the 3 preceding species, but easily discernible by the reddish-brown marginal spot forming the exterior border of the undulate-dentate submarginal line and occupying the whole marginal area down to 2, being broadest between 4 and 6, where it borders on the large quadrangular hyaline spot. Hindwing reddish-brown. Panama; Costa Rica.

O. nigripuncta Schs. (141 g) belongs to the same group and is recognizable by the black inner-marginal *nigripuncta*. spot forming the lower end of the antemedian band; the two nebulous bands are chiefly darkened in the costal-marginal portion, especially the postmedian one in the costal-marginal third behind the cell; moreover, the markings are rather extinct except the postmedian row of vein-dots; the subapical hyaline dot is very small, below it another small blackish spot; the ends of the fringes are blackened. Hindwing brownish-grey. Guatemala; Costa Rica.

O. interniplaga sp. n. (141 h) is similarly marked as *nigripuncta*, but at once discernible by the two *interni-* deep blackish-brown large inner-marginal spots each of which forms the end of the two darker transverse bands; *plaga*. ground-colour ochreous brown, in the ♀ more red-brown; in the latter the whole antemedian band is darkened blackish, the distal margin being very strongly notched. Female type from Arouary (Cayenne), male type from an unknown habitat, both in the Berlin Museum.

O. reperta Wkr. (141 h) is somewhat similar, but the two inner-marginal spots are absent, the *reperta*. ground-colour is more a coppery red-brown, strewn with lilac whitish, the margin is much less strongly notched; the anterior faded transverse band is very broad, tinted purple, the posterior one is narrower, hardly curved round the cell-end, in *interniplaga* very strongly so; the other markings are the same. Hindwing reddish-brown. Guiana; Brazil.

O. basifusca sp. n. (141 h) is allied to *reperta*; ground-colour greyish-brown without a red tint, the whole *basifusca*. basal area as far as the exterior edge of the black antemedian band, which is more oblique than in the other species, densely strewn with black; the interior border of the antemedian band is distinct and irregularly notched, projecting with a pointed tooth on the median vein towards the margin; postmedian band more intensely blackened only at the costal and inner margins, at the inner margin it approaches the anterior band; marginal area with hardly any markings, the hyaline spot quite yellowish-green, oblong-quadrangular, outside bidentate; fringe black, crossed light on the veins. Hindwing blackish-brown with a reddish reflection, beneath greyish-brown, irrorated, with a black discal dot, a brown median line which is angular between 5 and 6, and an undulate-dentate subterminal line. Type: 1 ♂ from Campo Bello (Rio de Janeiro) in the Coll. ZIKÁN.

O. microps Wkr. (141 h) is a more common species. Forewing on the light reddish-brown ground densely *microps*. strewn with brown and coarsely with light lilac grey, below and behind the cell-end the light ground-colour is somewhat more prominent; antemedian line fine, irregular, black, below 1 removed towards the margin, behind it a hazy greyish-brown transverse band; at the upper cell-end a fine black dot; postmedian line greyish-brown, behind the cell and submedianly excurved, between basally concave, between this line and the undulate subterminal line a few black vein-dots; hyaline spot light greenish, quadrangular, outside concave, finely encircled by black, behind and below it traces of a dentate short submarginal line which is mostly somewhat broader rusty brown below the hyaline spot. Hindwing brownish, lighter in the basal half of the costal margin, with 2 dark, median and postmedian transverse lines, the latter beneath not denticulate. Brazil.

O. amoria Drc. (141 h), well figured in the Biologia, is very near to *microps* and the following *indentata*; *amoria*. larger and more slender than *microps*, and of a light reddish-brown ground-colour, scantily strewn with grey, the light brown bands as in *microps*, with a black cellular dot and a white subapical hyaline spot. Hindwing reddish brown with a narrow brown postmedian line. Fringe darker brown. Central America to Ecuador and Brazil.

O. indentata Schs. (141 i) is extremely similar to *microps*, somewhat larger and more slender on an *indentata*. average, looking somewhat lighter owing to its being less strewn, especially in the discal area; antemedian band more oblique, more notched in its exterior border, both the bands brighter reddish-brown at the costal margin;

the hyaline spot more elongate and outside deeper concave. Hindwing darker brownish-grey, beneath the distal transverse line is finely crenulate. Guatemala; Costa Rica; a somewhat smaller and beneath greyer and more monotonous specimen from Colombia (Muzo).

guanduna. **O. guanduna** *sp. n.* (141 i) is likewise near *microps*, but much more variegatedly spotted and easily discernible by whitish scales being accumulated at the cross-vein and by a transverse row of white subterminal dots arranged outside on the black vein-dots; the two median lines are much closer together, the posterior one is less curved; the first antemedian line is much more notched than in the preceding species; marginal area more profusely strewn with white. On the quite pale yellowish sand-coloured hindwing only the inner-marginal portion and a marginal band are broadly darkened brownish-grey, 2 feeble transverse lines are not angled below the costal margin as in the preceding species, but slightly bent. Beneath the forewing is almost yellowish-white, the hindwing densely and coarsely strewn with dark brownish-grey, the veins whitish, the transverse lines much stronger than above, obtusely angular on 5, the distal one outside bordered with white. Type: 1 ♂ from Guandu (?) (Espiritu Santo) in the Berlin Museum.

mutusca. **O. mutusca** *Schs.* (141 i) is above lighter grey than *microps*, only very scantily strewn with black, at the apex darkened, with the usual 2 transverse bands, the interior edge of the basal one and the exterior edge of the distal one marked by some black vein-dots, behind the latter another notched subterminal line; hyaline spot small, round, yellowish, below it mostly a tiny black spot. Hindwing brownish with 2 transverse lines, the interior line faded and more reddish than the exterior, more distinct, blacker line. Beneath discernible by the very strongly notched exterior transverse line of the hindwing. Rio de Janeiro.

castrona. **O. castrona** *Schs.* (141 i) is smaller, light grey, scantily strewn with black, in the costal-marginal portion also with some red-brown scales; both the antemedian and postmedian transverse lines are very close together so that they almost look like double lines without any brownish filling between, only at the costal margin their beginnings are somewhat broader red-brown, the two postmedian lines at the costal margin like 2 oblique costal-marginal streaks, behind them a small red-brown triangular spot representing the beginning of the otherwise quite extinct submarginal line; hyaline spot very small. Hindwing light brownish, 2 transverse lines hardly noticeable. Beneath very pale brownish, the hindwing somewhat more coarsely strewn with black, both wings with 2 extinct transverse lines, the interior one on the hindwing broader and more red-brown, the exterior one strongly notched. Castro (Paraná).

castra. **O. castra** *Jones*, described from a ♀, was not before me. Forewing ochreous, strewn with blackish-brown, especially costally and in the marginal area; a faded dark blackish-brown antemedian line is very strongly undulate, the similar postmedian line less distinct, behind it a dentate subterminal line; margin ochreous, fringe blackish-brown; at the cell-end a large round blackish-brown spot, the hyaline spot between 5 and 6 small. Hindwing glossy ochreous with 2 postmedian lines, the interior one red-brown, the exterior one more distinct and blackish brown. Beneath on the ochreous forewing with a brown cellular shadow being darkened on the cross-vein, and an undulate brown postmedian line; hindwing marked as above, but more intensely strewn dark and with a discal dot. Expanse of wings: 35 mm. Castro Paraná.

brama. **O. brama** *Schs.* (141 i) is above separated from the preceding species by the red-brown colour and its larger size: forewing strewn with a darker purple brown, especially in the basal third, the broad antemedian band still darker; at the cross-vein there is a small black light-edged spot; postmedian line of the usual shape, behind it at the costal and inner margins one small dark spot each; the undulate-dentate subterminal line on the inward dents intensified by black vein-dots; the subapical hyaline spot is yellowish, outside indented, below it often with a small black spot. Hindwing dark red-brown with 2 feeble transverse lines the distal one of which is crenulate beneath. Colombia; also from Sa. Catharina.

oriunda. **O. oriunda** *Schs.* (141 i). Forewing dark ochreous, with brown transverse bands, the interior one basally distinctly bordered with black, outside faded, the exterior one on the contrary outside distinctly notched, inside faded; between the bands a black discal dot: below the small hyaline spot a black spot in which there is often another small hyaline spot. Hindwing coloured like forewing, with 2 transverse lines. Maroni R., French Guiana.

ibar. **O. ibar** *Schs.* (141 i) is quite different; body light sand-coloured, head and thorax suffused with olive-grey, abdomen with lighter rings. Forewing light sand-coloured, dusted with light olive-grey, with double sandy brown antemedian and postmedian lines, the latter finely bordered with a darker colour, the outer line on 5 distally angular; the light subterminal line runs straight from the costal margin before the apex to the anal angle, before it at the costal margin a dark brown triangular spot, and behind it above vein 5 a black dot; apex pointed, almost falcate, the margin slightly dentate. Hindwing with a cinnamon-reddish tint with a slightly darker median band, bordered by a dark median and a light postmedian line. Beneath the forewing is without the antemedian line; hindwing bright, median band brown, outside distinctly bordered with white. From Cordoba (Argentina), described according to a ♀.

6. Genus: **Thyrioclostera** *gen. n.*

The only representative, originally described as a *Callopietria*, by DRUCE as *Carthara*, would match very well *Olceclostera* by the shape of the wings, but the neurulation is different. According to SCHAUS who

examined the type, vein 2 of forewing rises behind the middle of the cell, 3 and 4 on a distinct stalk, 5 comes from the centre of the cross-vein, 6—10 are stalked, and 11 rises near the cell-end. On the hindwing 3 and 4 on a short stalk, 6 and 7 on a longer one. Only 1 species.

Th. trespuntada Dogn. (= *bifasciata* Drc.) (141 i). Forewing chestnut-brown, in the discal area darker, *trespuntada*. with 2 whitish antemedian and postmedian transverse lines, the latter feebly S-shaped; at the cell-end there are 3 silvery dots in a triangle; veins of marginal area distinctly light, at the costal margin before the apex a light-edged triangular spot. Hindwing hardly lighter red-brown, at the anal angle lighter yellowish-grey, above bordered by blackish. Peru; Ecuador.

7. Genus: **Colabata** Wkr.

Forewing shaped as in *Apatelodes*, but the margins of the wings are dentate; neuration also similar; in the ♀ forewing 9 + 10 stalked with 8, whilst the ♂ often lacks vein 10. Shape of hindwing generally rounded.

Type: *C. lineosa* Wkr.

C. marginalis Wkr. (= *lineosa* Wkr.) (142 a). Ground-colour of forewing light yellow, but dusted with *marginalis*. bronze brown excepting the base and marginal area, at the costal margin and in the central area strewn with lilac whitish, with a dark, light-edged discal spot; with 2 fine brownish-grey antemedian and 2 postmedian lines, the first being strongly notched, the second almost rectangularly bent below the costal margin, the third the same on 5, the fourth undulate-dentate; in the yellow marginal area another regularly deeply dentate cucullate line. Hindwing in the disc hues with light brownish, with 2 median lines, the interior one strongly curved. The much larger ♀ is lighter yellow, less brown, and not at all dusted with lilac white. Brazil.

C. mendozata Dogn. (142 a) is very similar to *marginalis*, on an average somewhat smaller; ground- *mendozata*. colour the same, the median area and particularly the costal margin lilac white; the two postmedian lines are more separated, especially at the costal margin; the marginal area is hardly lighter yellow than the brass-brown subterminal area, therefore the marginal dentate line is much less distinct than in *marginalis*; the discal spot of *marginalis* is absent. Hindwing very similar to that of the latter species. Argentina and Paraguay.

C. thea Schs. (142 a) is likewise very closely allied to the preceding species, but easily separated by the *thea*. much sharper angle on vein 5 of the forewing with a distinct concavity above it and a more distinctly notched distal margin; colouring almost the same, but instead of the brass or bronze brown strewn much less strewn with brownish grey. Median area only whitish at the costal margin; at the cell-end a white transverse streak enclosing a small dark dot; the transverse lines, especially the second and third, are straighter, the third forms a sharp right angle on 5. On the less reddish-hued, more grey-dusted hindwing the transverse lines are more distinct. Argentina.

C. basifulva Kaye (142 a) resembles the ♀♀ of the preceding species, but by the shape of the wings it *basifulva*. forms the transition to the two following species. Forewing light ochreous, especially basad and subterminally strewn with red-brown, with the usual transverse lines; at the cell-end a dark streak. On the yellow hindwing a dark discal line is united at the lower cell-end with the postmedian line. Trinidad; surely only a form of *marginalis*.

C. ephora Cr. (= *uzita* Drc.). Forewing yellowish ochreous, basally and subterminally but little strewn *ephora*. dark, the antemedian band straighter than in the preceding species, on the whole distally concave, only on the median somewhat distally angular; postmedian band much less curved and the notched line behind it towards the costa less distinct, subapically a nebulous band behind it; submarginal notched line as in the other species. Hindwing with 2 coppery red-brown nebulous bands. Guiana.

C. lybia Drc. (142 a) is very much like *basifulva*, less strewn, excepting the costal marginal portion, *lybia*. the transverse lines almost exactly as in *marginalis*, between them a dark spot in a yellow halo at the cell-end. Hindwing light yellow with 2 reddish-brown nebulous bands, the exterior one near the margin, the interior one thinner, almost rectangularly rounded on 6. Panama to Brazil. Southernmore specimens are mostly more strewn and form the transition to — **nubilosa** Dogn. (142 b) which I do not consider to be a separate species, *nubilosa*. just like the last 3 species, anyhow. In *nubilosa* the ground-colour is more bony white, more densely strewn with red-brown, the darkest subterminally at the costal margin where it represents a square dark costal-marginal spot. French Guiana. — Still much darker, at the same time also larger and with broader wings is — **hoppi** f. n. *hoppi*. (142 b), from Chachatoy (Colombia); here almost the whole wing is strewn with purple brown, intermixed with lilac white scales, the ground-colour showing through deeper ochreous, the purest near the small discal dot and in the lower half of the marginal area. Hindwing more extensively suffused with red-brown, before the subterminal broad nebulous band separated by a narrow light interspace with a fine line. Types ♂♀ in the Coll. HOPP-Charlottenburg.

dora. **C. dora** Schs. (142 c) is smaller and apparently rather variable, the light yellow ground irregularly strewn with greyish-brown, in the middle costal-marginal portion also somewhat whitish; both the antemedian transverse lines irregularly notched, both the posterior ones strongly undulate-dentate; the exterior one outside bordered with light yellow; at the cross-vein a small black dot in a light yellow halo; subterminally a light yellow though also slightly strewn undulate line, and before the margin the usual fine black cucullate line; distal margin strongly dentate. Hindwing densely suffused with brown, the lines as in *hoppi*, i. e. before the subterminal band with a fine line besides. Brazil.

liliana. **C. liliana** Schs. (= *jucunda* Dogn.) (142 b) differs from the preceding species in the colouring and marking. Ground-colour bright ochreous, almost rusty yellow, with 3 fine rather straight transverse lines which are basally broadly bordered with pinkish lilac like the greatest part of the median area; at the cell-end a small strigiform spot in a light oval halo; the antemarginal dentate line approaches the margin on 2 and 5 more than on the other veins. Hindwing with greyish-brown nebulous bands as in *dora*. Brazil, Novo Friburgo.

hezia. **C. hezia** Drc. (142 c) is marked similarly as the preceding species, but the rusty yellow ground-colour is only traceable in the basal portion, the rest of the wing being densely dusted with greyish-brown, without any pinkish lilac tint; antemedian and postmedian transverse lines somewhat more curved than in *liliana*, the anterior one inwardly bordered with chalky white like the costal margin which is triangularly expanded in the middle and comprises the discal dot; the posterior transverse line is finely undulate and on both sides narrowly bordered with white; median line absent, instead of it a feeble grey shadow extends from the lower cell-angle to the centre of the inner margin; the antemarginal cucullate line is far remote from the margin and feebly dusted with white. Hindwing brownish-grey with whitish ends of the fringe and indistinct blackish nebulous bands. Antennal shaft white, pectinations blackish-grey. South-Eastern Peru.

illauta. **C. illauta** sp. n. (142 c) is smaller and more slender than the preceding species, but with broader wings, a pointed apex and a slight concavity below it and a convex distal margin, scarcely dentate. Forewing of ♂ on the tan-coloured yellow ground throughout strewn with blackish-brown, with 2 almost straight transverse lines edged with white as in *hezia*, and a feeble median line between them passing outside close by the black discal dot to which a chalky white spot is appended below; costal margin, especially in the distal half of the median area strewn with white; submarginal cucullate line as in *hezia*. Hindwing light yellowish-grey with a broad postmedian nebulous band of blackish irroration. The ♀ is almost quite light yellow, strewn scarcely darker, the transverse lines more distinct and more broadly edged with white. According to a couple from Passa Quatro (Minas), Brazil; types ♂♀ in the Coll. J. ZIKÁN.

8. Genus: **Zanola** Wkr.

Distinguished from the other genera by the costal margin of the hindwing being straight or concave and showing an indenture before the apex. Neuration exactly as in *Apatelodes*, but shape of wings generally broader. In the ♂ the distal margin of the forewing is not or hardly concave below the apex, and below it more or less dentate.

Type: *Z. difficilis* Wkr.

verago. **Z. verago** Cr. (= *difficilis* Wkr., *vivax* H.-Edw., *harpis* Drc.) (141 k, 142 c) ♂ of a very variable ground-colour, the yellow ground being strewn with brownish-grey, more or less violet or red-brown; of the purest yellow is a spot below the cell behind the antemedian line and 2 subterminal spots in the upper half of the wing; costal margin mostly rather broadly dusted with lilac white; the dentate transverse lines usually vanish in the dark-strewn ground; a small discal streak in a light oval. Hindwing densely strewn like forewing, excepting the somewhat yellow marginal portion. The larger ♀ is almost purely yellow, little strewn. Under surface variegated, especially the hindwing of a bright lilac, with 2 feebly dentate transverse lines. Mexico; Venezuela; Surinam.

impedita. **Z. impedita** Dogn. (141 k) is above extremely similar, but it also shows a concave indenture below the apex of the hindwing, and it is at once discernible by the 2 very strongly dentate transverse lines on the hindwing beneath; the other marks of distinction stated by the author, i. e. the postmedian line touching the subterminal line at the anal angle, does at least not prove correct in the specimens before me from the same takings from Mt. Tolima. Colombian Central Cordilleras, Mt. Tolima.

aegina. **Z. aegina** Cr. (141 k) has narrower wings than *verago* and is much more uniformly and densely dusted with dark red-brown, basally and in the lower two thirds of the marginal area with a slight rusty yellow shine, on the veins and in the apical portion of the costal margin dusted with bluish; the notched transverse lines are little prominent in the dark ground; at the cell-end a red-brown discal spot pupilled yellow above; the usual antemarginal cucullate line; fringe white, on the ends of the veins broadly blackish-brown. Hindwing monotonously dark red-brown, with white fringe, only apically with a slight rusty yellow shine, below the apex with a deep indenture. Guiana.

elongata. **Z. elongata** Schs. (141 k) is similar to *aegina*, but it has longer and narrower forewings with a more oblique distal margin which is much less dentate, which, however, may only look so owing to the absence of the

fringe; moreover, coloured and marked as *aegina*, but the apex is rusty yellow as far as the tip. Hindwing more rounded without the indenture below the apex, blackish-brown with a whitish apical spot. Described according to a ♀ from Costa Rica (Tuis).

Z. fieldi Schs. is smaller. Body above dark reddish brown, beneath reddish yellow, abdomen with *fieldi*. oblique brown lateral streaks. Forewing dark brownish-grey, costal margin and basal third below the cell dull reddish-brown; dark antemedian, median and postmedian lines marked from below the subcosta; at the cross-vein a reddish-yellow streak of scales; a fine dark subterminal line is distally arcuately dentate, an antemarginal line reversely so, between 4 and 5 before it a reddish-yellow spot; at the anal angle a light brown shadow. Hindwing dark brown, above the cell and 6 reddish-brown, at the costal margin in the middle whitish. Expanse of wings: 30 mm. Costa Rica.

Z. lychnica Dogn. (141 k) is a very small species looking like a small *verago*. Forewing lighter and darker *lychnica*. red-brown with a fine white antemedian line which is inwardly shaded darker brown and outside rusty yellow; at the cell-end a dark streak in a whitish oval, above it white dusting at the costal margin, below it a dark median shadow; a fine white postmedian line forms a large bow round the cell; behind the antemarginal cucullate line small reddish-yellow marginal spots, the largest of which recedes between 6 and 4 as far as the postmedian line. Hindwing monotonously light brown. Peru (Upper Madre de Dios).

Z. poecila sp. n. (141 k) is somewhat similar to *lychnica*. Forewing brownish-grey, in the basal third *poecila*. and apically rusty yellow, — the thorax is more or less rusty brown, too — with 3 fine black transverse lines, the antemedian one inside bordered with lilac white, the white colour separated at the costal margin in the shape of a V; veins fine black; at the cell-end a black discal streak in a reddish white oval, behind it follows a fine black postmedian line and somewhat farther outside a slightly curved subterminal line on both sides bordered with white which colour is expanded at the costal margin into a triangle and bends inwards from 6, the ground before it being darkened like a spot; the antemarginal cucullate line is only traceable at the apex. Fringe distinctly speckled black and white. Hindwing brownish-grey, at the costal-margin almost purely white, enclosing the beginnings of a brownish grey postmedian double line; at the cell-end a rusty yellow spot appearing also on the light brown under surface which exhibits 2 dark notched lines and a large costal-marginal spot. Type 1 ♀ from Passa Quatro (Minas), Brazil, in the Coll. W. HOPP-Charlottenburg.

9. Genus: **Compsa** Wkr.

Scarcely separable from *Apatelodes* and distinguished from *Zanola* by the straight, hardly convex costal margin of the hindwing. Forewing with a sharp apex of the wing and a rounded distal margin showing very faint traces of dents which are a little more developed in the hindwing. Neuration same as in *Apatelodes*.

Type: *C. saturata* Wkr.

C. saturata Wkr. (= *trilunula* H.-S.) (142 c). Scheme of marking and colouring exactly that of the *saturata*. preceding species: forewing dark red-brown, in the basal third and subterminally more or less lighter, at the apex almost rusty yellow; the blackish-brown, undulate-dentate antemedian and postmedian transverse lines on the averted sides bordered with a lighter rusty yellow colour; before the margin the usual cucullate line which is only clearly prominent in the yellow apex; the exterior half of the median area is crossed by a lead-coloured transverse band traces of which appear also behind the antemedian line. Hindwing blackish-brown, before the anal angle with an oblique rusty yellow patch. The much larger ♀ is more clearly outlined reddish-yellow and yellow, and it shows a yellow spot also at the anal angle of the forewing. Brazil.

C. felderi Drc. (142 d) is of a more slender build, with broader wings, lighter red-brown than *saturata* *felderi*. and more uniform, without the contrasting yellow; the transverse lines in the ♂ set with silvery white spots, the largest at the posterior line below the submedian fold; in the disc a circular black-centred ochreous spot. In the ♀ the postmedian line is more a narrow silvery white line on both sides edged with blackish-brown. Hindwing lighter than in *saturata*. Mexico to Costa Rica.

10. Genus: **Carnotena** Wkr.

This genus is founded upon but one small species and is hardly tenable; in my opinion it is rather coincident with *Colabata*; as to its structure I am unable to give any particulars, since I am only in possession of a sketch kindly made by Mr. TAMS, according to which the scheme of markings agrees exactly with that of *Colabata*; the margins of the wings, accordingly, are not dentate. The species was hitherto taken to be a Geometrid, but according to TAMS it belongs here; it was once more described by WALKER as *Aspilates*.

C. xanthiata Wkr. (= *perlineata* Wkr.) (141 k) is above golden yellow, on the forewing with 5 red *xanthiata*. transverse lines, both the antemedian ones angular below the costal margin, the exterior one and the postmedian line being crenulate, between them a small discal dot; the subterminal and antemarginal lines are dentate and united above the anal angle. Hindwing somewhat paler with 2 feeble transverse lines. Amazons, Ega.

Alphabetical List

with reference to the original descriptions of the forms of the American *Bombycidae*.

* signifies that the form is also figured at the place quoted.

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- cerrita Ap. *Drt. Seitz Macrolep. VI.* p. 698. *
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- cirna Ap. *Drc. Biol. Centr. Amer. Het. II.* p. 437, 1897. *
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12. Family: Saturnidae.

In conformity with the enormous number of *Saturnidae* occurring in America — about 750 forms being known today — we are met with most varied shapes. We were hitherto accustomed to consider the *Ceratocampidae* or, as they are called today: *Syssphingidae*, as an independent family. HAMPSON, according to his dividing principle, believed to have found a good means of division in the absence of the proboscis and tibial spurs of the *Saturnidae*, whereas they are present in the *Ceratocampidae*. But we shall directly see that, considering our present knowledge of the abundance of forms, this is not sufficient, the boundaries becoming more and more effaced, so that one may ad lib. range the boundary-forms here or there. Since PACKARD found that the large *Arsenura*, *Dysdaemonia*, and their allies can neither be assigned to the genuine *Saturnidae*, as was customary, JORDAN has closely investigated this group and, in meritorious works, comprised the insects as the superfamily of “*Saturnioidea*”, subordinating the various groups as families. We follow here his example, but in order to conform with the scheme of this work we comprise the whole as a family and, considering the evidently very great relationship, we subordinate the genuine *Saturnidae* (with the subordinate groups of the *Attacinae* and *Saturniinae*) and the *Syssphingidae* (with the 2 subordinate groups of the *Arsenurinae* and *Syssphinginae*) as subfamilies, to which also in America the quite heterogeneous *Oxytenidae* and *Cercophanidae* are attached as two more subfamilies.

JORDAN found the only incontestable mark of distinction between the *Saturnidae* and *Syssphingidae* to be a small parasternum in the mesosternit of the *Saturnidae*, whilst that of the *Syssphingidae* is large. Moreover there is a biological difference, the *Saturnidae* chiefly having larvae with fleshy warts or stellately haired or spined knob-like warts and spinning a cocoon, whereas the *Syssphingidae* mostly exhibit long fleshy spines on the first and last segments only in their youth, being later generally bare, and the metamorphosis taking place in the soil without a cocoon. The latter, however, is not always the case, since the group of *Telea-Tropaea* the exterior of which is entirely like that of the *Saturnidae* spin cocoons, whereas, anatomically, they belong to the *Syssphingidae*, being another evidence for the obliteration of the boundary between the two subfamilies.

As in all other faunal regions, so in America the *Saturnidae* also number among the most magnificent Moths often attaining quite a respectable size. The colouring and marking are likewise very similar on the whole to that of the well-known types from other parts of the globe, and we are everywhere met with parallel forms corresponding to the other faunae; among the *Attacinae* the numerous *Rothschildia*-forms are particularly remarkable, representing rather true images of the Indian *Attacus*; exactly as in other continents we find the green, long-tailed *Tropaea* corresponding to the *Actias*, whilst the *Telea-Melosamia* group is quite similar to some *Antheraea*. In the Volumes X (p. 497) and XIV (p. 313) we have pointed out other parallel features. On the other hand, however, quite a number of remarkable representatives cannot be compared with any other groups; as for instance the *Dirphia*-group, the *Hemileucidae*, *Hylesia*, and among the *Syssphingids* the isolated *Rescynthis*, *Arsenura*, and *Dysdaemonia*, as well as the very strange species of *Copiopteryx*. Nor are the *Eacles*, *Citheronia*, and *Adelocephala* comparable with any other forms.

In the Introduction to the Indian Part, it has already been pointed out that the *Saturnidae* are undoubtedly a very old group adhering, with a certain rigidity, to the same design of marking, the eye-shaped central spot between 2 transverse stripes, which we also find in America in the very same way, especially well expressed in the genus *Automeris* in which the eye, being confined to the hindwing, often exhibits the most magnificent colouring. Besides the characters of marking, it is also in America the great distribution which makes us presume that the *Saturnidae* are extremely old. We find them from the north-western territory down to the

southernmost parts of Chile, where the re-occurrence of northern forms after crossing the southern tropic is less conspicuous than is the case in Africa, where it marks a most characteristic feature. It is just in Argentina and Chile, where we still come across very remarkable and variegated representatives both among the real *Saturnidae* (*Polythysana*) and among the *Syssphingidae* (*Dysdaemonia fosteri*), although the number of forms decreases considerably to the north and south. The tropics of America certainly contain the greatest variety and an incredible abundance of species.

Real protective colourings are less common with the American forms than for instance in the African Region, where it is an especially characteristic feature of the *Carnegia* and *Ludia*. Beside the peculiar *Neocarnegia basirei* which resembles a crumpled withered leaf with many holes in it, there are only the green forms of *Tropaea* which are rather imperceptible among the green leaves. Moreover, we may mention yet the *Lonomia*-species copying yellow or brownish leaves provided with rusty or spore-like spots, mostly even with a brown median vein, as well as most of the *Automeris* which look like withered leaves, when at rest.

By far the most of the *Saturnidae* are "defiant forms" which, by means of their often strikingly developed frightening eyespots, are undoubtedly able to frighten off small-sized enemies. If one has seen, for instance, the large *Automeris metzli* opening and closing its hindwings on being disturbed, as butterflies do, and displaying the enormously developed eyespot, one may easily imagine that to a certain degree it is protected by this and still more so by its large size.

Of the larvae of the American *Saturnidae* we know relatively much, quite a number of them having been bred in Europe and being, therefore, well known. The larvae of *Automeris* are apparently particularly protected by their often very effectively burning hairs. The larva of *janus*, for instance, is enveloped in so dense a prickly armour of horribly burning hairs that it may cause very dangerous injuries. As in other faunal regions we also often find here very brightly variegated warning colours, the insects frequently being green with variegated warts on black belts.

A unique position is occupied by the *Syssphingid* larvae, above all the *Arsenurinae*. We find here the same or quite similar conditions as were described with the family of the *Brahmaeidae*. They are remarkably soft animals, in their youth with large horns in front and behind, which mostly disappear with their later moults. The best example for this group is the well known "hickory-devil" (cf. picture on cover).

The food-plants of the American *Saturnidae* are chiefly all kinds of foliage-trees, frequently fruit-trees. Already in the Indian Part it was mentioned that, for instance, the larva of *Pl. cecropia* occurs on many species from about 20 different families of plants, being thus extremely polyphagous. Wherever large species occur in great numbers, they may, owing to the great voracity and the quick growth of the larvae, defoliate whole trees and forests. This, however, is not only known of the large species of *Samia* and *Telea*, but also smaller animals, such as some *Hylesia*, e. g. *H. nigricans* Berg from Argentina, may do enormous damage to fruit-trees or willow plantations. There are, however, also herbivorous larvae, for instance among the *Hemileucidae* a whole group living on grass, which may sometimes devastate pasture-land, if they occur in great numbers, as it was ascertained for *Euleucophaeus oliviae*. The quite different *Oxytenidae* live on Rubiaceae. The *Saturnidae* apparently do not live on real poisonous plants, as has also been ascertained in reference to the other faunal regions.

Many species are known to live gregariously in their larval stage, for instance several species of *Hylesia*, some of which set out in lines in search of their food like our processionary caterpillars, in order to return again to their common nest. Others, such as *Dirphia gregatus*, build a solid nest similar to that of the Pierid *Eucheira socialis* (Vol. V, p. 55) in the shape of an oval bag of 15—20 cm length, which being open at both ends, is fastened to the end of a twig with a stalk and to which adjoining leaves are drawn; in this nest also the pupation takes place in separate cocoons.

The way of pupating does not differ from the usual scheme, as far as the genuine *Saturnidae* are concerned, all of which build cocoons of a rather coarsely or densely matted meshwork which is often even wrapped up in leaves and, in certain species, suspended on a thread. No American species supplies really useful silk, it has occasionally been tried to utilize the cocoon-silk of *Ph. cynithia* and *C. promethea*, but it cannot be reeled off. With the exception of the *Telea* and *Tropaea*, which are externally and also biologically very closely allied to the *Saturnidae*, the *Syssphingidae* pupate without a cocoon naked in the soil. The entirely different *Oxytenidae*, whose larvae recall Sphingid-like types, pupate with few threads between rolled-up leaves, whereas the *Cercophaninae*, more like the genuine *Saturnidae*, weave oval or more pear-shaped cocoons which are open at one or both ends.

The habits of the American *Saturnidae* are chiefly the same as in the other faunal regions. In the real tropic belt itself presumably all are more or less nocturnal, both the sexes being taken on the lantern at night. The farther one proceeds to the north or south, the more the ♂♂ fly in daytime, as for instance in North America the species of *Pseudohazis* and *Hemileuca* which are coloured like butterflies, and in Southern Chile particularly the conspicuously variegated *Polythysana* the ♂♂ of which keenly swarm about in search of the lazily seated ♀♀. IZQUIERDO has recently made studies on the attractive force of the ♀♀ of *P. edmondsi*; these insects behave exactly as for instance our *Orgyia*-species are known to do, since a great number of ♂♂ may be allured by a single virgin female.

Moreover, the *Heliconisa* occurring in Southern America are especially remarkable for the great sexual dimorphism, the ♂♂ with their hyaline wings dashing along in the sunshine and tracking the enormously stout dark-coloured females which are sitting hidden in the grass. In a very charming way J. F. ZIKAN has informed us of the innumerable ♂♂ of *H. pagenstecheri* whirling about in the air like the drift of large snow-flakes. Very differently coloured and marked are also the sexes of some *Dirphia*, such as those of the *tarquinius*-group, as well as some species of *Automeris* such as *flexuosa* or even the well-known *io*, many species of *Copaxa*, and especially among the *Syssphinginae* a great many species of *Eacles* and *Citheronia*. The *Syssphingidae* provided with a rudimentary proboscis very likely do not take up any food as imagines, whereas the *Oxytenidae*, which have a well developed proboscis and look exactly like Geometrids, probably do so, although we are hardly cognisant of their habits.

I. Group. Cell of forewing open (*Attacinae*).

1. Genus: **Philosamia** Grt.

Regarding this genus being quoted as *Samia* in Vol. II, p. 212, we may refer in general to the above mentioned place as well as to Vol. X, p. 503, where the genus and species has been dealt with at large. We merely repeat here the presence of a small proboscis without any function; antennae of ♂ and ♀ pectinate; in the latter sex hardly shorter. Abdomen above provided with several rows of woolly tufts; both wings with a crescentiform hyaline spot. Neuration otherwise not peculiar. The only species to be considered originates from the Indian fauna from where it was acclimatized both in Europe and — since 1861 — in North America.

Ph. cynthia *Dru.* This universally well-known lepidopteron with its ground-colour varying between *cynthia*. loamy yellowish and olive green or brown has been figured so very often that we only refer to the figures in Vol. II pl. 33 a and Vol. X pl. 52 c. The American specimens which were named — **advena** *Pack.* are not very *advena*. large and, particularly in the female, they have a thickset shape with obtuse wings, the colour being never very bright green. Especially in the region of the Atlantic coast the form is rather common in the neighbourhood of large towns. The white-hued, lighter or darker green larva exhibits 6 rows of bluish fleshy thorns and chiefly lives on *Ailanthus*, *Ilex*, *Sambucus*, but besides also on nearly all foliage-trees and shrubs. The silk gained from the cocoons is of little value, coarse, and cannot be reeled off but only carded. — The larva could be bred by the coupling of *cynthia* ♂ with *promethea* ♀, it is said to have exactly corresponded with the larva of *promethea*. According to STRECKER, this hybrid has also been observed as imago in nature and is said to combine the colour of *cynthia* with the discal marking and the shape of the wings of *promethea*-♀. According to the same author, the male obtained by breeding, however, is almost exactly like a blackened *promethea*-♀.

2. Genus: **Rothschildia** Grt.

The representatives of the palaearctic genus *Attacus* in America are a very homogeneous well characterized group of partly closely allied and often hardly differentiated species, particularly because the frequently wrong use of the names has caused dreadful mistakes and confusions; we have tried to disembroil as much as possible, and by the aid of Dr. JORDAN and SCHAUS, we believe to have attained some clearness in the right use of the names. They are large lepidoptera, the apex of the forewing, especially in the ♂♂, often somewhat falciform, though roundly produced, with a more or less triangular or, preferably in the ♀♀, oval hyaline spot on all the wings, situate between 2 characteristic transverse lines. Palpi short, antennae in both sexes pectinate, though shorter in the ♀♀. On the very broad forewing veins 2 and 3 rise rather distantly separated, the cell is open as in all the genera of this subfamily. Hindwing especially in the ♂♂ often extraordinarily long so that the comparatively slim abdomen does not extend to the centre of the inner margin, at the distal margin often somewhat concave, in the ♀♀ more rounded and shorter. Larvae stout, cylindrical, with short starlike arranged hairs on knob-shaped tubercles, not unlike the palaearctic larvae of *Saturnia*, or also without tubercles. They pupate in a frequently pear-shaped cocoon.

Type: *R. hesperus* L.

aurola. **R. aurola** Cr. (= *ethra* Oliv., *atlas* Oliv.) is one of the largest and best known species with a rather much produced apex of the forewing, collar predominantly brown, only in front and behind with a white line; antemedian line somewhat shortly, notch-like produced on the veins, the portion between the lower cell-edge and the inner margin rather straight, hyaline spot obliquely triangular, the proximal margin concave, the distal point extending into the strongly and irregularly notched postmedian line; characteristic are the very long and strong notches of the pinkish grey subterminal band. The pinkish-white subapical spot is outside defined by an almost straight white line, the black triangular spot behind it is large, on its outside a dark red narrow crescent; the black submarginal line forms very regular bows; hindwing of ♂ very long, in the submarginal bow there are small black bows turning reddish towards the costal margin. Southern Central America, but chiefly from Guiana. — *speculifer* Wkr. (102 b), according to the kind information by Dr. JORDAN, is the common South-Eastern Brazilian subspecies with somewhat shorter hindwings, otherwise differing little from the nomenclatural form, only being mostly somewhat darker, more chestnut brown in the ground-colour. — *andensis.* **R. andensis** Rothsch. is still much darker chestnut red in the median area, the metathorax also white like the basal abdominal band; the greyish pink subterminal notches still more distinct, the white postmedian line less strongly notched, its black interior border much less prominent; hindwing considerably shorter. From South-Eastern Peru at altitudes of 2 or 3000 m. Much farther to the north in Mexico, the species is represented by *roxana.* a very large, broad-winged form with a but slightly produced apex of the forewing: — **roxana** Schs. (102 a) of a very dark chestnut ground-colour, with larger, longer extended hyaline spots, the proximal margin of which is deeper concave, whilst the distal point extends beyond the white postmedian line which is but little notched; the dents of the subterminal band are also less developed. By the minute examination of the genital organs the specific difference may be found. The larva of *speculifer* is green with a somewhat lighter lateral stripe and small red tubercles. It lives on *Rieinus* and other plants.

chiris. **R. chiris** Rothsch. is very similar in its exterior to *aurola*, but different in the genital organs; antennal dents somewhat longer, legs and metathorax less white; ground-colour at least in the disc above deep chestnut red, the white postmedian line extends from the costal margin in an almost straight line to $\frac{2}{3}$ of the inner margin and is strongly undulate, its black interior border broad, basally faded, the blackish-brown line outside of it less densely scaled white than in *aurola*, behind the black subapical spot there are 2 black spots, not a dark red crescent; on the hindwing all the submarginal spots are black, only the uppermost feebly tinted red. From the dry season, South-Eastern Peru, at an altitude of 6000 m.

hesperus. **R. hesperus** L. (103 a). Dr. JORDAN writes me about this species: "LINNÉ's *hesperus* has nearly always been wrongly identified. LINNÉ quotes MERIAN's plate 52 under "*atlas*" and plate 65 under "*hesperus*"; he says that *hesperus* is more yellowish than *atlas* and that the larva is smooth, i. e. he has probably made his description according to MERIAN's plate. We have this light *hesperus*, which is very similar to *betis*, from French Guiana and the Amazons, and the grown-up larva has in fact no tubercles. PLOETZ' figures as "*procyon*" belong to this place; it is quite wrong to identify *hesperus* as a South-Eastern Brazilian insect; the typical locality for LINNÉ's types is Surinam (from Dutch collections), whilst nothing at all came from South-Eastern Brazil at that time." *Hesperus* is smaller on an average than *aurola*, lighter yellowish brown, the prothorax white, the metathorax not white; the antemedian line forms very characteristic round distal convexities in the cell and between it and the inner margin; the hyaline spots are relatively small, all the 3 sides in the ♂ slightly concave, the distal point just interrupts yet the black inner border of the postmedian line which is rather uniformly undulated, forming inward bows, on the veins distal points; the greyish pink notched band behind it is generally not very prominent and narrower than in *aurola*, the notches thereby somewhat shorter; behind the black subapical spot there are 2 small black spots more or less mixed with red. Panama to Guiana, Amazons, and Eastern Colombia. From Western Colombia (Bella Vista) originates (e Coll. NIEPELT) a most magnificent form, probably the most variegated of all the *Rothschildia*-forms: — **poecilator** *poecilator.* f. n. (134 a); median area Pompeian red, submarginal area orange-red, the lilac-white notched band before it distally very brightly bordered with dark brown; hyaline spots larger than in *hesperus*, their sides hardly concave, the white of the postmedian line has almost vanished owing to its broad orange distal border and the likewise broad black inner border; the large light subapical area is bluish-white, distally almost light blue, behind the black triangular subapical spot there are crimson spots; the flat black submarginal lunae are inside filled with olive yellow, the marginal area behind it is loamy brown, crossed by orange-red, subapically black veins. On the hindwing the 6 uppermost submarginal spots are crimson. At once discernible from the somewhat similar *chiris* by the entirely white collar.

betis. **R. betis** Wkr. (102 e) is of a still lighter orange yellow ground-colour, the antemedian line not convex, the apex of the forewing more produced, the postmedian line therefore more oblique, much less notched, between the costal margin and hyaline spot hardly notched, the white portion broad, the orange distal border narrow;

the greyish pink subterminal band is but very little prominent and does not extend so far to the costal margin; the reddish crescent behind the black subapical spot almost linear, the white subapical line above it notched, the submarginal crescentiform bows reddish or loamy brown. Brazil. In the Berlin Museum e Coll. MAASSEN by the manuscript name of: — **imitator** f. n. a large form very similar to *hesperus* with a less produced apex *imitator*. of the forewing, smaller hyaline spots and a somewhat more notched postmedian line, from Cayenne. Larva black, on each ring with 2 narrow red belts, without any tubercles.

R. morana Schs. (102 b) is somewhat like *betis*, of a more cinnamon reddish colour, the collar white *morana*. like the anal end; transverse lines broad white, antemedian line broader rounded, veins 2 and 3 broad white; hyaline spots very large, with obtuse points, on the forewing triangular, the lower sides at most very slightly concave, on the hindwing only the side towards the costal margin straight, the two others forming a single demi-bow; the postmedian line is strongly notched, the subterminal area, especially the inconspicuous feebly notched pinkish-grey band narrow; submarginal bows fine, brown, between the veins receding to the subterminal area, on the veins only as far as the centre of the olive brownish marginal area, in its deepest concavity bordered with white. On the hindwing the uppermost submarginal spots are red, the others deep black, the anal spot is the largest. Guatemala and Mexico (Misantla).

R. lebeau Guér. (= *lebeaui* auct., *bolivar* M. & W.) (102 a). Basal and subterminal areas red-brown, *lebeau*. median area darker, more or less tinted olive, costal margin dusted with white, transverse lines very broad white, antemedian line in its upper and lower portions slightly convex, at the lower cell-edge it forms but one point distally; hyaline spots especially in the ♀ very large, the distal point projects far beyond the postmedian line which is slightly undulate in its upper portion, towards the margin concave, in its lower portion particularly between 2 and 3 more notched; the greyish-pink subterminal band only extends to the centre between veins 3 and 4, above it only marked by darker brown dusting; submarginal line similar to *morana*, but darker blackish-brown. On the hindwing the pinkish-grey subterminal band hardly extends beyond vein 3 and, at the anal angle, it mostly leaves free a red-brown spot of the ground-colour. In the ♀ the hyaline spots are pear-shaped, oval; the submarginal lunular line is sometimes inwardly filled with black spots also on the forewing as on the hindwing: — **catenigera** ab. n.; type: 1 ♀ in Coll. DRAUDT. Mexico to Venezuela and *catenigera*. Colombia. At once separable from the very similar *orizaba* by the entirely white collar. WALKER'S *speculifer* var. 3. probably belongs hereto since the patria is stated to be Mexico. The larva is yellowish green or of a pure yellow with black torn transverse bands and red tubercles between. — **aroma** Schs. (101 e) is probably also *aroma*. a form of *lebeau*; in the ♂ the forewing is more falcate, the colouring more variegated, lighter and brighter reddish-brown; hyaline spots triangular, extending to the postmedian line, the transverse lines broad white; the pinkish-grey subterminal band extends up to beyond vein 5. In the ♀ the hyaline spots are especially large, oval, on the forewing pear-shaped. Honduras.

R. arethusa Wkr. (= *speculum* M. & W.) (102 c) resembles *lebeau*, the ground-colour is lighter yellowish *arethusa*. brown, the median area darker, narrower, the hyaline spots narrower, the hyaline spots narrower, too; the black subapical spot is pointedly triangular, the two black spots on the outside of it powdered with yellowish grey; postmedian line less undulate, in its upper and lower portions it forms one marginally concave bow each. Hindwing relatively short and rounded. Brazil, Paraguay, and Argentina. — In **rhodina** Jord. the postmedian *rhodina*. line is still deeper indented between the costal margin and the hyaline spot, the white and brown sealing behind it is more extensive, the hindwing slightly concave between the apex and vein 4, in the ♀ only feebly roundish. Amazons (Obidos). Larva black with yellowish green belts across the centre of each ring, and narrower similar segmental indentations; it pupates in an oblong cocoon forming a thick pupa hued with blue.

R. aricia Wkr. (= *arethusa* M. & W.) (102 c) is distinguished by the broadly rounded falcate apex *aricia*. of the forewing. Abdomen in its anal half above more or less white; ground-colour reddish-brown, often with a somewhat greenish tint, otherwise marked like *arethusa*; on the triangular hyaline spot of the forewing the lower slightly convex side is the longest, the proximal point touches the antemedian line; subterminal area, especially the pinkish-grey band is narrow, the latter distinctly darker blackish-brown, and widening towards the costal margin; the black subapical spot is not so pointedly triangular, the accompanying spots forming a yellowish-grey crescent. The hyaline spot on the hindwing is especially large. Colombia, Brazil. — **xanthina** *xanthina*. Roths. has more extensive white on the abdomen, the wings much more suffused with yellow, the submarginal area between veins 1 and 4 almost purely yellow or at least with 3 large orange spots. South-Eastern Peru.

R. orizaba Westw. (102 a) is of a most variable ground-colour, but invariably discernible from its allies *orizaba*. by the brown collar being only in front and behind narrowly white-edged as in the *aurola*-forms; hyaline spots longer triangular than in *lebeau*, postmedian line more notched, the greyish-pink notched band more distinct, extending farther upwards and mostly outside bordered by a darker colour; the ground-colour varies extraordinarily even at the same habitats, the median area is mostly olive brown, the basal and marginal areas more chestnut brown. Chiefly distributed in Mexico and extending in the north as far as Arizona. At the same

- ochracea*. habitats, in Mexico, there also occur ochreous specimens: — **ochracea** *f. n.* In Mexico another very conspicuous *prionidia*. form is found: — **prionidia** *f. n.* (134 a) of less than half the size, with a more falcate apex of the wing, light olive brownish ground-colour, the hyaline spots being proximally much deeper concave, distally extending far beyond the postmedian line, the very narrow light pink subterminal band almost reaching to the costal margin. I cannot decide whether it is a special condition-form; perhaps it is only a stunted form. Several specimens originate from the capital of Mexico, taken in June and August, without any transition-forms to *triloba*. the normal form. — In **triloba** *Rothsch.*, described from Costa Rica, the hyaline spots of both wings are proximally deeply indented, the lower side is twice as long as the upper, also on the hindwing, the point projects beyond the postmedian line. — **meridana** *Rothsch.* resembles the following form, but beneath the abdomen is less white; the hyaline spot of the forewing is proximally $\frac{1}{3}$ longer than costally, often concave; the hyaline spot of the hindwing is proximally shorter than costally, here just as long or longer than distally. Merida *bogotana*. (Venezuela). — **bogotana** *Rothsch.* is in the male brighter reddish-yellow, the abdomen beneath all white, the triangular hyaline spot on the forewing with straight sides, proximally and distally equally long, costally only half as long, touching the black postmedian line as on the hindwing and far remote from the anterior transverse line; the pinkish-grey band behind it is less broad than in *cauca*. The hyaline spot on the hindwing is distally rounded, the straight proximal side longer than the costal one; submarginal spots all equally large; the upper *cauca*. ones reddish. Colombia (Bogota). — **cauca** *Rothsch.*, from the Cauca Valley, is darker chocolate brown, with small hyaline spots, those on the forewing proximally straight, far remote from the anterior transverse line, and neither reaching the posterior line which is not so strongly dentate as in the nomenclatural type, between 2 and 3 not so deeply indented, finer, and more remote from the margin; the pinkish-grey band behind it is broader, but not so prominent as in *orizaba*; the subapical crescent is filled with red, the white line before it straight. On the hyaline spot of the hindwing the anterior and posterior sides are equally long, the proximal side rounded and short; the upper submarginal spots are very large, reddish. Beneath the costal margin of the *equatorialis*. forewing is not dusted with grey. — **equatorialis** *Rothsch.* is in the male bright tan-coloured brown, the ♀ ochreous, in the ♂ the subterminal area is also ochreous, in the disc reddish blackish-brown, dusted with white; postmedian line strongly dentate, the pinkish-grey band behind it broader than in Mexican specimens, the white dusting less dense; the subapical crescent is filled with red, the white line before it straight; hyaline spot proximally rounded, rarely straight, on the hindwing small, proximally very round, submarginal line better *peruviana*. marked than in the Mexicans. From Western Ecuador. — **peruviana** *Rothsch.* has a still more dentate postmedian line and a larger hyaline spot which is basally incurved or straight. Beneath all the submarginal spots of the hindwing are red. Carabaya (South-Eastern Peru). In the larva all the tubercles are equally large, conical; green, with a yellow sublateral stripe, anal plate and prolegs also green, edged with black; it lives on foliage trees such as cherries, ash-trees etc. The natives are reported to wear a necklet on which cocoons are threaded in order to prevent the whiskers from growing.
- prionia*. **R. prionia** *Rothsch.* (103 b) is allied to *zorulla*, but different in the genital organs; postmedian line in both wings strongly dentate, the white portion and its red distal border broad; the pinkish grey band distally to it is extended towards the costa as far as the apical spot which is brighter pink; the costal angle of the hyaline spot on the forewing is rounded, the proximal edge oblique; the hyaline spot on the hindwing is large, more than twice as long as broad, the basal end in front obliquely cut off, behind rounded; the pinkish-grey band is narrow, dentate, the posterior submarginal spots small, only the last being large. The species also resembles *lebeau*, but the postmedian line is more dentate, both the wings narrower, the hyaline spot on the hindwing much longer, the pinkish-grey band more dentate. North-Eastern Brazil, Venezuela.
- zorulla*. **R. zorulla** *Westw.* (= *splendida* *Clem.*, *cinctus* *Tepp.*) (101 c) is relatively small and slim, in the median area dark olive brown, the antemedian line between veins 1 and 2 mostly with a very distinct convexity towards the margin; posterior transverse line very strongly dentate, the white and red portions broad, the pinkish-grey band narrow, extending to veins 4 or 5; the hyaline spot of the hindwing is proximally either concave, straight or even convex, the anal submarginal spot mostly very large. This is the chiefly Eastern Mexican form which, however, was also found in Arizona. In Western Mexico (Guerrero, Colima) light cinnamon-reddish *guerreronis*. specimens predominate: — **guerreronis** *f. n.* (134 e); here the white portion of the postmedian line is mostly *inca*. extraordinarily broad, with larger hyaline spots. — **inca** *Rothsch.* shows the pinkish-grey subterminal band extended farther anteriorly, on the forewing more deeply dentate, on the hindwing posteriorly much less extensive than in the nomenclatural type, more sharply outlined, distinctly dentate; postmedian line finer, also its reddish-yellow distal border, especially towards the costal margin; posterior submarginal spots on the *zorulloides*. hindwing larger than in *zorulla*. From South-Eastern Peru. — **zorulloides** *Dogn.* exactly resembles *zorulla*, the ground-colour is just as olive brown: distinguished by the straight postmedian line being only moderately wavy and not so strongly and uniformly notched as *zorulla*; the white line bordering distally on the pink apical spot, is likewise straight. From Ecuador (Loja). The larva shows before its last moult yellow, at last red tubercles, the adult larva is quite smooth, green, with lateral blue and white oblique stripes, it lives on oaks, cherries, ailanthus etc., pupating in a cocoon similar to that of *orizaba*, though smaller and more regular.
- amoena*. **R. amoena** *Jord.* is similar to *zorulloides* and *maurus*, with shorter and broader wings, postmedian line somewhat less strongly dentate than in *maurus*, in front and behind curved somewhat more basad; the

subterminal band behind the white postmedian line is grey, only a narrow reddish line between both; the white subapical streak is shorter than in the allies; median branches in the central area yellowish reddish; hyaline spots triangular, all the 3 sides concave, the black edge distinct: on the hindwing the median area is broader than the distal area. Western Peru.

R. maurus *Burm.* (101 b) is distinguished by the brownish black ground-colour and by the quite straight *maurus*. and strongly and regularly notched postmedian line running as in *zorulla*; hyaline spots on forewing distinctly triangular, relatively small, almost as in *hesperus*, and on both wings remote from the postmedian line; on the hindwing the hyaline spots are more oval; the space behind the postmedian line is extensively strewn with grey, the light grey apical spot of the forewing relatively small, the white line distally bordering on it is followed by a large black triangular spot. Tucuman (Argentina). — **lutea** *Rothsch.* has a more loamy ground-colour, the *lutea*. postmedian line is less strongly dentate, on the forewing above the hyaline spot hardly dentate at all and basally incurved; the grey subterminal strewing is considerably more extensive, and distally produced on the veins; the hyaline spot extends with its point into the postmedian line, proximally in front incurved, below it convex; hindwing with especially large oval hyaline spots the black edge of which is more distinct than in *maurus*, the distal margin of the white line shows but very little pink; by the yellow tint the form also recalls *arethusa*. Paraguay, smaller and darker also from Rio de Janeiro.

R. maurusius (*i. l.*) *sp. n.* (101 c) has been known by this name since a number of years, but evidently *maurusius*. never described; smaller than *maurus*, in the ♂ the apex of the forewing is more produced, well distinguished by the subterminal area being strewn with bluish greyish-white as far as the apex and the marginal area, so that the large light triangular subapical spot is entirely absent, with transverse lines similar to those in *maurus*, but still more notched, the white portion just as broad as the flesh-coloured portion behind it: hyaline spots much larger; more rounded, reaching the postmedian line on the forewing; the triangular black subapical spot sharply pointed as in *arethusa*. Peru, Argentina. Perhaps *lichtenba* from Mexico is the northernmost representative.

R. lichtenba *Dyar* (102 b) is one of the smallest species looking like a very light drab *zorulla*, but the *lichtenba*. hyaline spots are oval, rounded, the subterminal band is strewn with light bluish-grey and extends to the costal margin, whereby it recalls *maurusius*; the black subapical spot is pointedly triangular as in *arethusa* and *maurusius*; above it there are 2 red crescents behind the strongly undulately dentate broad white subapical line. Western Mexico (Guerrero, Colima, Oaxaca). — **micrinus** *Maass. i. l.* (134 c) is a ♂ from Ecuador, in the *micrinus*. Berlin Museum; I take it to be a local form of *lichtenba*; ground-colour somewhat darker olive brown, hyaline spot triangular, the lower side being the longest, on the hindwing pear-shaped with a distal point; the white postmedian band is much narrower and less notched, particularly on the forewing in the costal portion.

R. tucumani *Dogn.* (= *vibidia Drc.*, *steinbachi Rothsch.*) (102 b) is the smallest species and quite different; *tucumani*. ground-colour olive yellowish grey, the anterior transverse line below the cell very round, the posterior one regularly flatly dentate, subterminal area very narrow; between veins 6 and 7 a very large round black spot, above it a smaller one and below it a pointed triangle; hyaline spot of forewing proximally very deeply concave, on the hindwing almost straight. From Argentina.

R. condor *Stgr.* (= *stuarti Rothsch.*) (101 b) is a very peculiar form connecting *tucumani* with *Eupackardia condor. calleta*. Ground-colour blackish-grey; hyaline spot of forewing very narrow and elongate with a continuation to the costal margin; submarginal markings very similar as in *calleta*. On the hindwing the hyaline spot is distally pointedly prolonged. We figure STAUDINGER's type from the Berlin Museum. High Andes of Peru and Bolivia.

R. jacobaeae *Wkr.* (= *affinis Fldr.*) (103 a) introduces quite a different group of species. Ground-colour *jacobaeae*. chestnut-red, at the costal margin broadly dusted with greyish-white; hyaline spot almost pentagonal owing to the long lower side resting on the median for some distance and the costal side exhibiting basally a small appendage which is straightly cut off above; hyaline spot of hindwing exceedingly long; postmedian line flatly undulate-dentate, in the costal portion on the forewing inwardly very convex, the 2 subapical black spots similar as in *tucumani*, but more triangular. Submarginal spots very high, in the shape of a horizontal X, or butterfly-shaped. Larva exactly like that of *splendidus*, $\frac{1}{3}$ larger, green, with 2 light yellow oblique bands and a red, below yellow-edged anal spot. Southern Brazil, Argentina.

R. erycina *Shaw.* (= *hesperus Cr.*, *satyrus Fldr.*, *amazonia Pack.*) (103 a) is similar, of a most variable *erycina*. ground-colour, postmedian line more notched, in the costal portion on the forewing still deeper concave; from the apex of the hyaline spot 2 or 3 black stripes extend to the submarginal line; the small subapical spots are reddish, outside pointedly triangular. The nomenclatural form from Southern Brazil to Argentina. The northernmost form is: — **nigrescens** *Rothsch.* from Costa Rica; here the median area in both wings is heavily *nigrescens*. suffused with black, the pink subterminal area narrower than the space from here to the margin, and it extends upward to the apex of the hyaline spot, outside of it there is a brownish-black band, between the latter and the margin on the forewing there are van Dyke-brown spots, behind them a sand-coloured grey band, on the hindwing a series of large black double spots, distally to them a series of intense black streaks; hyaline spots

- martha*. smaller than in *erycina*. — **martha** *Rothsch.* is similar to *nigrescens*, but less blackened in the median area, the pink area in the hindwing broader than the marginal area; the brown band outside of it narrower than in *nigrescens*, and lighter brown. The black submarginal spots on the hindwing are smaller, the distal streaks thinner; hyaline spots still smaller than in *nigrescens*. Sa. Martha. — **vinacea** *Rothsch.* is in the median area of a brighter wine-colour than *e. erycina*, the black borders of the transverse lines are broader, the hyaline spots larger, on the forewing the spot at the apex of the hyaline spot black, the red subterminal area is narrower, outside bordered by an undulate pure white or yellowish-white line; the blackish-brown line distally to it narrower than in the other forms; the spots on the hindwing distally to the pink area are deeper brown than in *erycina*, the submarginal spots blacker. South-East Peru. — **luciana** *Rothsch.* is a West-Indian insular form, hitherto ascertained in Sa. Lucia; ground-colour dingy tan-coloured, in the median area only slightly tinted red, the white transverse lines broad, the posterior line in the costal portion on the forewing not dentate, the ochreous border of this line broad; the subterminal area at the apex of the hyaline spot but little darker than the apical part of the costal-marginal area, the grey subterminal band distally bordered with reddish-brown; the white line from the apex to the hyaline spot behind more remote from the blackish postmedian line than in the other subspecies; the loamy grey submarginal band is subapically lobately expanded inwards. On the hindwing the black submarginal spots are small. — According to the kind information by Dr. JORDAN, the type of *satyrus* is a very dark specimen of *erycina* being painted over except some small places, the under surface dull blackish-brown, darker than in all the other specimens though not painted over.
- hopfferi*. **R. hopfferi** *Fldr.* (= *pegasus* *Bsdv. i. l.*) (103 b) is more yellowish-brown than *erycina*, the apex of the forewing especially in the ♂ more prolonged, the hyaline spots of the forewing longer, triangular; the lower side is the longest, on the hindwing a very long rhombus with entirely parallel sides. Brazil (Bahia, Sa. Catharina). — **rhombifer** *Burm.* is nothing but a somewhat browner form with broader wings and a less produced apex of the forewing, from Argentina and Paraguay.
- splendidus*. **R. splendidus** *Beauv.* (= *hesperus* *Cr.*, *belus* *M. & W.*) (103 b) is smaller than the preceding species, of a dark red-brown ground-colour, the apex of the hyaline spot on the forewing projects far beyond the postmedian line, the basal side of it prolonged in an appendage to the costal margin, the subterminal area almost as dark as the median area, especially also the large subapical area. Distributed from Mexico to Southern Brazil. — *mexicana*. In the much smaller Mexican form: — **mexicana** *f. n.* both the wings are shorter, the hindwings rounder; the hyaline spots are smaller, the large subapical area lighter, the white postmedian line outside bordered by a pinkish-red line, the subterminal area behind it broader than in the nomenclatural form, lighter pinkish-grey, parted by a whitish line; the marginal area is apically more yellow, in the lower half parted by a distinct darker submarginal undulate line. Thorax and abdomen lighter claret-coloured. Huatusco. Type in Coll. DRAUDT. Larva green with white oblique stripes traversing 2 rings from in front above to behind below, and red anal feet. It lives on orange trees.
- zacateca*. **R. zacateca** *Westw.* (103 c) is not to be confounded with any other species by the uncommonly large oval hyaline spots; ground-colour black, brightened by dark cerise; the transparent postmedian line is very near to the margin, the small black diaphanous subapical spot surrounded by bright carmine. The ♀ is much redder, with a broader subterminal area which is strewn with bluish-grey. Colombia (Bogota).

3. Genus: **Eupackardia** *Ckll.*

This genus was established for a single species, the exterior of which is already more similar to the genus *Callosamia*,^f but also has some resemblance to *Rothschildia*, and is allied to *R. condor*, as we mentioned at that place. The shape of the wings is generally somewhat broader and rounder, the discal spot no more transparent, but scaled, and exactly shaped as in the *Samia*-species. In the neuration there is no essential difference to be found. Palpi somewhat longer.

- callela*. **E. callela** *Westw.* (= *polymmata* *Tepp.*) (101 b). Blackish grey, forewing with 2 white transverse bands, the anterior one narrow and angular, the posterior one broad, flatly S-shaped, behind it a series of blue-pupilled black small eyespots, the uppermost of which is larger and outside bordered by deep carmine. Hindwing only with the distal band. Discal spot tricuspidate arrow-shaped, or more or less reduced, it is either absent on the hindwing = **semicaeca** *Ckll.*, or on both wings = **caeca** *f. n.*, as in a ♀ specimen of my own collection. *semicaeca*. Guatemala and Mexico, from where it penetrates to North America (Arizona). The larva has the same shape as *Phil. cynthia*, but the tubercles are much thicker and larger. Green, the tubercles at the thickened base red, above it turquoise blue, the small short spines black. Legs and anal shield yellow, the yellow prolegs basally black, it lives on cherry.

4. Genus: **Callosamia** *Pack.*

Very closely allied to the preceding genus, distinguished by the very distinct sexual dimorphism. They are somewhat smaller species, the scheme of marking recalling that of *E. callela*, but the postdiscal band is

undulate-dentate, irregular. In the neuration hardly any difference; palpi somewhat shorter; on the ♀ antennal joints the anterior two pectinations are shorter than the posterior two. Larvae not essentially different from the general type, but distinguished from those of *Philosamia* by only the 2nd, 3rd, and 11th rings bearing fleshy thorns, the other rings only punctiform tubercles. The cocoon is suspended on a stalk and mostly wrapped up in leaves.

Type: *C. promethea* Dru.

C. promethea Dru. (129 b). The ♂ is black with a but very feebly traceable postdiscal line, in the yellowish-grey margin with a black undulate line which is transformed into small spots on the hindwing; apex of forewing above the black eyespot dusted with dark red, with a short white notched line; no discal spots. The larger ♀ is more purple brown, both the lines of the forewing distinct, like the discal spots, the spot on the forewing is mostly very small or obsolete. ♀-specimens without any discal spot are named: — **caeca** Ckll. Larva bluish-green, the fleshy thorns coralline. It chiefly lives on Laurus, Liriodendron, Liquidambar, and cherry. The silk of the cocoon cannot be used. Predominantly occurring in the Atlantic States, from South Canada to Florida, to the west through the Mississippi Valley as far as the eastern frontier of the great prairies. The ♀ of *promethea* has been hybridized with *cinthia*-♂; the product has the colour of *cinthia*, with the discal spots and shape of *promethea*-♀.

C. angulifera Wkr. (129 c) is very similar, the ♂ browner, with both the transverse lines, the posterior one of which is distally dusted with whitish in a variably broad extent. The ♀ is much more variegated, ground-colour from cerise to orange-yellow, with much larger discal spots, those on the ♂ hindwing mostly obsolete. — **carolina** Jones is smaller and lighter and has yellow discal spots and transverse bands, the area outside of it dusted with golden brown. Beneath the transverse lines are purple red instead of black. Southern Carolina. — **securifera** M. & W. (129 c) the types of which we can figure is perhaps only an especially light form of *carolina*, in the ♂ the ground-colour is much lighter brown, in the ♀ quite light yellow. The statement of the patria: Central America is surely wrong. Larva similar to that of *promethea*, but with fine black belt-markings before the last moult; it chiefly lives on the tulip-tree; the food-plant of *carolina* is stated to be Magnolia glauca.

5. Genus: **Samia** Hb.

Extraordinarily similar to the preceding genus and externally characterized by larger species with broad, rounded wings with non-diaphanous discal spots and without the distinct sexual dimorphism of *Callosamia*. The ♀ antennae are still somewhat shorter combed than in the latter, the legs are covered with very dense woolly hair. Larvae on the 2nd to 4th rings with one pair each of more ball-shaped shortly spined fleshy cones and a single one on the 11th ring, whilst the other rings bear longer and thinner small fleshy thorns exhibiting a few bristly hairs on the tips. The cocoon is not suspended, but fastened on the twig longitudinally. — The following hybridizations have hitherto been ascertained: *cecropia* ♂ + *gloveri* ♀, *cecropia* ♂ + *rubra* ♀, *columbia* ♂ + *cecropia* ♀ and reversely, moreover *promethea* + *gloveri*.

Type: *S. cecropia* L.

S. cecropia L. (101 a) is one of the best known moths. Rather invariable, olive brown with 2 transverse bands which are bordered with whitish on the averted sides, and with crescentiform discal spots, the one of the forewing being more or less tinted red. Marginal area yellowish-grey with a large black spot inwardly light blue, then again black-ringed, between 6 and 7; subterminal area more or less suffused with red. Larva light green, cones and pectoral feet yellow, the fleshy thorns on the 2nd and 3rd rings orange red or coralline. It lives on various trees and shrubs such as roses, willows, maple, lilacs etc. Distributed over the whole Atlantic coast of North America to the west as far as the great prairies. — An artificial form bred by an experiment of temperature is named: — **macula** Reiff which shows a submarginal row of black spots also on the forewing, as on the hindwing. *cecropia* can be hybridized with all the 3 other species of *Samia*.

S. gloveri Stkr. (101 a) is distinguished by a more cerise or Pompeyan red interior half of the wings, the whole subterminal area being yellowish-grey, strewn with dark. — **reducta** Neum. is a smaller stunted form from the high mountains of Colorado. The larva is very similar to that of *gloveri* and likewise polyphagan. Rocky Mountains from Alberta and Assiniboia to the south as far as Arizona. *gloveri* can easily be hybridized with *cecropia* and also with *columbia*, the product is also found in nature.

S. columbia Sm. (101 a) is smaller on an average, of a duller colouring, not so bright red as the preceding species, especially the postdiscal line is outside not at all shaded with red. Larva on larches. From the Northern Atlantic States. — **nokomis** Brodie is the form from Manitoba, of a brighter colouring, with a larger white spot on the hindwing. — **wenonah** Brody, from Pelly, North-Western Territory, is smaller and still brighter, the colours more distinctly contrasted; the only extremely northern specimen known is presumably only an intensely marked *nokomis*.

rubra. **S. rubra** Behr (= *curyalus* Bsd., *californica* Grt., *ceanothi* Behr) (129 c) is easily separated by the quite red ground-colour. — *parvima-* **parvima-** **macula** Grt. is distinguished by the reduction of the discal spots. — **kasloensis** Ckll. is above darker purple brown, beneath much blacker and less red. From British Columbia. — **cedrosensis** Ckll., *kasloensis.* from Mexico (Cedros I.), is broadly and diffusely blackened at the distal margin in both wings above, with *cedrosensis.* hardly any submarginal markings; ocellus of forewing small; beneath intensely blackened. — In aberrative specimens the ocelli may be entirely absent as in *E. calleta*. Larva green with blue or yellow knobbed tubercles with black thorns. It lives on *Ceanothus thyrsiflorus*, but also on cherry and apple. *Rubra* can be hybridized with *cecropia*, the product being occasionally also found in nature.

II. Group.

Cell of forewing closed (Saturniinae).

1. Division. Vein 1 b of hindwing absent (Saturniinae s. str.).

1. Genus: **Sagana** Wkr.

Shape somewhat like that of the palaearctic *Rhodinia*, of medium size, the ♂ with a roundedly produced apex of the forewing, on both wings with crescentiform hyaline spots enclosing the likewise curved cross-vein. On the forewing 5 comes from the upper cell-angle, 6 close before it, 7 and 8 from the centre of the upper cell-margin, 9 and 10 being quite absent. Cell of hindwing very long, 5 from the upper angle, 6 a little before it; 7 terminates into the apex. Proboscis rather well developed, palpi rudimentary. Antennae of ♂ bipectinate, in the ♀ shortly pectinate.

Type: *S. sapatoza* Westw.

sapatoza. **S. sapatoza** Westw. (103 c). Wings on the greyish brown ground densely strewn with greenish yellow, the most densely on the averted sides of the two transverse stripes, the distal one of which is undulate; submarginal area mixed with a darker red-brown, at the apex of either wing a small black, distally white-pupilled spot. Colombia. It has recently also been bred, but apparently nothing has yet been published about the early stages.

2. Genus: **Saturniodes** Rothsch.

Very closely allied to *Sagana* and also *Copaxa*, with longer antennal combs, the anterior tibia with a short or absent spine. Cross-vein straight, in the centre of the mostly round hyaline spot. The subcostal vein of the hindwing terminates in the distal margin. A few species from the High Andes.

Type: *S. medea* Maass.

medea. **S. medea** Maass. (104 a) is a variable large beautiful species; blackish-grey, strewn with yellow, with 2 undulate-dentate transverse stripes which are bordered with white on the averted sides, the exterior stripe being double. Eyespot of forewing with a large hyaline centre, distally finely surrounded with yellow. In the nomenclatural type the submarginal line of the forewing is narrow, the apical spot above and beneath small. Under surface blackish brown, both wings with a narrow white submarginal line; below the apical spot of the *carina.* forewing there is a narrow, white crescent bordered with red. Ecuador. — **carina** Rothsch. The white submarginal band of the forewing is 5 mm broad; beneath strongly mixed with yellow, the grey ground almost entirely suppressed; the black apical spot of the forewing is smaller than the ocellus of the hindwing, the submarginal bow below it is red, not larger than the black following bow. Carabaya (Southern Peru), from an altitude of *charila.* 9000—9500 ft. — **charila** Rothsch. Like *carina*, the white submarginal band broader and also beneath very distinct. Beneath preferably greyish-white, both wings with a blackish-brown band mixed with yellow distally to the eyespot of the forewing and straight through the eyespot of the hindwing; the submarginal black and *miles.* red is more extensive than in *carina*. Marcapata (South-Eastern Peru), according to 1 ♂. — In **miles** Rothsch. the white submarginal line is narrower, the black apical spot of the forewing larger, on the under surface a large red spot behind it. The white submarginal line of the hindwing is distinct, on the forewing only behind distinct; ground-colour whitish-grey. Abdomen laterally with a black, white-edged line. From Western Peru. All these forms are extremely rare hitherto, our figure has been made according to a magnificent ♂ of the Berlin Museum.

orios. **S. orios** Dyar (104 a). According to the photo of the type which was most kindly put at our disposal, it seems to be very similar to the form *carina*, unless it be *carina* itself. Apex of forewing apparently somewhat more produced, apex of hindwing more angular, its distal margin straighter and the anal angle more produced; median area on both wings narrower, subterminal line broad, on the hindwing the antemedian line touches the eyespot. Beneath grey, only towards the margin strewn with yellow, with a black straight median band across both wings, the white submarginal line absent in both wings. Cuzco, Peru, 11 500 ft.

ockendeni. **S. ockendeni** Drc. is likewise similar; antennae and abdomen quite black. Forewing dark brown, strewn with yellowish; antemedian line yellowish white, subterminal line light brown, not white, more obliquely extending from near the apex to the centre of the inner margin, distal margin fawn. Antemedian line of hindwing quite black, without any white, only bordered by few yellowish scales, not reaching the costal margin. Under

surface dark red-brown, strewn with black, the transverse lines broader than above and quite black, without any white; at the apex 2 red spots. 5 inches. South-Eastern Peru, Carabaya (7000 ft.).

S. muellerana Dyar, of which only a photo is before me, is undoubtedly also a *Saturniodes* though it was described as an *Agapema*. Antennae light yellow. Wings shaped as in *medea*. Of a soft greyish-brown colour, the antemedian line in both wings blackish, faded and broad, subterminal line double, undulate, the interior portion black and more distinct, the exterior one broader and distally strewn with white; at the apex a flesh-coloured spot enclosing an inwardly black, outwardly red spot; ocellus black with a straight white central line, with brown, red, and black rings, proximad between the red and black with a narrow white demiring. Hindwing in the costal-marginal area light yellowish, without an apical spot, ocellus similar as on forewing. Expanse of wings: 97 mm. Mexico City, only 3 specimens known hitherto. — **heringi** f. n. (104 b) probably belongs to it, but it has a quite sooty black ground-colour, the marking is otherwise the same except the transverse lines being more distinct, those on the hindwing much deeper and roundly sinuate, in *muellerana* inwardly forming acute angles on the veins, the costal-marginal portion here considerably broader light, almost greenish yellowish-white, extending to the eyespot; the shape of the wings appears to be somewhat higher and more slender. According to 1 ♂ from Panama. Type in the Berlin Museum.

S. copaxoides Dyar (104 b), likewise described as *Agapema*, also belongs hereto, a smaller species with blackish-brown wings, a reddish-white collar and costal margin of the forewing, marked as the preceding ones; antemedian line especially on forewing feeble, the little eyespot rosy-red, in a black ring with a white-hyaline central streak, of a somewhat oval shape; subterminal line only indistinctly double, on the hindwing more distinct. Marginal area behind it lighter, at the apex a white spot centred black and red. Western Mexico (Guerrero; Colima).

S. semioculata Fldr. (104 a), in my opinion, belongs quite near to *copaxoides* and cannot be a *Sagana*. Only known to me from FELDER's figure according to 1 ♀. Marking almost the same as in *copaxoides*, only the ground-colour somewhat more yellowish; eyespots oval, especially that on forewing very narrow. Stated from Venezuela.

3. Genus: **Copaxa** Wkr.

A large group of imposing, often sexually dimorphous species mostly with hyaline spots on the wings, the apex of the forewing being usually falcately pointed or rounded produced. Palpi very short, drooping. Forewing with a somewhat rounded cellular apex, 6 proceeds a little before the upper angle, 7 and 8 stalked from the centre of the anterior edge of the cell, 9 and 10 absent. Hindwing the same, 5 from the upper angle, 6 a little before it, 7 from the centre of the anterior edge of the cell, terminating far below the apex into the distal margin. Abdomen mostly short and relatively slim. The species often have a most variable colouring. There is still little known of the biology.

Type: *C. decrescens* Wkr.

C. decrescens Wkr. (130 a). Light greyish-brown with an olive tint or also more reddish-brown, especially in the cell, or with a light pink tint particularly behind the distal oblique line which runs straight from below the apex to the centre of the inner margin; the interior transverse line below the cell sharply broken inward; hyaline spot small, triangular, surrounded by yellow, in the ♀ larger. Hindwing with a straight, distally light-edged antemedian line, a feeble median shadow behind the small hyaline spot and an undulate-dentate postmedian line with sagittary thickenings on the veins; the space behind it feebly darkened in the shape of a band. Costa Rica, Panama, Colombia to Brazil, a common species. — **olivina** f. n. I call a very light olive greenish form with a lilac silvery grey brightening in the marginal area. — **purpurascens** f. n. (105 a) is a dark purple brown form dusted with lilac, with a whitish lilac pink brightening in the marginal area. — **rufinans** Schs. (105 b) are bright red-brown forms with a rusty yellow brightening in the cell and above it, whilst the surroundings of the apex of the cell is darkened greyish-brown as far as the oblique line. The last 3 forms with all their transitions from Mexico. The ♀♀ seem to occur chiefly in the form *purpurascens*, at least I have seen no others among the great number of specimens before me. — **troetschi** Drc. (= *marona* Schs.) comprises light reddish fawn forms, the transverse lines distally dusted with lilac pink, the cell and median shadow more rusty yellowish or reddish. The apex of the forewing is figured excessively long in the Biologia, but in fact it is longer than in Mexican specimens. The type from the Berlin Museum is lying before me. Panama to French Guiana. — **niepelti** f. n. I call a very variegated form from Western Colombia (Bellavista), type in the Coll. NIEPelt; ground-colour warm brownish olive, the cell before the antemedian line bright fox-coloured, behind it more feebly dusted so, the postmedian line on both wings outside bordered with light lilac pink, the hyaline spot, especially that on the hindwing, in a very broad and bright orange ring.

C. sophronia Schs. may be a form of *decrescens*; dark olive brown, collar and basal half of costal margin strewn with white, the small hyaline spots at first orange, distally finely surrounded with black, transverse lines darker, median and postmedian areas between 2 and 7, excepting the upper half of the cell, shaded darker; from the costal margin to vein 6 a darker postmedian shadow behind which the apical area is lighter; the fine postmedian interior notched line from the costal margin to the centre of the inner margin distinct, behind it

between 7 and the inner margin a 3rd brownish line; margin between 6 and the apex shaded darker, at the apex a small white spot strewn with black. Hindwing in the basal half darker, behind the dentate dark postmedian shadow a deeply dentate dark line with dark short vein-streaks, behind it brownish lunulae. Expanse of wings: 115 mm. Guatemala.

curvilinea. **C. curvilinea** Schs. may also be a form of the preceding species; monotonously dull brown, collar whitish, costal margin as far as beyond the centre yellowish-reddish grey; antemedian line feebly marked, the small hyaline spot as in *decrescens* finely surrounded with black and yellow; postmedian line outside between 6 and the inner margin narrowly bordered with lilac-whitish, the same feeble dusting at the distal margin. Hindwing with a straight antemedian line, the hyaline spot with a broader ochreous ring, behind it a brown shadow, then lilac whitish streaks and black vein-dots which are connected by a feeble darker undulate line; subterminal whitish vein-dots. Expanse of wings: 102 mm. Costa Rica.

denda. **C. denda** Drc. (105 b). Yellow, collar and first third of costal margin light lilac grey; base of cell and the space before the distal oblique line more or less extensively dusted with rusty reddish; the reddish-brown antemedian line similar as in *decrescens*; the oval hyaline spot finely bordered with black, then yellow and again black; before the blackish-grey oblique line an indistinct red-brown notched line, the marginal area also on the hindwing more or less hued with light lilac grey. The ♀ is more cinnamon reddish and more intensely marked. Mexico, Guatemala.

syntheratoides. **C. syntheratoides** Roths. (105 b) is similar to *denda*, but of a much purer yolk-colour and in the ♂ hardly marked at all, in the ♀ much more, similarly arranged as in *denda*, but the hyaline spots are much larger and quite round, parted by the cross-vein; behind the postmedian line in more distinctly marked specimens reddish-brown shading which exhibits two rounded projections between 2 and 4. Hindwing with small rusty brownish subterminal shadow-like spots. Legs rosy reddish. Panama.

anestios. **C. anestios** Weym. This species having been described from 1 ♂ without the patria being stated must look very much like *denda*, but it has no sharply pointed, but an obtusely rounded apex of the forewing. Golden yellow with a straight red-brown oblique stripe as in *denda*; the small oviform hyaline spot is bordered by a very fine brown ring, then a yellow one, and outside a red-brown one, proximad above it another punctiform hyaline spot; costal margin red-brown with white scales, from its base along the median vein, between 2 and 4 and through the distal half of the cell a distally widening red-brown longitudinal stripe as far as the postmedian line, another similar stripe from the centre of the costal margin across the veins 5 and 6; basal 2 notched red-brown transverse stripes; before the apex a small white costal-marginal triangle; marginal area as in *syntheratoides*-♀. Hindwing marked the same, before the margin with 2 red-brown notched lines, the exterior one broader and more indistinct. Expanse of wings: 115 mm.

cinerea. **C. cinerea** Roths. (122 a) is unicoloured ash-grey, without any transverse lines, only on the hindwing there are traces of an antemedian line; at the cell-ends of both wings small hyaline spots. Expanse of wings: 127 mm. Described from 1 ♀, habitat unknown.

expandens. **C. expandens** Wkr. (105 a). Wings broad, apex of forewing pointed; golden yellow, in the disc behind and above the cell dusted with blackish-brown, around the cell-end with 3, sometimes 4 small hyaline spots; antemedian line irregular, postmedian line fine, undulate-dentate, behind it a broad black straight nebulous stripe, distally between 2 and 4 projecting with 2 round convexities. Hindwing with a straight broad antemedian line, in the disc with 1 or 2 small hyaline spots; a rounded undulate-dentate postmedian line and a submarginal nebulous stripe which is more broken up in spots. Venezuela.

arpi. **C. arpi** Gschwandner is very similar, larger, the apex of the forewing obtusely rounded; ground-colour darker, ochreous, behind and especially above the cell dark brown irroration, enclosing 3 hyaline spots with black, yellow, and again black edges; the subterminal black nebulous stripe is distally concave, and widened between the veins 4 and 6, the notched line before it as in *expandens*; the subterminal darkening between 2 and 4 is very feeble. Hindwing similar as in *expandens*, the hyaline spot at the cell-end small, oval, surrounded by black, yellow and again black. Expanse of wings: 113 mm. Southern Brazil, Sa. Catharina.

trimacula. **C. trimacula** Roths. is very similar to *arpi*, much larger and at once discernible by the absent notched stripe before the postmedian oblique stripe. Forewing loamy brown, sometimes covered with light reddish, behind the cell with 3 round hyaline spots; $\frac{1}{3}$ from the base extends an indistinct zigzag line, from the apex to the centre of the inner margin a dark oblique line. Hindwing similar, but with only one hyaline spot, behind it there are a number of small round dark spots; an antemedian transverse line. Expanse of wings: 136 mm. Central America.

multifenestrata. **C. multifenestrata** H.-S. (130 a) is an extraordinarily variable species, in the typical form fawn-coloured greyish-brown, especially in the female sex, the two black transverse lines (the posterior one mostly only in its apical portion) notched, before the latter a second notched line of a more brownish colour; around the cell-apex 4 hyaline spots, the second from below being the largest and parted by the cross-vein; before and below the cell-end especially in the ♀ 2 small hyaline spots; posterior transverse line outside analwards wider darkened, between 2 and 4 with 2 more or less distinctly biapic projections. Hindwing the same with 3—6 hyaline spots in the disc. In the ♀ a principal subspecies with a beautiful yolk-coloured ground-colour occurs: —

flavescens f. n. (130 d); purely yellow ♂♂ matching it I have not seen. The yellow ♂♂ are mostly extensively *flavescens*. dusted with violettish grey or red-brown, especially subterminally and around the cell-apex. — **rufotincta** *rufotincta*. *Rothsch.* (130 e) is in the basal $\frac{2}{3}$ reddish orange, in the marginal third deep brown. Panama. — **rufa** f. n. are *rufa*. deep chestnut-red, — **olivina** f. n. dark olive brown specimens. Mexico-Panama, also from Western Colombia *olivina*. before me in the typical form (Coll. NIEPELT).

C. satellitia Wkr. (130 d), described from Brazil, in my opinion is by no means identical with *multifenestrata*, but a different species; typical *multifenestrata* I have not seen farther to the south than Panama and Western Colombia. From Brazil 2 ♀♀ are before me, which are very closely allied to the said species though constantly differentiated. Shape of wings somewhat narrower, distal margin more oblique, position and proportion of the hyaline spots to each other different; in *multifenestrata* the uppermost is relatively large, the following small, in *satellitia* the uppermost the smallest, the 3rd and largest is in the former species bipartite by the cross-vein, in *satellitia* besides divided into 3 parts by the fold, the spots on the hindwing being much rounder; the posterior transverse line on both wings hardly notched, broader, more faded and indistinct, outside more intensely strewn with whitish-grey.

C. simson Maass. (105 c) is the largest *Copaxa*, dark yellow or orange brownish, strewn with red-brown *simson*. especially in the median area excepting the inner-marginal portion, costal margin and collar intensely strewn with white, veins of median area blackened; transverse lines as in the other species, on the hindwing very deeply undulate-dentate; hyaline spots large, inside surrounded with grey, then yellow and outside finely with black; marginal area lighter. From Panama.

C. canella Wkr. (104 d ♀, 105 a ♂). Light brown with the usual 3 transverse lines, ocellus as in *simson*; *canella*. collar and costal margin intensely strewn with white. Brazil, a more common species. — **flavina** f. n. (105 c) *flavina*. are specimens with a golden yellow ground-colour, in which especially the upper half of the median area and the subterminal space behind the line are intensely strewn.

C. joinvillea Schs. (105 c) is very similar to *canella*, mostly somewhat smaller and darker, easily *joinvillea*. discernible by the longer and somewhat more narrowly produced, falcate apex of the forewing. — Whether — **vitellina** f. n. (105 c) is a yellow form of it or a distinct species I cannot tell according to the only specimen before *vitellina*. me. Apex of forewing not quite so far produced as in typical *joinvillea*, the colour is a pure golden yellow without strewing, the marking otherwise not different. Southern Brazil.

C. lavendera Westw. (= *chapata* Westw., *plenkeri* Fldr.) (104 d) is marked like the preceding species, *lavendera*. but sexually very dimorphous, the ♂ of a most variable colouring; light orange brown, red-brown, dark or olive brown, the distal oblique stripe mostly distally strewn with white, ocelli much larger and more variegated. The ♀ is yellow, in the median area strewn with black, behind the distal oblique line red-brown with black strewing, between 2 and 4 with 2 round projections; marginal area loamy brownish. Mexico.

C. mannana Dyar (120 a) may also belong to this genus. Forewing of ♂ with a falcate apex; brown, *mannana*. costal margin and collar grey; forewing with a small slit-shaped hyaline spot, the feeble transverse lines purple brownish, the interior line irregular, the exterior one feebly double. Hindwing from the costal margin to beyond the cell excepting the margin rosy red; discal ocellus large, black, inside with a light blue dusted crescent with a broad reddish-yellow ring and surrounded by black; the two transverse lines disappear in the pink costal-marginal area, the exterior line is undulate-dentate. The ♀ has more quadrangular wings with a straight distal margin, yellow, strewn with grey, collar and costal margin grey, the discal hyaline spot tiny, transverse lines broader and more distinct, marginal area excepting tornus hued with pink, with a small dark subcostal spot. outside dusted with pink and purple. Expanse of wings: ♂ 95, ♀ 100 mm. Mexico, Hidalgo, 9000 ft.

C. cydippe Dre. (103 d) has been described as *Attacus*; I know it only from the description and figure *cydippe*. in the Biologia and place it here only provisionally, because it neither fits to any other place. Apex of forewing very pointedly falcate; colour dark red-brown with transverse lines as in *lavendera*-♀; each wing exhibits a small narrow oval discal hyaline spot, and subterminal markings which are very near to the margin and composed of small outside rounded spots distally surrounded by light grey. Described from Orizaba (Mexico).

PACKARD, in Monograph etc., 1914. p. 164, mentions another *C. disjuncta* without any description, in which vein 9 of the forewing rises from 8 as a very short branch close before the apex; who is the author? I could not discover anything else about it.

4. Genus: **Agapema** Neum. & Dyar.

It represents the palaearctic genus *Eudia* Jord. (cf. Vol. II, p. 222) in America and, in fact, hardly differs anatomically. The antennae especially in the female slightly longer pectinate, likewise with a bare ventral stripe. Forewing with exactly the same neurulation, though I find 5 and 6 of forewing to be short-stalked in *homogena*, in *galbina* not so. The costal vein of the forewing terminates into the costal margin, the subcostal vein into the apex. Thus it appears hardly necessary to separate it from the genus *Eudia*.

Type: *A. galbina* Clem.

galbina. **A. galbina** Clem. (103 d). Rather scantily scaled, brownish grey with 2 broad not quite distinct transverse lines and very faint traces of a somewhat undulate subterminal line; eyespot from outside inwards: black, yellow, black with a hyaline central streak; in the apex a black spot distally bordered with white, then with red; distal margin bone-white, outside passing over into the grey ground-colour. Hindwing the same, but the basal area lighter. We figure an aberrative ♂ in which the median area is broadly interrupted by the widened white transverse stripes: — **interrupta** ab. nov. (103 d as *galbina*). Arizona and Northern Mexico. — **anona** *Ottolengui* *anona*. on the whole is a darker local race from Texas; especially the basal and median areas of the forewing are more blackish with more distinctly prominent white transverse bands and markings; the costal area of the hindwing is likewise darker scaled with a dark subbasal demi-band. The Mexican race (from Chihuahua) has been *dyari*. separated as — **dyari** Ckll. and is characterized by lighter hindwings. Larva on Grease wood, the young larva has been described to be black with long fawn-coloured hair.

homogena. **A. homogena** Dyar. (103 d) is larger, more densely dusted, with a darker ground-colour, the veins distinctly marked light yellowish ochreous, the inner transverse line yellow, pointedly produced distally on the median vein, the outer line almost straight, narrow, white; costal margin and the outermost border of the bone-white marginal area ochreous; ocellus as in *galbina*, but besides with a light blue crescent in the proximal half between yellow and black. Hindwing lighter, only with the distal transverse stripe. Mexico, also found in Arizona.

5. Genus: **Calosaturnia** Sm.

Anatomically hardly separable from *Agapema* or *Eudia*, at most somewhat smaller and more slender, the antennae a little shorter and somewhat shorter pectinated. In the neurulation no essential difference. Biologically different by the larvae the thorns of which produce a burning sensation. Only 1 species:

mendocino. **C. mendocino** Behrens (103 d). Forewing red-brown, only with the discal ocellus, without distinct transverse stripes. Hindwing orange with a broad black subterminal band and discal eyespot. Northern California. The eggs are deposited in numbers of 1—10 pieces on leaves of “Manzanita” (*Arctostaphylos tomentosa*). Larva green or reddish-brown, with severely burning thorns.

6. Genus: **Polythysana** Wkr.

Very similarly structured as *Automeris*, but palpi short, apex of forewing somewhat produced though rounded. On the forewing 3 rises somewhat nearer to 4, 6 on a short stalk with 7 and 8. On the hindwing the cell is longer, occupying almost $\frac{3}{4}$ of the length of the wing; otherwise neurulation almost the same. The male imagines fly at noon in the sunshine around the tops of trees and are difficult to capture. The larvae exhibit magnificent spots on the 2nd and 3rd rings, 8 bicuspid thorns on the 3 first rings, 4 star-shaped tufts of spikes on each of the 6th to 11th rings, 3 of them on each of the 12th and 13th rings. They pupate in a pear-shaped cocoon which is open at one end. They all live in Chile.

Type: *P. rubescens* Blch.

rubescens. **P. rubescens** Blch. (= *andromeda* ♀ M. & W., *rhodocera* Prittw.) (104 c) is a very common species and of a rather variable colouring and marking. Forewing yellowish-grey with a large dark basal inner-marginal spot, 2 transverse bands the distal one of which projects between 2 and 4 with round projections almost to the margin and a somewhat oval eyespot between them. Hindwing dark orange, suffused with crimson in a variable extent, and with a carmine, white-centred ocellus and 2 narrow darker transverse bands. Common, but difficult to capture. The ♂♂ fly in the sunshine round the tops of trees between 12.30 and 2 p. m.; the ♀ flies at night. Chile.

andromeda. **P. andromeda** Phil. (104 c) is externally very much like *rubescens*, but easily discernible by the circular, not oval, ocellus on the forewing and the absence of the basal transverse line on the hindwing. The latter is reversely coloured, red, instead of orange in *rubescens*, and orange, instead of red in *rubescens*, the apex of the forewing is somewhat less produced than in *rubescens*. Antennae light red-brown, not black. Chile.

edmondsii. **P. edmondsii** Btlr. (= *andromeda* ♂ M. & W.) is very similar to *andromeda*, but the distal border of the distal transverse band is of a purer white; hindwing carmine, in the inner-marginal half of the disc and at the distal margin orange, the margin brown. The ♀ is lighter, more flesh-coloured, the disc outside olive brown. Common in March and April, the ♂ flies in the sunshine between 9.30 and 11 a. m. The stout grey larva with hair-pencils lives on roses and pupates in a widely meshed whitish silk-web. Chile.

cinerascens. **P. cinerascens** Phil. (= *apollina* Fldr., *albescens* Btlr.) (104 b) is easily discernible from the preceding species by the quite different duller yellowish-grey colouring without red, sometimes almost white. Scheme of markings otherwise the same. The rarest of the 4 species, flying between 9.30 and 11 a. m. Larva beneath

light green, above pinkish-grey, the magnificent spots velvety black, the thorns on the 4 first rings red, at the end black and yellow and ending in a white hair, the other spikes being yellow with black tips. The pear-shaped cocoon between leaves. Chile.

7. Genus: **Automeris** Hbn.

An immensely large genus of rather homogeneous species which have hitherto not yet been exactly differentiated and therefore offer many difficulties, especially since the denomination is very confused. They are mostly large beautiful lepidoptera with brightly coloured hindwings provided with a large discal ocellus. Antennae of ♂ broad, bipectinate, in the ♀ different, mostly filiform or feebly serrate, with bristles. Palpi rather well developed, reaching the frons or projecting beyond it; eyes rather large; proboscis sometimes recognizable as a feeble thin thread. Shape of wings mostly rather broad, apex of forewing more or less pointed, often falcate. Forewing with 3 subcostal branches, 7 and 8 on a long stalk, 10 shortly before it. 5 is removed down almost into the centre of the cross-vein; also on the hindwing 5 proceeds from below the upper cell-angle; 6 almost equidistant from 5 and 7, the costal vein terminates into the apex or before it, 7 into the distal margin or right below the apex. Larvae cylindrical with star-like bristled or spiked knob-shaped tubercles. The thorns produce a very severely burning sensation; nevertheless the larvae seem to be very much exposed to the attacks of ichneumonids. Pupation in cocoons with wide meshes.

Type: *A. janus* Cr.

A. janus Cr. is a well-known large species, forewing greenish-brown, finely strewn darker, the antemedian line very strongly undulate, feebly darker, the median area generally somewhat lighter, more violettish-grey, discal spot very large, in its proximal half darker, in the distal half lighter with single black vein-dots around it; postmedian line in the nomenclatural type undulate, shortly produced distally on the veins, blackish-brown, inside bordered with a lighter shade, the light subterminal line of the usual shape, marginal area distinctly greyish-violett. Hindwing in the disc yellowish-grey, basal area with rosy red hairs; ocellus very large, mostly somewhat oval, jet-black, towards the centre lighter yellowish-grey, in the centre dusted white, with a white angular transverse line; behind it follows a black thick line feebly dentate on the veins, then after a short distance a broad rusty red band. Margin violettish-grey. Ecuador, Venezuela, Eastern Colombia, Guiana. — **metzli** Sallé (= mestli Bsdv.) (106 a) is the more northern form from Mexico and Guatemala, mostly smaller on an average, the antemedian line less undulate, the postmedian line quite straight, the black dots in the surroundings of the discal spot much stronger, the discal spot in the middle often parted by a black transverse streak, the submarginal band of the hindwing of the same rosy red colour as the basal area. Ground-colour generally somewhat lighter, more yellowish-brown. — **collateralis** Hamps. is an aberrative form frequently occurring in both the preceding forms, in which the black arcuate line of the hindwing touches the very large ocellus; hardly worth while denominating it. Larva described to be so profusely set with strong tufts of spikes that it looks like a cluster of moss. The burning effect is uncommonly severe, so that it may produce dangerous injuries. Pupa in a very coarse and widely meshed reticulate cocoon.

A. beckeri H.-Schäff. (106 a) is somewhat like *janus* on the forewing, but the colour is more loamy brown, the antemedian line forms only 2 large bows and a very small one above the inner margin, the postmedian line is more distinctly double. Hindwing without any pink, basal area with long greyish-yellow hair, the very large eyespot loamy grey in the disc, almost blind, very scantily strewn with white in the centre, extended to the inner margin by black dusting. Both the transverse lines behind it broad, the interior line black, undulate, the exterior line composed of spots, in the ♂ mostly also black, in the ♀ sometimes reddish-brown. Abdomen loamy brown. Brazil.

A. egeus Cr. The ♂ is purple brown, the ♀ much lighter red-brown, in the median area and at the margin lighter violet; markings rather indistinct except the blackish brown postmedian line which is bordered with whitish-blue inside; eyespot of hindwing with a large iris of the ground-colour with a small black pupil, behind it the usual 2 black lines, the interior one near the ocellus, turning strongly analward before the inner margin, the exterior one very broad, smoky grey. The orange abdomen shows blackish rings at the base of the segments. Guiana to Southern Brazil. — **boops** Fldr. (106 b) is the form from Venezuela and Colombia. Discal spot much broader and larger with a blackish central dot, in the distal border with thick black triangles; marginal area somewhat narrower. Hindwing with more reduced though brighter orange basal hair. Ocellus larger, the yellowish-grey iris smaller, the black pupil larger, hardly strewn with white; thorax lighter red-brown. The figured Colombian specimen from the Berlin Museum matches it very well. — **zelleri** Grt. & Rob. (106 a) is said to originate from North America; it has never been heard of again from that country. In the Berlin Museum a ♀ was found exactly matching the diagnose, with a green label as "zelleri" found in "Texas", apparently written by GROTE, presumably the type which we figure. Basal and marginal areas dark brown, median area much lighter, suffused with violet, the large brown discal spot outside with 3 dents and a white

central dot, without black dots outside; the feebly curved postmedian line is light, on both sides bordered with dark, at the costal margin 2 cm distant from the apex; eyespot as in *egeus* with a white transverse streak in the small black pupil; subterminal band behind it outside straightly defined, in contrast with *egeus* and *boops* where it is outside undulate and more interrupted on the veins. Abdomen brownish ochreous.

postalbida.

A. postalbida Schs. is a large species allied to *egeus*, with a very light median and marginal area; the antemedian line forms 2 flat bows, with a little contrasting discal spot, marked by 5 black dots; postmedian line plain, almost straight, inwardly bordered by a feebly lighter colour, vanishing towards the costal margin; the dark subterminal area outside roundly bordered undulately. Hindwing almost white, the black pupil in the large ocellus strewn somewhat white with a white central streak. The ochreous abdomen with feebly dark ringlets. Balzapamba (Ecuador). — **niepelti** f. n. (106 b) is larger, the black antemedian line much more strongly undulated, in the cell and submedianly with 2 projections each towards the margin; discal spot tridentate with 4 black dots around it and a white central dot; postmedian line double, inside blackish-grey, outside purple brown, filled with light brown, almost straight, only slightly bending towards the base below the costal margin; subterminal line more dentate, the marginal area behind it as light as the median area. Hindwing very light grey with a feebly yellowish tint, almost the whole pupil of the ocellus thickly filled with white, the marginal area behind the two black lines densely strewn with greyish-brown, crossed by rusty yellow veins, the fox-coloured abdomen with broad black ringlets. Western Colombia (Bella Vista); type in Coll. NIEPELT.

niepelti.

larra.

A. larra Wkr. (= palegon *Bsdv.*) (106 b) differs from the preceding ones in the straighter postmedian line extending nearer to the apex and being filled with bluish-white; discal spot sometimes with a white central dot, but always with 4 dots below and outside. Hindwing of a somewhat more reddish tint, the eyespot in the centre with a larger black, white-strewn pupil, with a distinct white transverse streak, the two lines behind it black, the interior one plainly bent, the exterior one composed of thick black spots. Under surface brighter rusty brown than in the allies, with a large black discal spot. Brazil. — **panamensis** f. n. (106 c) from Chiriqui, is much darker red-brown, the distal half of the median area densely strewn with bluish-white, the postmedian line somewhat more curved, slightly concave towards the margin. The light yellowish-grey disc of the hindwing is very extensive, the ocellus large, especially the pupil very extensive with a thick white transverse streak, the distal one of the two lines behind it not divided into spots, but quite straight, the brown marginal area behind it narrow. Type: 1 ♂ in the Berlin Museum.

panamen-
sis.

cryptica.

A. cryptica Dogn. (108 a) has brown forewings with a white basal spot and somewhat darker brown straight transverse lines, on the inverted sides bordered with light violet, the inner line at the costal and inner margins equidistant from the base, the outer line at the inner margin rising close at the base and terminating far before the apex at the costal margin; discal spot rectangular. Hindwing light lilac, basally with ochreous hair, with a large eyespot with a blackish-brown iris and a black, white-strewn pupil, with a white transverse streak; behind it a broad black uniformly rounded subterminal band, behind it a whitish band before the violettish-brownish margin. Colombia.

banus.

A. banus *Bsdv.* (107 b). Thorax very dark brown, abdomen brick-coloured yellowish or ochreous. Forewing basally and in the marginal area olive brownish mixed with yellowish hair-scales, the median area somewhat purer brown, in the ♀ tinted violet and, like the anteterminal area, strewn with white; transverse lines darker, on the inverted sides strewn somewhat white, especially the outer line in the costal-marginal part. The darker discal spot with intense black marginal dots and a black central streak. Hindwing reddish brick-coloured, in the marginal area olive brown or yellowish-brown, densely strewn with white excepting the reddish veins. The large black ocellus with a greyish-yellow iris, in the black pupil strewn with white, with a white transverse streak; behind the black postmedian line, which is slightly interrupted on the veins, there is a red-brown nebulous band. Mexico.

amanda.

A. amanda Schs. (108 a) is very similar to *banus*; head and thorax dark velvety brown, abdomen light reddish-brown with darker segmental margins. Forewing more unicoloured violettish-brown, the fine lines darker; the interior oblique line from the costal margin to the median vein, then inwards and, on the submedian fold, turning outward again; the large discal spot indistinct, marked by dark dots, the distal line straighter than in *banus*; hindwing light reddish-brown, the light brown, large ocellus with a black ring contains an oval black pupil surrounded by white, and a white central line; distal margin violettish-brown with 2 brown distal lines. Expanse of wings: 86 mm. Bolivia.

proximus.

A. proximus Conte (= *ecuadora* *Weym.*) (108 a) is very similar to *amanda*, darker brown, much more intensely strewn with white, especially in the median area, the grey discal macula very densely strewn with white, the postmedian line towards the costal margin somewhat undulate-dentate, inside bordered with an intense white. Disc of hindwing more yellowish ochre; above all separable by the broadly black-curved ochreous abdomen. Ecuador, Colombia. WEYMER's type of *ecuadora* is before me from the Berlin Museum, it belongs to this species and has nothing to do with the figure by STRAND in Lep. Niepeltiana, which belongs to *erisichton* (cf. ib. p. 733).

oweni.

A. oweni Dogn. is likewise rather near to *banus*, the forewing is more yellowish-grey, with the 2 transverse lines and the well marked discal spot. Hindwing beautifully orange, at the inner margin with orange hair; the ocellus is very large, somewhat flattened, with a yellowish-grey iris enclosing 2 black, white-strewn pupils

of unequal size, the larger one is parted by a grey vein and shows a white transverse streak, the smaller one being above it; behind the ocellus follows a black undulate line and outside a grey, rather indistinct line disappearing in the grey distal margin. Thorax dark brown, abdomen beautifully yellow. Described according to 2 ♂♂ from Zamora (Ecuador).

A. subpictus Dogn. (= *colombianus* Bouv.) (108 b). Head and thorax blackish-brown, abdomen *subpictus*. brown with single ochreous hairs. The brown forewing is strewn with white basally and in the median area; transverse lines darker, the posterior line from close behind the centre of the inner margin to 5 mm before the apex, proximad strewn with white; the dark discal spot is oblong, in places marked with black. Hindwing light olive or yellowish ochreous, the large ocellus with a dark olive iris and 2 or 3 black, white strewn and bordered pupils, the middle one being the largest, the anal one mostly only a narrow white streak, or absent altogether; behind them there is a double fine, feebly dentate subterminal line, distally dusted with white as the brown marginal area. Colombia (Bogota).

A. subobscura Weym. I do not know in nature, it may belong to *subpictus*, but it has an ochreous ab- *subobscura*. domen with broad dark brown rings and is therefore also similar to the following *abdominalis* from which it is said to differ in the more pointed apex of the forewing, the unicoloured marginal area, and the broad brown margin of the hindwing extending to the yellow disc, whilst in FELDERS species the yellow colour extends far into the marginal area. Forewing brownish-grey, in the median area lighter, at the costal margin and distal margin darker; postmedian line straight, dark brown, proximally bordered with whitish-grey, from the apex to $\frac{3}{4}$ of the inner margin; discal spot brown, round, with 3 black dots in its edge. Hindwing dark ochreous, with a large brownish-grey ocellus in a black ring of 2 mm width, and a pear-shaped black pupil with a white transverse streak; the brown distal margin is traversed by 2 whitish-grey lines. Under surface conspicuously dark blackish-brown. Bogota (Colombia), described according to a ♀.

A. denticulatus Conte (= *moerens* Jord.) (107 c) is quite different, but it resembles the *banus*-group *denticulatus*. by the hindwing with the pale olive brown ground and the abundant white strewing at the base, median area and distal margin of the forewing; separated by the undulate-dentate postmedian line which is bordered with white on both sides; subterminal area especially in the lower half angularly projecting into the white-strewn margin; ocellus of hindwing with a but very small white-powdered pupil; the exterior one of the two subterminal lines is broad, analward likewise angularly projecting. Thorax blackish-brown, abdomen and base of hindwing ochreous. Peru; Ecuador (Sarayacu).

A. despicata sp. n. (108 b) is allied to the *banus*-group to a certain degree. Thorax dark brown, abdomen *despicata*. dull ochreous; forewing unicoloured dull olive brown, anterior transverse line extremely feeble, whitish, extending as in *proximus*, the posterior line hardly more distinct, straight from the last third of the inner margin to 3 mm before the apex, in front of the apex with somewhat whitish, scanty hair-scales; discal spot slightly darker than the ground-colour, in its lower border a dark brown arcuate streak, outside 2 black dots in the middle and in the upper angle; subterminal line feebly lighter, undulate, behind it scantily strewn with whitish. Hindwing in the disc dull reddish ochreous, the large ocellus, which is relatively narrowly edged with black, with a very extensive olive brown iris and a small, intensely white-strewn pupil with a white transverse streak; the ocellus shows distally a very feeble and narrow light yellow border closely followed by a fine black undulate line, proximally narrowly bordered by yellow, the marginal area being olive brown, traversed by a whitish undulate line. Beneath the straight postmedian line of the forewing ends 1 cm before the apex, on the hindwing it is likewise straight passing close behind the white discal spot. According to a ♀ from Chuchuras (Eastern Peru) in the Berlin Museum.

A. abdominalis Fldr. I only know from FELDER'S figure; it has a more obtuse apex of the forewing than *abdominalis*. the preceding species, with a lighter violettish-grey marginal area, and besides the marginal area on the hindwing behind the black undulate line is reddish ochreous excepting the extreme brownish margin and a brownish transverse band passing through; the brown discal spot of the forewing shows a whitish central spot. The ochreous abdomen exhibits dark brown rings. Likewise from Bogota. According to the figure I should consider the species to be *illustris* with a somewhat darker ringed abdomen, as it is also shown on our figure of *illustris*.

A. illustris Wkr. (= *coffea* Bsd., *pelotas* Strd.) (107 a) is very closely allied to the preceding species *illustris*. and especially also to *rubescens* and its allies; on an average somewhat larger, the discal spot duller, with hardly or without any black dots surrounding it. Hindwing yellowish-red, the ocellus without the distal yellow ring, the undulate subterminal line neither bordered inside with yellow. Larva green with yellow branched thorns causing a fiercely stinging pain, with a light lateral stripe and small dark transverse spots above it; it lives on various trees and shrubs, especially Melastomaceae and Rubiaceae, on coffee, magnolias; and many others. Common in Brazil. The type of *pelotas* has been lying before me by the kindness of Dr. HORN; it undoubtedly belongs to this place.

A. pyiades Bsd. (107 b) is larger than *illustris*, with a somewhat paler ground-colour, in the ♀ more *pyiades*. greyish reddish, the discal spot forming outside 3 more or less distinct dents. Hindwing light reddish-ochreous, ocellus very large, with a very extensive olive brownish iris and a thickly white-strewn pear-shaped pupil with a distal point; the fine subterminal line behind it is undulate, then follows a brownish ochreous band and, separated by a narrow whitish space, the brownish marginal area. Thorax dark brown, abdomen ochreous. Brazil.

chacona. **A. chacona** *sp. n.* (108 b) is very near to *illustris*. Thorax dark brown, abdomen bright ochreous. Forewing densely strewn with brown on the ochreous ground, transverse lines very feeble, yellowish, the posterior one ending 6 mm before the apex; discal spot marked by 4 dots, with a narrow blackish central shadow; subterminal line marked by the contrast of the darker interior portion with the more yellowish marginal portion. Hindwing bright ochreous; ocellus very large with a very extensive brown iris and a small black, white-strewn pupil with a white bar crossing it; close behind the ocellus and touching it a thick black, very arcuately dentate line reaching neither to the costal nor inner margins, the reddish ochreous area behind it crossed by 2 brownish bands, the interior band being undulate. Described according to a ♂ from Chaco, La Paz (Bolivia), from the Berlin Museum.

pictus. **A. pictus** *Conte* (= *parilis* *Schs.*) (107 a) is likewise near to *illustris*, the transverse lines on the forewing are closer together, on the inverted sides bordered with yellowish, the anterior line only produced on the median vein, the posterior line feebly curved, arising 6 mm before the apex as far as about $\frac{2}{3}$ of the inner margin; discal spot dark grey. Hindwing light reddish, the ocellus distinguished by a very large black pupil parted by a white bar; behind the undulate black subterminal line a violettish-brown band. The ♀ is light purple brownish, in the discal area lighter lilac, the pupil of the ocellus may have a diameter of up to 8 mm, strewn with white with a large white central spot. The colours of our figure are too dull, as in all the figures of plate 107. Cayenne; also from Peru.

rubescens. **A. rubescens** *Wkr.* (105 d, 106 c) is a more common species distributed from Mexico and Guatemala to Venezuela. Forewing light brown mixed with yellow, the most contrastingly so in the marginal area; the yellow-edged antemedian line projects distally on the median vein and the submedian fold, the blackish discal spot is mostly white-centred and projects pointedly outside in the middle, often marked with 3 black dots, the yellowish postmedian line feebly bent, powdered with white below the costal margin, where it forms 2 flat bows. Hindwing brownish red, the large ocellus in a narrow yellow ring, with a pale brown iris and a black, densely white-strewn pupil with a white bar crossing it, behind it a black undulate line bordered with yellow on both sides, the marginal area yellowish brown. Thorax dark brown, abdomen orange brownish. The ♀ shows much darker, purple brown forewings.

nopaltzin. **A. nopaltzin** *Schs.*, described according to a ♀ from Paso de San Juan (Vera Cruz, Mexico), is very closely allied to *rubescens*, and I believe that it is probably only an aberrative specimen of it with a tripartite pupil; before me there is 1 ♀ with a bipartite pupil, which otherwise exactly corresponds with the diagnose and, excepting the ocellus, cannot be separated from the long series of *rubescens*-♀♀ from Mexico before me. Forewing violettish-brown, the postmedian line bordered with yellow. Discal spot with a white central dot; easily discernible by the ocellus on the hindwing, in the brown iris of which the pupil is divided into 3 parts, as in *liberia*, the largest middle spot with a white transverse line; ocellus with a yellow ring, the black subterminal line behind it indistinct. Expanse of wings: 80 mm. With *Conte* the signatures of the figures of *nopaltzin* and *menusae* have been exchanged.

moloneyi. **A. moloneyi** *Drc.* resembles *nopaltzin*, but it is smaller, the yellowish-brown ground-colour of the ♂ contrasts with the purple brown basal area and discal spot; the basal area is defined by a narrow brown line outside bordered with yellow; the postmedian line is likewise brown, proximad yellow, and it extends almost straightly from near the apex to the inner margin, and is powdered with white above; the very faint undulate submarginal line is likewise yellow. Hindwing darker red brick-colour, otherwise marked as in *rubescens*, but the ocellus is smaller. The ♀ is darker red-brown, the marginal areas in both wings dusted with white. From British Honduras.

godarti. **A. godarti** *Bsdv.* corresponds with *rubescens* in the marking, but it is smaller; ground-colour lighter reddish-brown brick-colour, only the narrow marginal area more yellowish; the brown discal spot is marked with 5 black dots. Hindwing yellowish-red, the iris of the black-edged ocellus of the same colour, the small black pupil with a white streak, the black undulate line behind it only proximad slightly bordered with yellow. Before me there is a specimen e coll. BANG-HAAS corresponding with the figure of the ♂ in the coll. OBERTHÜR. *Conte*'s figure of the ♀ certainly belongs to another species.

randa. **A. randa** *Drc.* (105 d) is likewise very closely allied to *rubescens*; larger, marginal area and transverse lines, less marked with yellow, the lines outside more broadly strewn with blackish, the discal spot surrounded by 5 black dots, with a fine black central streak which is often inwards bordered with white. Hindwing of a brighter yellowish-red brick-colour, with a larger ocellus lacking the yellow ring, the brown iris and the white strewing of the pupil more extensive; the line behind it broader, less undulate, and only inwardly bordered with yellow, marginal area browner. From Mexico and Guatemala.

zurobara. **A. zurobara** *Drc.* (105 d). We figure the type from the Berlin Museum. Forewing brown, the basal area, the short oblique shadow from the costal margin, and the subterminal shadow darker; transverse lines as in *rubescens*, feebly bordered with yellowish; the discal spot showing through from beneath has a whitish dot in the centre. Hindwing unicoloured reddish brick, also the iris of the ocellus which shows a relatively narrow black border, with a large black pupil, with a white transverse streak and very scantily strewn with white; the fine black undulate line is proximad hardly visibly bordered with yellow. Thorax not darker brown than the basal area of the forewing. Panama (Chiriqui).

A. cinctistriga Fldr. (105 d), likewise closely allied to *rubescens* and *randa*, is smaller, in the male *cinctistriga*. lighter, the transverse lines are yellow, the postmedian line uniformly bent, outside bordered with greenish-brown, scaled white below the costal margin, discal spot with or without fine black dots. Hindwing yellowish-red brick-colour, ocellus as in *zurobara*, the pupil more intensely strewn with white, outside with a narrow yellow ring, the fine black slightly undulating subterminal line inside bordered with yellow, the marginal area somewhat lighter, more yellowish. The ♀ is somewhat darker, more reddish-grey, the transverse lines more broadly bordered with dark, the basal area feebly dusted with whitish; it thereby recalls *coresus*-♀. Central America, to the north as far as Mexico.

A. aristei Dogn. has reddish yellowish-brown forewings with darker transverse lines, the anterior line *aristei*. straight, only incurved on the median vein, the posterior line from shortly before the apex to $\frac{2}{3}$ of the inner margin, inwardly white-scaled; discal spot oval with black dots around it and a white-scaled centre, the marginal area somewhat lighter. Hindwing coloured as forewing, but somewhat lighter, with a large somewhat oval ocellus, iris brownish, pupil black, powdered with white, with a white central dot, behind it a thick black, slightly dentate line and a similar brown submarginal line. Thorax blackish-brown, abdomen above brownish with reddish ochreous rings. A large species with an expanse of 102 mm, described according to a single ♂ from Bogota.

A. crassus Conte is most closely allied to the *rubescens*-group and was described according to a single ♂ *crassus*. from French Guiana. Front body dark brown, abdomen brick-coloured red. Forewing yellowish dark brown, basal area browner, the notched antemedian line yellow, discal spot likewise with a notched black-dotted border, blackish, darker centred; the fine postmedian line from close before the apex, brown, inside bordered with yellowish, the narrow marginal area behind the subterminal lines yellowish-brown. Hindwing dark brick-red, ocellus large, brownish grey, broadly edged with black, with a feeble yellow ring, a black pupil with a white transverse bar, and strewn with white, the black line behind it hardly undulate, on both sides bordered with yellow, then a brown band, marginal area yellowish greyish-brown. Expanse of wings: 90 mm. A ♂ from Eastern Colombia corresponds well with it.

A. tridens H.-Schäff. (108 c) is above brownish ochreous, the marginal area of a purer yellow like the *tridens*. transverse lines, the posterior line almost from the apex; the brown discal spot is often tridentiform outside, the points sometimes marked by black dots. Hindwing reddish with a black ocellus in a narrow yellow then again fine black ring, with a yellowish-grey iris and a tiny white or grey pupil; behind it an undulate-dentate black line bordered with yellow. Thorax brown. The ♀ is purple brown, dusted with lilac. Well recognizable by the almost blind ocellus. Brazil.

A. amoena Bsdv. (108 b) is separated from the allied species by the large black ocellus with a yellowish-grey iris and a black pupil enclosing a white angular streak. Forewing reddish greyish-brown, in the ♀ more purple brown, with a darker base and yellow transverse lines, and a brownish discal spot; the postmedian line begins 5—6 mm distant from the apex. Hindwing yellowish-red, behind the ocellus an undulating black line, behind it a red-brown band. Thorax brown, abdomen yellowish-red. Cayenne.

A. jucunda Cr. (106 c). Forewing of ♂ reddish-brown, of ♀ purple brown dusted with violettish white, *jucunda*. with a white basal spot and a whitish postmedian line almost parallel to the margin, starting a little before the apex; the antemedian line is only marked by white strewing behind the darker basal area, the discal spot and a short oblique band behind it darker. Hindwing brick-red or brownish-red with a yellow-ringed ocellus, a brownish iris and a black, white-strewn pupil; the black undulate line behind it is inside bordered with yellow. Abdomen brick-red. Guiana to Brazil.

A. divergens Bsdv. (= *jucunda* Cr. ♂ 249 A) being a ♂ does not at all fit to the figure of *jucunda*-♀; *divergens*. much smaller, rusty brown, with a broad yellow antemedian band, a black discal spot, and a yellow spot behind it; postmedian line and the ends of the veins behind it yellow. Hindwing rusty yellow with an oval ocellus, the iris of the ground-colour, the pupil black, strewn with white; behind the ocellus a short black arcuate streak, marginal area. Surinam. I have not seen anything similar, but according to the figure it seems to be allied with one of the two following species.

A. junonia Wkr. (108 c). Forewing of ♂ brownish yellow or also purely yellow, as in *tridens* with *junonia*. brownish ochreous transverse lines bordered with yellow on the inverted sides, the anterior line very sinuous, on the median vein and submedian fold distally pointedly notched; discal spot and often also the basal area dusted with lilac brownish, the former spot with four black dots and a curved blackish central line; postmedian line from shortly before the apex. Hindwing yellowish-red with a large black, yellow-ringed ocellus, a brownish iris and a large black, white-strewn pupil enclosing a white transverse bar; behind it is followed by a fine undulating line inside bordered with yellow which colour may also be confluent with the yellow ring of the ocellus. Marginal area yellow. The ♀ is reddish-brown, dusted with violet, the discal spot occasionally white-centred. Body ochreous. Mexico.

A. titania Fldr. (108 c). It is questionable whether this species is to be regarded as a form of the *titania*. very similar *junonia* or as a distinct species. Mostly somewhat smaller, of a brighter golden yellow colour, and easily discernible by entirely red hindwings, the ocellus not yellow-ringed, the black stripe behind it neither inside bordered with yellow, mostly outside touching the red band without a yellow intermediate line. Colombia.

- moresca*. **A. moresca** Schs. Head and thorax dark brown, abdomen light reddish. Forewing lilac brown, behind the cell and at the distal margin lighter reddish-yellow; the dark discal spot irregular, surrounded by black dots; the dark postmedian line is inwards bordered with reddish-yellow and extends from near the apex almost to the anal angle. Hindwing light reddish, at the margin lilac brown, with a large ocellus with a greyish-brown iris and a black, white-strewn pupil with a white transverse bar; behind it a fine black undulate line, inside yellow, behind which a red-brown shadow follows. Expanse of wings: 78 mm. French Guiana.
- oblonga*. **A. oblonga** Wkr. is a very large species, as large as *egeus*, in the ♂ the forewing is light yellowish red-brown, at the costal margin dusted with greyish-white, in the ♀ browner, the transverse lines light yellow, the anterior line notched, the posterior line straight, the marginal area is yellow, the discal spot oblong, brown. Hindwing reddish, in the distal half light yellowish, with an oval ocellus with a reddish-brown iris and an oblong black pupil with a white bar, behind it with 2 undulate bands, the interior one light brown, the exterior one light fawn. Body and thorax coloured as forewing. Bogota.
- jucundoides*. **A. jucundoides** Schs. Head and thorax red-brown, abdomen brownish-yellow. Forewing in the basal area light red-brown, at the base dusted with lilac, in the median area light lilac brown, with a blackish discal spot; the fine light reddish-brown postmedian line proceeds from near the apex: marginal area light brownish ochreous with a lighter subterminal shadow. Hindwing light reddish with a large light brown black-ringed ocellus in a yellow ring, instead of the pupil only with scanty white and grey scales, the line behind it being short. Expanse of wings: 63 mm. A small species from French Guiana.
- themis*. **A. themis** Dogn., described according to a ♂ from French Guiana, is very similar to *oblonga* and differs from it in the deep chocolate-brown thorax and the almost entirely black ocellus; abdomen ochreous. Forewing reddish-ochreous, with yellowish ochreous transverse lines; the posterior line from close before the apex to the inner margin, about half a centimeter before the anal angle; discal spot not darker, but finely edged with light with a few black dots and a white central dot; marginal area yellowish ochreous like the lines. Hindwing basally and at the costal margin and inner margin pinkish ochreous; the oblong black ocellus, only in the centre olive brown with a white central dot, is situate in a yellow circle touching the short black postmedian line, behind it before the reddish ochreous marginal area with a red-brown subterminal band.
- tamphilus*. **A. tamphilus** Schs. (107 a) is light reddish-brown on the forewing, at the distal margin yellowish; transverse lines somewhat lighter than the ground, the distal line from close before the apex to $\frac{3}{4}$ of the inner margin. Hindwing yellowish-red, at the margin lighter, the ocellus relatively small, brown, black, then narrowly yellow-ringed, in the centre a tiny grey spot with a white bar, the black subterminal line behind it inside finely bordered with yellow. Head and thorax dark brown. Forewing of ♀ more purple brown, dusted with lilac whitish. Brazil (Rio de Janeiro, Joinville).
- belti*. **A. belti** Drc. (= *zaruma* Schs.) (108 d) is a larger, very beautiful species, larger than *randa* which it resembles on the forewing, the discal spot which is somewhat narrower than in *randa*, a little more conspicuous, especially the black marginal dots more distinct. On the hindwing at once discernible by the extensively lemon-coloured disc enclosing the large, broadly black-edged ocellus; behind it a thick black line and a black band. In the ♀ the concave postmedian line is very distinct. Panama; Nicaragua.
- excreta*. **A. excreta** sp. n. (107 c) is a large species from Mexico, which seems to have been hitherto mistaken for *belti* or also *averna*, but which proves to be entirely different on being compared with the type of *belti*. Body as in *belti*, but abdomen redder. Forewing of ♂ densely strewn with brown on the ochreous ground, the ante-median line more notched, outside brighter yellow like the postmedian line which is straighter and outside not so contrastingly darkened. The red colour of the hindwing is more ochreous, not so crimson, the lemon-coloured disc and the ocellus more reduced, the latter as in *belti*, the black line not so thick, the band behind it red-brown, not black. The ♀ more purple brown, strewn with lilac white, the transverse lines, however, distinctly bordered with yellow. Types (♂♀) from Orizaba in the Coll. DRAUDT. In the figure the colours are much too dull, the yellow and red of the hindwing ought to be bright and distinctly defined. *averna* is a much smaller species, only as large as *boucardi*.
- macphaili*. **A. macphaili** Schs. (107 c) is somewhat smaller, in the ♂ the wings are shorter and broader, on the forewing the black postmedian line is distinct, especially in the ♀ inwardly somewhat lighter, more incurved than in *belti*, and beginning farther away from the apex, on the hindwing the yellow disc extends somewhat farther basad, the black postmedian line is thicker and not undulating. Abdomen red, in the ♀ more reddish-ochreous. Guatemala.
- foucheri*. **A. foucheri** Bouv. (108 d) is exactly as *macphaili* on the hindwing, but the disc is more pinkish, whilst the forewing exhibits the three black discal spots of *maculatus*, thus a most characteristic, unmistakable species. Colombia.
- liberia*. **A. liberia** Cr. (= *megalops* Wkr.) (107 c) is allied to the *rubescens*-group; colour of forewing varying between yellow and brown, transverse lines somewhat darker, the posterior line more or less incurved, towards the costal margin inside slightly scaled whitish, discal spot grey, distally extended in 3 more or less distinct dents; subterminal line and marginal area mostly of a purer yellow. Hindwing with a yellowish-red disc and

a large ocellus surrounded by black, iris light olive brownish or reddish, the pupil divided into 3 spots, the middle one being the largest, pear-shaped, parted by a white bar; the blackish line behind it rather fine, undulate-dentate, behind it a broader brownish line; marginal area coloured as forewing. The ♀ has browner forewings, the yellowish-red abdomen mostly curled brownish. Venezuela, Guiana, Colombia, Brazil, Peru. The green larva with bluish-green branched thorns, oblong yellow sublateral spots and a brown last ring lives on species of Citrus.

A. erisichton Bsdv. (= *ecuadora* Strd. nec Weym.) (107 d) is very similar to *liberia*, somewhat smaller, *erisichton*. more brownish-grey and more coarsely strewn, the transverse lines are more clearly outlined as distinct dark lines and not lighter on the inverted sides; the anterior line is almost straight and runs vertically to the inner margin, the posterior line is much more remote from the margin than in *liberia*, so that the median area is much narrower especially at the inner margin, the subterminal line is less sinuate. Ecuador. The figure supplied by STRAND in Lep. Niepeltiana, pl. XII, fig. 4, belongs to this place here and has nothing to do with the type of WEYMER's *ecuadora* lying before me (cf. *proximus* CONTE, p. 728!).

A. falco Jord. (108 c) resembles *liberia* in colour and marking, but the apex of the forewing is longer *falco*. and falcately extended, the black abdominal belts are broader. On the forewing the discal spot is surrounded by 4 thick black dots, 3 outside, one inside below; exterior transverse line nearer to the margin, inside narrowly bordered with yellow. On the hindwing the brownish loam-coloured marginal band is somewhat narrower at the anal angle than in *liberia*. From South-Eastern Peru (Carabaya), described from 2 ♂♂, in the Berlin Museum from Bogota.

A. coresus Bsdv. (107 d) is a common, well-known species from Southern Brazil, Argentina, and *coresus*. Paraguay. Forewing brown, basally dusted with white; transverse lines convergent towards the inner margin, the anterior line distally angled on the median vein, the posterior line about 5 mm before the apex with an inward bow, dark, on the inverted sides bordered with whitish or yellowish; the blackish or also whitish dusted discal spot shows black dots inside and outside, and a blackish central bar or dot; the oblique shadow behind it is very broad and dark like the subterminal area. Abdomen and hindwing in the disc yellowish-red with a large black-ringed ocellus with an extensive dark olive brown iris and an intensely white-strewn pupil and a more or less distinct white transverse bar; the black line behind it broad and undulating, behind it a rather broad brown nebulous stripe. Larva green with a white lateral line being above bordered with black, above the stigmata violettish-black small spots which are bordered with white below, with fir-tree like green thorns. The larva burns severely on being touched and is common on all kinds of trees in gardens and avenues.

A. maculatus Conte (= *curvilinea* Schs.) (107 d) is hardly to be mistaken for any other species. Forewing *maculatus*. of ♂ brown, of ♀ dark grey, antemedian line blackish-brown, straight and almost vertical on the inner margin. Postmedian line forming a large inward bow, behind it an almost straight, nearly just as dark subterminal line; discal spot darker brown, above and below with velvety black spots, a smaller third spot may be present outside, or also absent. Hindwing of ♂ orange, of ♀ dark olive grey, with a very large, broadly black-ringed ocellus with an olive brown iris and a very small white-strewn pupil; the interior subterminal line is broad, black, the exterior one narrower, brown. Abdomen reddish, with black bands. Guiana, Amazons (S. Paulo de Olivença), Peru.

A. phales Bsdv. is only known to me from the figure by CONTE from the Coll. OBERTHÜR. Forewing *phales*. rusty yellowish-brown, antemedian line yellowish, postmedian line slightly bent, likewise yellowish, somewhat undulate towards the apex; discal spot brownish, indistinct, with small black marginal dots; marginal area somewhat lighter. Hindwing yellowish red-brown, with a large yellowish-grey ocellus, broadly edged with black and with a white pupil; interior subterminal line undulate, black, exterior line brownish, indistinct. Thorax brown, abdomen yellowish-red. "South America."

A. flavomarginatus Conte (= *morescoides* Bouv.) (108 c) is a smaller species, forewing reddish-brown, *flavomarginatus*. basal area browner, the light brown antemedian line is dentate and distally dusted with yellow, the oblong brown discal spot white-centred; postmedian line deeply concave, terminating into the apex, brown, inside bordered with yellow; subterminal area brownish, marginal area lighter and more yellowish. Hindwing reddish-yellow, ocellus brown, narrowly bordered with black, the large pupil black, oblong with a large white spot and some white strewing, the black line behind it feebly undulate, behind it a dark brick-red band, margin violet. Chiefly separable from *phales* by the smaller and more oval ocellus. New Grenada.

A. sinuatus Conte is very similar to *flavomarginatus*, somewhat larger, of a lighter and more yellowish *sinuatus* ground-colour; the antemedian line outside more broadly bordered with yellow, the discal spot white-centred; postmedian line almost straight, terminating at the costal margin about 4 or 5 mm before the apex. Hindwing rusty yellowish-red, ocellus somewhat oblong, the narrow black ring bordered with yellow; the black undulate line inside somewhat yellow, behind it a red-brown band. Expanse of wings: 78—90 mm. From New Grenada, French Guiana.

A. ovalina Conte (109 a) is allied to the following *zozine*, but much smaller, the postmedian line much *ovalina*. deeper concave, and inwards, especially towards the inner margin very broadly bordered by pinkish white, the antemedian line being quite absent, the disc of the hindwing yellow, the base and inner margin red-haired; ocellus oval, pupil densely strewn with white, the undulating black line behind it broad, distally bordered with yellow, behind it follows a broad chestnut-brown band, margin lighter. Abdomen pink. South America?

- flammans.* **A. flammans** Schs. resembles *ovalina*, but it is much larger, with relatively narrow wings. Body pinkish brown like the wing; forewing with a yellow oblique line from the apex to the centre of the inner margin, and an indistinct discal spot, antemedian line absent. Hindwing smoky brownish-grey, costal and distal margin brownish-pink, border and fringe light brown; ocellus black with a reddish-brown pupil and a white centre, in a deep yellow ring, behind it a black undulate line. Type a ♀ with an expanse of 102 mm, from Colombia.
- obscura.* **A. obscura** Schs. (109 c), owing to the similar marking, is ranged best near *flammans*. Wings relatively thinly scaled, blackish, strewn with golden brown hair-scales; the undulate antemedian line indistinct, discal spot large, extinct, the black straight postmedian line from close before the apex to the centre of the inner margin. Hindwing similarly coloured with a black, uniformly bent distal line and a feeble dark discal spot. The ♀ is still more thinly scaled and more indistinctly marked. Brazil.
- zozine.* **A. zozine** Drc. (109 a). Ground-colour brown, variable, warming into olive, coffee, or reddish, antemedian line with two bows, discal spot slightly darker than the ground, feebly marked with black, postmedian line very feebly bent, outside bordered with whitish or reddish-grey, which colour covers more or less the whole marginal portion. Subterminal line shadow-like. Hindwing at the costal and distal margins like the marginal area of the forewing, inner margin with claret-coloured hairs, disc deep yellow; ocellus of medium size, broadly surrounded by black, in the disc variably strewn with white. Inner subterminal line black, slightly undulate, exterior line broader, brown. Abdomen yellowish-grey, above black, basally with claret-coloured hairs. In the Coll. DRAUDT a hybrid, size, colours and marking of wings exactly middling between ♂ and ♀, antennae to the left ♂, to the right ♀, abdomen stronger than in the ♂, though not quite reaching the ♀ volume, with ♂ clasp-organs. Mexico, a common species.
- melanops.* **A. melanops** Wkr. (= *brasiliensis* Bsdv. nec Wkr., *euryopa* Mschr.) (109 a) is very similar to *zozine*, somewhat larger on an average, mostly redder, apex of forewing more falcate, discal spot generally somewhat more distinctly outlined, postmedian line outside not so distinctly bordered with light, the short-subapical oblique band to it more distinctly marked. Ocellus of hindwing larger, whereby the yellow disc is reduced. In Brazil everywhere common, also in Colombia. It is impossible that the figure supplied by CONTE in his Essai, pl. XXI, fig. 3, which is undoubtedly a species from the *hübneri*-group — probably *amphirene* Bsdv. —, really belongs to *melanops*; the description is entirely different.
- nebulosus.* **A. nebulosus** Conte (109 a). Front body dark red-brown, abdomen pinkish-red. Forewing red-brown, basal area darker, central area somewhat lighter, the large oval discal spot darker, bordered with black; postmedian line straight, ending far before the apex, inwardly bordered with white. Disc of hindwing yellow, base and inner margin extensively pink-haired; the large ocellus almost quite brownish-black, in the centre strewn somewhat white, without a black pupil, with a broad black ring; the black line behind it broad, not undulate, outside with a somewhat yellow border, behind it a pinkish-brown band, the margin light brown.
- elegans.* Expanse of wings: 7 cm. South America? — **elegans** Conte is presumably only a variable specimen, separated by a grey discal spot of a more angular shape, and a smaller ocellus.
- basalis.* **A. basalis** Wkr. (110 a) is well recognizable by the peculiarly dull colouring; forewing light brown, in the median area somewhat lighter, at the base a yellowish-white spot, the dull brown discal spot white-centred, the lines fine, the posterior line often strong, extending from 5 or 6 mm before the apex behind the centre of the inner margin, inside feebly bordered with a lighter colour. Hindwing dull brown, at the inner margin sometimes with a very feebly pink tint, in the disc dull reddish-yellow, the ocellus very dull, brown, gradually warming into the blackish ring, in the centre strewn with white, with a white transverse bar; behind the black undulate distal line a very broad brown band, margin lighter. Abdomen very dull pinkish brown. Venezuela to Brazil.
- boucardi.* **A. boucardi** Drc. (109 a) is extraordinarily similar to *zozine*, somewhat larger, abdomen longer, forewing more reddish, more coarsely scaled, the marginal area not so contrastingly light, but the median area rather lighter, discal spot outside in the middle more prominent, more distinctly marked, postmedian line outside not so light. Hindwing more extensively claret-coloured, the marginal area narrower, with more prominently
- violacea.* dark veins. Costa Rica. — **violacea** Conte, based upon a ♀, exhibits a darker violettish brown ground-colour of the forewing, the hindwing also showing a violet tint except the yellow disc.
- zugana.* **A. zugana** Drc. is somewhat smaller, of a lighter and more yellowish ground-colour, the abdomen is black above and shows yellowish ochreous bands. Disc of hindwing dull yellow, with dull rusty red hairs at the base and inner margin, the ocellus of medium size, behind it a rounded black line and then a brown band. From Panama (Chiriqui).
- jivaros.* **A. jivaros** Dogn. (109 b) is likewise very similar to the preceding species, but at once discernible by the inner margin of the hindwing not being red but black. On the forewing the somewhat more curved postmedian line is more prominent, outside less light; the interior subterminal line of the hindwing is broad black, little undulate. Ecuador; Peru.
- vinosus.* **A. vinosus** Conte (= *meridana* Schs.) (109 b) is distinguished by relatively broad forewings, light reddish-brown, dusted with olive, the transverse lines on the inverted sides bordered with ochreous; discal spot

somewhat more quadrangular, grey; postmedian line from close before the apex, slightly inwardly convex to the inner margin behind the centre. Hindwing at the costal and distal margin coloured as forewing, inner margin broadly reddish-haired, disc dark yellow, the interior subterminal line feebly undulate, exterior line brownish-violet; ocellus of medium size as in *zozine*. Abdomen above red. Venezuela.

A. averna *Drc.*, described from a ♀, is somewhat larger than *meridana*, brown with a pink tint, behind the postmedian line darker, the latter inwardly bordered with yellow, originating 4 mm before the apex; discal spot large, blackish, with a white central dot. Hindwing light pinkish-brown, in the disc ochreous; ocellus with an extensive brownish-red iris and a black, white-dusted pupil with a white cross-bar; interior subterminal line thick black, exterior line a broad brown band. Abdomen brownish pink. Mexico.

A. pallens *Conte* (= *annulata* *Schs.*) (109 b). Body above dark olive brown, abdomen curled whitish. Forewing olive brown as far as the postmedian line, behind it reddish yellowish-grey; anterior transverse line fine, brown, straight in an oblique direction to the median vein, then undulate to the inner margin, the posterior line straight from the apex to the centre of the inner margin, at the cell-end a dark circular line with a dark central dot. On the hindwing the costal margin and the marginal area broad grey, inner margin olive brown, the disc bright yellow as far as the black, little undulate interior subterminal line, the exterior line forming a broad brown shadow; ocellus blackish-brown, broadly edged with black and in the centre scantily strewn with white. Expanse of wings: 74 mm. British-Guiana.

A. vomona *Schs.* (109 b). Wings broad, light red-brown, abdomen above black, the posterior margins of the abdomen narrowly reddish. On the forewing the antemedian line is rather indistinct, the postmedian line from shortly before the apex slightly bent to the centre of the inner margin, dark greyish-brown, inwardly yellowish ochreous; discal spot slightly darker than the ground, surrounded by some black dots. Hindwing in the disc yellow, at the costal and distal margins pinkish-brown, base and inner margin broad red; ocellus dark brown, broadly edged with black, in the centre white scales; interior subterminal line black, rather broad, behind it a reddish nebulous band. Venezuela.

A. pupilla *sp. n.* (109 b) is similar to *vomona*, with still broader greyish-brown wings, postmedian line from 3 mm before the apex straight to the centre of the inner margin, fine and distinctly black, inside finely bordered with yellow, the dark discal spot oval, finely and distinctly surrounded by black. Hindwing without any pink tint, greyish brown, with a yellow disc; ocellus quite black, in the centre some white scales. Abdomen deep black, at the end light yellow. Type: 1 ♂ from Merida, Venezuela, in the Senckenberg Museum.

A. curitiba *Schs.* Above greyish-brown, base of wings with a yellow spot, abdomen above purple red, beneath and at the anus ochreous. Forewing at the base and costal margin broadly brownish ochreous, margin light olive brown, discal spot feeble and only linearly surrounded; postmedian line straight from the apex to the centre of the inner margin, olive brown, inside pinkish white. Hindwing in the cell and at the inner margin purple red, ocellus dark brown with a white central line, broadly edged with black, in the yellow disc; the fine black interior subterminal line not reaching to the costal margin is distally bordered with yellow, behind it a purple red shadow, margin pinkish-grey. Curitiba (Brazil).

A. incarnata *Wkr.* (109 e). Varying between red-brown and olive brown, anterior transverse line irregular, posterior line straight from close before the apex to the centre of the inner margin, inwards more or less distinctly bordered with ochreous, discal spot rather inconspicuous, often with a white central dot and surrounded by black dots. Hindwing in the disc yellow, at the base and inner margin rosy red, ocellus large, round, iris greyish-black, with a white-strewn pupil, behind it a black line and a reddish band. Abdomen dark rosy red. Bogota (Colombia). — **cecrops** *Bsdv.* (109 c) is probably only the northern form distinguished by the more curved postmedian line, a slightly more falcate apex of the forewing and a lighter rosy red abdomen. Mexico to Panama. In North America (Arizona) the species is represented by — **pamina** *Neum.* (109 c) distinguished by its very light sand-coloured yellowish-grey ground, whilst a somewhat darker ochreous, reddish-strewn form is called — **aurosea** *Neum.* the exterior of which is very much like that of *boucardi* from which, however, it is easily separable by the pinkish red abdomen (being black in *boucardi*). Larva of *pamina*, when fully developed, above green, sublaterally and ventrally brown. With white subdorsal lines and white short lateral oblique stripes being above bordered with black and extending from in front above hindward beneath, separating the brown colour from the green; densely set with fir-tree-like tufts of stings, which are much longer on the first and last segments.

A. zephyria *Gr.* (109 e) is allied to the foregoing species, but easily separated from them by the absence of the antemedian line and by the postmedian line being inside broadly bordered with white and extending very obliquely from the apex to before the centre of the inner margin; ground-colour mostly darker brown. Disc of hindwing yellow, base, costal and inner margins with pink hair, ocellus and lines as in the preceding species. — f. **zephyriata** *B. & Benj.* is a deep red-brown instead of greyish-brown form and its relation to *zephyria* is like that of *aurosea* to *pamina*; intermediate forms may occur. New Mexico.

A. maeonia *Drc.* (109 d) for which PACKARD established the genus *Protautomeris* is marked somewhat like *zephyria*. Forewing light brownish-grey, in the median area often with a pink tint; basal and subterminal areas dark olive brown, both the transverse lines yellowish-white, on the averted sides with single ochreous scales; discal spot dark brown, especially in the ♀ often extended on the veins outward and inward in long

acute angles. Hindwing brownish-grey, marginal area like the median area of the forewing, the small ocellus rather dull, between the latter and the black postmedian line more or less extensive yellow colour. Abdomen above dark olive brown, in the ♀ blacker with claret-pink hair. Mexico.

orestes. **A. orestes** Bsdv. (= *hebe* Drc. nec Wkr.) (109 d). Forewing light yellowish greyish-brown, apically darkened olive brown, the light transverse lines fine, indistinct, the somewhat darker discal spot inside with 4, outside with 3 distinct black dots and a blackish central streak. Disc of hindwing of a bright chrome-colour, at the inner margin with light reddish-brown hair, marginal area as forewing; the large ocellus somewhat oval, blackish-brown, with a narrow black ring, in the centre strewn with white, postmedian line black, behind it a grey band. Guiana. The statement: Mexico is wrong and is due to DRUCE mistaking it for *hebe*.

serpina. **A. serpina** Btlr. is only known from the damaged ♀ type in the British Museum, being figured in CONTE. Accordingly, the species would have to be ranged near *orestes*; larger, with more pointed wings, hindwing with a longer inner margin and anal angle, distal margin less rounded. The colour is more light pinkish brown, the posterior transverse line somewhat nearer to the margin and originating parallel to it at the costal margin 10 mm before the apex, inwardly shaded with red-brown like the apical portion behind it. Hindwing in the disc more extensively yellow, basal part with light brown hair; the brownish iris of the ocellus is more extensive, the black ring narrower; the black line behind it more remote from the ocellus, more undulate. Expanse of wings: 11 cm. South America?

surinamensis. **A. surinamensis** Ky. (= *arminia* Stoll. p. p., *falcifer* Conte) (109 d) is distinguished by particularly falcate forewings; brown, in the anal half of the marginal area and often also in the centre of the inner margin lighter whitish-grey; antemedian line rather straight, postmedian line from more than 1 cm before the apex to the inner margin close behind the centre. Discal spot hardly darker, finely surrounded by blackish. Hindwing brownish-red, around the large ocellus yellow, the outer subterminal line forms a broad dark red band, abdomen dark red. Guiana.

innocia. **A. innocia** Schs. (= *altus* Conte) (109 d, e) is very similar to *surinamensis*, forewing somewhat less falcate, dark brown, in the marginal area pinkish-brown; anterior transverse line fine, black, undulate, at the inner margin more remote from the posterior line which extends straight from 9 mm before the apex to the inner margin; discal spot large dark, indistinctly surrounded by black with a small grey central dot. Hindwing violettish red, in the marginal area pinkish-brown, the very large ocellus in a yellow ring interrupts the black inner subterminal line. Head and thorax dark brown; abdomen light brown, above violettish-red. Expanse of wings: 77 mm. British Guiana.

pomifera. **A. pomifera** Schs. Head and thorax brown, abdomen above reddish; forewing brown, the black fine antemedian line very slightly undulate, the posterior line from 7 mm before the apex; discal spot oval, finely bordered with black, with a white central dot. Hindwing at the costal margin, base, inner margin, and subterminally reddish, at the distal margin light brown, disc bright yellow as far as the black subterminal line; the dark brown ocellus broadly bordered with black, with a black pupil crossed by a white bar. Expanse of wings: 72 mm. Peru.

macareis. **A. macareis** Schs. (109 e). Broad wings, pinkish-brown, basally and behind the postmedian line which extends from the apex to the centre of the inner margin darker, enclosing a subterminal brightening, antemedian line narrow, discal spot finely surrounded by dark. Hindwing pinkish-brown, between the ocellus and the subterminal line yellow, at the margin lighter; ocellus small, in the brown centre few white scales. Abdomen varying between reddish and carmine. Brazil (Petropolis).

naranja. **A. naranja** Schs. (= *ater* Conte, *umbrosa* Weym.) (109 e). Front body dark brown with single yellowish hairs, abdomen reddish-yellow, above extensively black-haired. Forewing blackish brown, basal area darker, the black antemedian line dentate, indistinct, discal spot almost round, often white-centred, in the lighter median area which is only darker towards the costal margin; postmedian line concave, terminating into the apex, the subterminal area behind it very dark. Hindwing orange, base and margins extensively covered with brownish-black hair, the blackish-grey ocellus in the centre white-scaled, the line behind it hardly undulate. Brazil, North Argentina, Larva greenish yellow with yellow branched burning hairs and large triangular oblique white, black-edged lateral spots beginning from the 2nd ring. The small brown cocoon is wrapped up in leaves.

complicata. **A. complicata** Bsdv. (109 e) is a characteristic species, above brown, with darker transverse lines and discal spot, the postmedian line from the apex obliquely to the centre of the inner margin. Hindwing deep brown, the black, white-centred ocellus in a deep yellow area; the only subterminal line likewise broad black; behind it the marginal area dark red-brown. Abdomen above black, beneath yellowish-brown. Venezuela to Brazil.

aurantiaca. **A. aurantiaca** Weym. (109 c) is similar to *complicata*, forewing more dark yellowish-brown or olive brown, towards the margin in the centre of the distal margin turning almost light grey, the postmedian line inwards very narrowly bordered with ochre, instead of the discal spot 3 dark brown dots; the disc of the hindwing is brighter orange, at the costal margin and base dark grey, at the inner margin almost black; the ocellus is more oval, in the pupil beside the white strewing a fine white line. Abdomen almost black, with light yellowish-grey hair. Southern Brazil.

umbrata. **A. umbrata** Bsdv. (= *uruba* Plötz i. l.) (110 a). Forewing brown with a more or less distinct blackish, almost straight median shadow, the fine light postmedian line near the margin, from the apex, somewhat

concave towards the margin. Hindwing dark yellow with a slight greenish tint, basally and at the inner margin with blackish and brownish red hair, the small ocellus blackish grey with a white pupil and a broad black ring; behind it follows a broad black band, behind which there is another band. Brazil.

A. inornata Wkr. (= fumosa Bsdv.) (110 a). A very variable, unicoloured blackish grey species more *inornata*. or less tinted brownish, only the abdomen showing some yellowish ochreous hairs; forewing basally and behind the slightly concave postmedian line darkened, the roundish darker discal spot mostly white-centred. Hindwing with a dull darker ringed, blind ocellus and 2 arcuate lines behind it, the interior line darker, sometimes feebly undulate, the posterior one somewhat broader and lighter. In the ♀ the abdomen shows more distinct ochreous rings. Common in Brazil. — **obsoleta** Niepelt is surely an albino variation of this species with exactly the same *obsoleta*. scheme of markings, of a much lighter, pale yellowish-grey colouring and an especially lighter ochreous body. The type from S. Paulo has been before me through the kindness of Mr. NIEPELT. Such albinisms seem to be of frequent occurrence in the genus *Automeris*, a very fine specimen from the Berlin Museum, evidently belonging to *basalis*, shows on its pale yellowish-grey ground all the markings, also the ocellus, only feebly marked as darker shadows.

A. violascens Maass. (114 g) is an entirely different insect which, however, does not fit into the genus *violascens*. *Hylesia*. Sooty black, thinly scaled, abdomen intermixed with scanty ochreous hairs; the obsolete marking consists of 2 shadow-like widened transverse lines, the inner one quite indistinct, the outer one feebly incurved from $\frac{2}{3}$ of the inner margin to shortly before the apex, between both a hazy thick discal spot. On the similarly coloured hindwing the ocellus is feebly ring-shaped, very hazily showing through from beneath, close at it a very obsolete postmedian line, behind which the somewhat more distinct subterminal line follows, approaching the margin. Sa. Catharina.

A. modesta Mén. (= midea Mssn., aspersus Bouv.) (110 b). Forewing dark yellowish-brown, the *modesta*. anterior transverse line hardly visible, yellowish, the posterior line yellow, from about 5 mm before the apex almost parallel to the margin to about 5 mm before the inner angle, before it at the costal margin intensely white-haired, in the narrow marginal area with a very feeble yellowish undulate subterminal line; the discal spot is feebly darkened grey, distally three-pronged with fine black dots in the tips and one in the centre. Hindwing on the copper-red ground darker and more blackish than forewing, only at the margin the same; the ocellus surrounded with a yellow ring which is outside finely bordered with black, the yellow inner border of the black undulate subterminal line inwardly edged with blackish, too. Guiana to Brazil (Para).

A. bilinea Wkr. (110 b) is not dissimilar and easily discernible by the dull violettish brick-reddish tint *bilinea*. of the disc of the hindwing; forewing lighter and intensely strewn with whitish violet, the purest white in the basal area and at the costal margin before the apex, the marginal area remains purer yellowish, the postmedian line more bent and extending directly from the apex to about 8 mm before the inner angle; also here the yellow ring of the ocellus is outside finely bordered with black like the very fine yellow interior border of the subterminal line. From Brazil (Para). — **vividior** f. n. is very similar, somewhat smaller, still more contrastingly *vividior*. strewn with white, abdomen yellow, hindwing in the disc bright yellowish-red, the light yellow ring around the ocellus broader. Probably only the Guiana-form of *bilinea*.

A. orneates Drc. (108 d, 110 c) is most similar to *modesta* and unmistakable. Shape of wings remarkably *orneates*. high, with very falcate apices; brown, at the apex almost black, before it with a broad, often obsolete ochreous oblique band; subterminal line close at the margin and parallel to it. Hindwing almost black with a small yellow-ringed ocellus, the narrow marginal area brownish ochreous. In the type from the Berlin Museum the ochreous oblique band of the forewing is darker, browner than in other specimens. The much larger ♀ is purple brown, densely strewn with violettish white. — **phrynon** Drc. (110 c), as STAUDINGER already presumed, is *phrynon*. surely only an albinistic light ochreous ♂ with a merely shadow-like ocellus, only the white centre being visible. From Panama, Honduras, and Colombia.

A. tristis Bsdv. (= hagar Niep.) (110 b) forms the transition from *orneates* to the following *falcata-tristis*. group. Above sooty blackish-brown, anterior transverse line very indistinct, the posterior line from shortly before the apex to about 1 cm before the inner angle, dark yellow; discal spot large, shadow-like blackish. Hindwing similarly coloured as forewing, with an orange-ringed, white-centred black ocellus nearing the margin as in the *janeira*-group and being proximally flatly concave; subterminal line little visible, inwards feebly yellowish. The ♀ is still darker, the ocellus very slightly encircled with yellow. Sao Paulo; Novo Friburgo.

A. hamata Schs. (= angulatus Conte, hippodice Mssn. i. l., ♀ insolens Bouv.) also has a very falcately *hamata*. produced apex of the forewing; brown, the darker transverse lines at the inner margin very near together, the interior one below the median inwardly interrupted to the centre of the inner margin, the exterior one proceeding from a little more than $\frac{1}{2}$ cm before the apex, where it is inwardly very intensely strewn with white; discal spot grey, finely surrounded with black. Hindwing orange brownish, ocellus and subterminal line as in *bilineata*, also the yellow margins once more finely bordered with black, the iris very extensively reddish-brown. The ♀ has more normally shaped wings and is more violettish-brown. Costa Rica, Venezuela

columbiana. to the Amazons (before me from Pebas, e coll. *Stgr.*). — **columbiana** *f. n.* is larger, much brighter yellowish red-brown, the median area slightly tinted violet, the transverse lines very distinct, the discal spot much larger, slate-coloured black, outside and inside notchedly surrounded with dark brown. Hindwing bright orange-red, turning rosy-red at the costal margin, the marginal area also coloured like that. Western Colombia (Bella *panamensis*. Vista). Type in the Coll. NIEPELT. — **panamensis** *f. n.*, the form from Panama, on the contrary is somewhat smaller, of a duller colouring, the hindwing not orange but light brown, the black ring of the ocellus of double width. Type in the Coll. B.-HAAS.

falcata. **A. falcata** *Bsdv.* (111 b). Wings elongate with a far produced pointed apex, dull brownish-grey with a lilac tint, transverse lines yellowish, on the averted sides darker brown, the exterior line from 8 mm before the apex, terminating at the inner margin 5 mm behind the interior line; discal spot oval, darker greyish-brown, finely surrounded with yellowish. Hindwing greyish claret-coloured, ocellus black with single white scales and a short white angular streak, with a dark yellow ring, subterminal line very undulate, outside of it a very indistinct red-brown undulate narrow band. Cayenne.

norcestes. **A. norcestes** *Bsdv.* (= *maasseni* *Mschlr.*) (110 c) looks almost exactly like *falcata*, but the ocellus is smaller with a distinct red iris and a more intensely white-strewn pupil, and a broader orange ring. The larger ♀ has normally shaped wings and is thinly scaled, with darker brown veins, the two greyish-white transverse lines almost or quite contiguous at the inner margin. Guiana. Amazons.

janeira. **A. janeira** *Westw.* (= *fumata* *Bsdv.*) (110 c) is extraordinarily similar to the following *cinerea*; shape of wings somewhat higher; besides distinguished by the redder disc of the hindwing, the red not yellow ring around the ocellus with a more extensively red iris and a reduced black ring; the small pupil is more intensely strewn with white; the whole hindwing is shorter and rounder. Brazil; Colombia?

cinerea. **A. cinerea** *Wkr.* (110 d) is a well-known species, the ♂ with a very falcate apex of the forewing, deep chestnut, the posterior transverse line in its lower portion yellowish. Hindwing coloured the same, with a red ocellus with a broad black, then narrow yellow ring. The ♀ is more greyish-brown, in the marginal area lighter, with fine darker veins, a conspicuous oval discal spot surrounded by greyish white, and yellow transverse lines being dark brown on the averted sides. Brazil.

acuminata. **A. acuminata** *M. & W.* (110 d). By the narrow yellowish-grey, black-dotted forewing with 2 yellowish subterminal lines from the apex, and the lemon-coloured hindwing the species is easily discernible and unmistakable; the black ocellus with a white-strewn iris and a white central crescent is somewhat oval, behind it a black line and a somewhat broader, greyer one in the brown marginal area. Brazil.

fusca. **A. fusca** *Wkr.* (= ♂ *combusta* *Wkr.*) (111 a) is very similar to the following *saturata*, but it has only a narrow yellow ring round the ocellus of the hindwing. The ♂ is deep red-brown, the ♀ more greyish-brown, as in *cinerea*. Specifically hardly separable from *saturata*. South America? From Balzapamba (Ecuador).

saturata. **A. saturata** *Wkr.* (= *schausi* *Edw.*) (110 d). Forewing red-brown with a darker oval discal macula narrowly surrounded with yellowish, and two darker, inwardly yellowish transverse lines strongly convergent towards the inner margin. Hindwing of a bright chrome colour, basally, at the costal and inner margins black-haired, with a broadly black-edged red ocellus and an oblong black pupil which is incompletely surrounded with white, behind it an undulate black line, then an interrupted brownish-red shadow-line in the brownish marginal area. Mexico (Jalapa).

nyctimene. **A. nyctimene** *Latr.* (= *damocus* *Bsdv.*) (110 e) is a large species with a most variable ground-colour, greyish-brown, dark red-brown, light rusty brown, with 2 darker transverse lines nearing each other at the inner margin and being more or less bordered with reddish yellow on the inverted sides, between them an oval, dark discal macula with a yellowish ring and often also a light pupil; veins, especially distinct in the ♀, in the marginal area lighter yellowish. Hindwing greyish-black with a very large Pompeyan red ocellus in a black ring and surrounded by yellow, the oblong black pupil parted near the proximal end by a blue-white transverse bar, incompletely surrounded by white strewn and on each side flanked by a small oblong, white-dusted guttiform spot; postmedian line black, undulate, behind it a broad brownish-red interrupted shadowy band, marginal area coloured as forewing. Brazil, Colombia. — **leucane** *Hbn.* (110 e) is the northern form, somewhat smaller, of a duller colouring, the postmedian oblique line straighter, arising nearer at the apex; on the hindwing the ocellus is smaller, the iris duller red, the yellow ring narrower and lighter. Mexico. Larva coal-black with light yellow tufts of stings. It lives on "Troena" (?).

acutissima. **A. acutissima** *Wkr.* (111 a) is surely different from *nyctimene*, smaller, in the ♂ with much narrower wings, the apex being long falcate; especially the ♀ is more thinly scaled, with more distinct light veins; on the hindwing the ocellus is larger on an average and, especially in the ♂, removed nearer to the margin, similarly as in the *cinerea*-group, the iris of the ocellus much darker brownish-red, only around the pupil lighter yellowish. It flies beside *leucane* in Mexico.

A. mülleri *n. sp.* (111 a) is another very similar species of this group; as large as *acutissima*, but the *mülleri*. apex of the forewing not so far falcately produced, greyish-brown, densely dusted with greyish-white, particularly in the marginal area of the forewing, the veins also in the ♂ marked yellowish-white, the transverse lines, especially the outer one, much more broadly shaded dark brown, between 5 and 7 with a distinct inward curve; discal spot below the centre rather much strangulated, in the inner half mostly darker than in the outer one, with a long light central streak. On the hindwing the two anteterminal lines are very near together, the margin itself is very light, sometimes almost creamy white. Abdomen almost black with reddish-yellow anal hairs. Mexico (Zacualpan); numerous specimens of both sexes, type in the Coll. DRAUDT.

A. memusae *Wkr.* (= *viridescens* *Wkr.*, *mimusops* *Bsdv.*) (111 b) is exactly like *falcata* in the forewing, *memusae*. the apex of the forewing is less pointed, the distal margin not so concave, the transverse lines more distinct, the hindwing marked as in *acutissima*, but the ground rather lighter than the forewing; ground-colour variable, light greenish-grey, greyish-brown, or deep red-brown. Brazil to Argentina; a common species.

A. gibbosus *Conte* (110 e) is a large form, several specimens of which are before me from Rio Grande *gibbosus*. do Sul, of a mostly very bright red ground-colour, the posterior transverse line distinctly black. On the hindwing the distal edge of the ocellus is undulate corresponding to the undulate border of the postmedian line. In CONTE the signatures of the figures of *memusae* and *nopaltzin* have been confounded. Larva black with straw-coloured tufts of stings.

A. apollinairei *Dogn.* is allied to *gibbosus*; thorax and forewing pale pinkish lilac, towards the costal *apollinairei*. margin yellowish ochreous, in the marginal area with ochreous veins, the transverse lines light ochreous, too, the inner line inwards olive, from the first fifth of the costal margin straight to the inner margin, where it is connected with the exterior line which runs straight to the apex, where the yellowish colour is very broad; the oblong discal spot is likewise ochreous. Hindwing light olive grey, little strewn, with a large ocellus surrounded by yellowish, exhibiting one large and two small black and dark red centres; the black regularly dentate line behind it is inside bordered with light ochreous, the subterminal line on both sides bordered with yellow and interrupted on the veins. Colombia.

A. lama *Berg* (= *joannisi* *Bouv.*) connects the *gibbosus* and *stuarti*-groups. Scheme of markings as in *lama*. *stuarti*, shape of wings more as in *gibbosus*; forewing blackish grey, veins and transverse stripes in the ♂ white, in the ♀ yellowish, much less distinct than in *stuarti*, the stripes not contiguous at the inner margin, the anterior transverse streak forms an obtuse angle in the cell close above the median vein, the posterior one proceeds from close before the apex; basal and submarginal areas more intensely darkened blackish like the discal spot which is bordered with whitish. Hindwing smoky grey, behind the ocellus lighter, the ocellus similar as in *gibbosus*, transversely oval, behind it a very undulate fine black line, behind it a less distinct line, both crossed by the yellowish-brown veins. Expanse of wings: ♂ 60 mm, ♀ 73 mm. From Argentina (Salta, Tucuman).

A. bivius *Bouv.* is described to be very similar to *lama*. Body above brown, beneath yellow, forewing *bivius*. above red-brown; transverse lines much more distinct and broader white, the posterior line from the apex, touching the much larger discal spot which is distinctly surrounded by white; basal and subterminal areas not darker than the ground. Hindwing much lighter and more yellowish; iris of ocellus redder, fringe distinctly white. Apex of forewing much less falcate than in *lama*. Expanse of wings: 67 mm. Described from a single ♂, patria unknown.

A. stuarti *Rothsch.* (111 b). Forewing blackish olive brown, with distinct creamy-white veins, two *stuarti*. creamy-white transverse lines almost touching each other at the inner margin, and a large round discal ring. Hindwing light olive grey with 2 undulate-dentate subterminal lines, the exterior one being broader and paler, and with a black, somewhat oval ocellus with an olive iris and a large black pupil the proximal and discal margins of which are strewn with white. Bolivia (La Paz); Argentina and Paraguay.

A. heisleri *Jones*, to a certain degree, is allied to *aspera*. Body and forewing greenish-grey, costal *heisleri*. margin of forewing narrow orange brown; the fine orange brown antemedian line is strongly distally angled between the origins of 2 and 3; the large discal spot is darker grey; finely bordered with orange brown; the exterior transverse line extends from the inner third of the inner margin to the apex, it is orange brown, outside bordered with dark grey; marginal area lighter, subterminal line very indistinct. Hindwing yellow, strewn with grey, at the inner margin with blackish-brown hair; the interior transverse line is fine, black, behind it a reddish brown band, marginal area greenish grey; the very large black ocellus exhibits an iris being densely scaled red-brown, a large oblong black pupil in a light reddish-yellow ground with a white transverse bar, inside and outside strewn with white, as well as 2 black small accessory spots. Expanse of wings: 91 mm. Curitiba (Parana).

A. aspera *Fldr.* (111 b). Forewing brownish-grey, strewn darker, with a darker, white-centred discal *aspera*. spot and very undulate-dentate black transverse lines, the anterior and the subterminal lines being less distinct. Hindwing either pale olive yellowish-grey, or with a feeble pinkish tint: — *rosacea* *f. n.*, and a finely black- *rosacea*. edged ocellus with an orange brown strewn iris and a black pupil; the latter, excepting its feebly white-dusted distal edge, is situate in a horseshoe-spot of the ground-colour and inside bordered by a straight white streak.

on both sides it is flanked by smaller black, white-strewn spots in the orange brown ground; they may also be absent. Southern Brazil (S. Paulo); Uruguay; Paraguay; Argentina. A common species.

submacula.

A. submacula Wkr. (111 A a) is a larger species, forewing light reddish-yellow, with feebly visible whitish dentate transverse lines and a somewhat darker, white-central discal spot. Hindwing lemon-coloured, behind the ocellus scantily strewn with blackish; ocellus with a velvety black ring, iris outside narrowly lavender-blue, inside cinnamon-reddish with a large quadrangular white pupil; before the yellowish-reddish margin 2 transverse lines, the interior one fine, black, undulate-dentate, the exterior one represented by broad blackish spots interrupted by the yellowish-red veins. Abdomen as forewing. Brazil (Parana). — **dioxippus** Bsdv.

dioxippus.

(111 A a) is smaller and darker, forewing dark brown with rusty yellow veins, and densely strewn and haired white, with a white basal spot, indistinct dentate transverse lines, and a white-centred darker discal spot. Hindwing light yellow, in the distal half strewn with black, the ocellus with a velvety black ring; iris in the distal half lavender-blue, inside rusty brown with a white pupil; postmedian line fine, black, undulate-dentate, behind it there are blackish subterminal spots outside strewn with white and interrupted by reddish-yellow veins; margin rusty brown. Abdomen reddish-yellow. Brazil; Yungas, Bolivia.

oberthurii.

A. oberthurii Bsdv. (111 A a). Forewing of the same greyish-brown, darker and white strewn ground-colour as in *aspera*, the transverse lines very feeble and indistinct, only very little dentate, the very small discal spot feebly centred greyish-white. Hindwing yolk-coloured, the black-ringed ocellus with an olive brown iris and a large black, densely white-strewn pupil; but one strong black, not dentate transverse line, behind it a brick-red shadow-like band, separated from the light greyish-brown margin by a narrow yellow line. Argentina (Cordoba, Buenos Ayres).

granulosus.

A. granulosus Conte is so closely allied to *oberthüri* that it is presumably only a variable specimen; it differs in darker red-brown forewings with white strewing in the distal half of the median area and of the marginal area; moreover, there are two yellowish transverse lines, the anterior one uninterrupted, the posterior one beginning at the costal margin about 8 mm before the apex and extending in a slightly distal convex curve parallel to the distal margin to the inner margin. Described from a ♀ from Brazil e Coll. OBERTHÜR.

castrensis.

A. castrensis Schs. (111 A a) is a smaller species with narrower greyish-brown, strewn forewings, a large whitish discal ring finely surrounded by dark, and a very oblique exterior somewhat darker transverse line. Hindwing light yellow, at the inner margin and around the ocellus with a very feeble reddish tint; the large ocellus is black, the iris dark olive brown with a large black, white-strewn pupil; the inner blackish transverse line directly adjoins to the outer somewhat lighter shadow-like stripe, a fine whitish line separates from the light brownish-grey margin; costal margin of the same colour. Abdomen crimson. Brazil (Parana; Minas Geraes).

eophila.

A. eophila Dogn. (= *aurora* Dogn., nec Weym.). Forewing brown with an oblong-quadrangular, black-edged discal spot with a white central dot bordered with yellow; the black transverse lines on the averted sides bordered with yellow, the anterior line submedianly angled, the exterior one sharply and regularly dentate, the points of the dents on the veins, incurved below 2; the irregular subterminal line a little white-strewn, with a black marginal line before the brown fringe being speckled white on the ends of the veins. Hindwing pinkish-red, with a round black ocellus, a greenish-yellow iris and black pupil with a white discoidal streak; behind the ocellus a well rounded black line, behind it a chain of whitish, brown centred internerval rings, the brown marginal area with ochreous veins. Expanse of wings: 49 mm. According to a ♀ from Tucuman (Argentina).

brasilensis.

A. brasilensis Wkr. (= *porus* Bsdv.) (111 b). This and the following 3 species are all very closely allied to each other. Forewing dull yellowish red-brown with a white basal spot and brown transverse lines, the posterior one beginning close at the apex, without white vein-dots; median area somewhat lighter, the contours of the discal spot marked by black dots. Hindwing red-brown, basally and towards the inner margin darker, the large black ocellus surrounded by yellowish, with a reddish-grey pupil outside extended into 3 or 4 points, enclosing a fine white angular bar; behind the black undulate subterminal line with a rusty red band, marginal area rusty yellowish. Brazil.

huebneri.

A. huebneri Bsdv. (= *quadridentata* Ky.) (111 c) is somewhat lighter red-brown, the posterior transverse line straighter, only near the inner margin slightly curved, and dotted white on the veins; hindwing still lighter, in the disc whitish-yellow, with a horseshoe-shaped pupil-spot being distally extended into 4 points, enclosing a very small white angular bar; marginal area yellowish-grey. Brazil (Minas Geraes).

coronis.

A. coronis Schs. (111 c) is larger than the two preceding species, abdomen red-brown with feeble smoky grey transverse bands. On the brown forewing the median area is somewhat lighter, greyer, the light brown discal spot very large, inside with 2, outside with 4 black dots; both the antemedian line forming two bows and the fine reddish-brown postmedian line are marked with yellowish-white dots on the veins. Hindwing at the base and inner margin dull pinkish brown, the very large ocellus black, broadly encircled with yellowish-white, the brown pupil-spot extended into 4 points, with a white angular bar in the centre; behind the ocellus

an undulate black line with a broad chestnut-brown band behind it. Fringe light reddish ochreous. Expanse of wings: 95 mm. Joinville, Brazil.

A. amphirene *Bsdv.* (= *porifera* *Strd.*, *melanops* *Conte* in tab.). Size and shape of *brasiliensis*; hindwing *amphirene*. greyish-red, basally spotted white, in the median area lighter; with brown transverse lines, the posterior line inside on the veins dotted white, extending near to the apex. Discal spot hardly darker, with a three-pronged, black-dotted exterior edge, often containing a small white dot. Hindwing light reddish-brown with a large black, yellow ringed ocellus with the horseshoe-shaped greyish-yellow iris containing a white angular streak; behind it a strongly undulated black line with a red-brown band behind it. Abdomen greyish brown. Brazil. This species is probably merely an insignificant, somewhat larger form of *hübneri*. The type of *porifera*, which was before me through the kindness of Dr. HORN, belongs to this species judging from the shape of the discal spot.

A. irene *Cr.* (= *luteata* *Wkr.*) (111 d). Forewing of ♂ varying between yellow and rusty reddish-brown, *irene*. of ♀ darker, the anterior transverse line indistinct, almost straight and vertical to the inner margin, strewn with whitish, the posterior line brown, beginning a little before the apex, inwards dotted white on the veins. Hindwing reddish-brown, in the ♂ more rusty yellowish, the large ocellus narrowly surrounded by light yellowish, with a two-pronged yellowish-grey iris and a white angular streak. Guiana. Larva light grey with darker segmental indentations and branched green thorns, beginning from the 4th ring with a yellow lateral stripe which is bordered with dark red above. It lives on pomegranate trees.

A. scapularis *Bsdv.* (111 d) is very similar to *irene* and perhaps only its Brazilian form. Forewing still *scapularis*. somewhat more pointed, ground-colour lighter, postmedian line yellowish, with hardly any white vein-dots, the discal spot with intense black dots. On the hindwing the ocellus is more broadly surrounded by yellow, the yellowish-grey iris three-pronged. Abdomen monotonously reddish greyish-brown. Common in Brazil.

A. metea *Stoll.* (111 d) has broader wings with less pointed apices, darker red-brown, in the ♀ more *metea*. lilac greyish-brown, the antemedian line projecting distally twice sinuate in and below the cell, postmedian line more intensely dotted white, discal spot surrounded by more intense black dots. Hindwing lighter, redder, the iris smaller and narrower. Brazil.

A. ophthalmica *Moore* I can identify neither from the description nor from CONTE's figure, but it belongs *ophthal-* *mica*. to this group. Forewing dark red-brown, both the transverse stripes black, the anterior one indistinct, irregularly sinuately angled, the posterior one almost straight, from the apex; the large oval discal spot outside with a dent, bordered with black, the light subterminal line undulate-dentate. Hindwing of a brighter red-brown, base and margins light yellow, the very large black ocellus with a yellow ring, with a yellowish pupil being outside extended into 2 fine points and enclosing a white angular bar, behind it a black undulate line. Expanse of wings: 13 mm in the ♀. Brazil. Larva described to be black with long severely burning light brown thorns with black tips. It is said to live on an Iris near S. Paulo.

A. antioquia *Schs.* Head and thorax cinnamon-brown, abdomen above pink, beneath yellow, forewing *antioquia*. red-brown, strewn with yellow, with a white basal streak and a deep yellow antemedian line, distally scaled blackish with 3 white dots therein; discal spot dark brown, inside bordered by a straight yellow line, outside notched with 3 black dots; postmedian line from near the apex to the centre of the inner margin, outside red-brown, inside white with intense white vein-dots. Hindwing of a brilliant pink with a very large steel-grey ocellus being broadly encircled by black, then finely by yellow and white, pupil black, dusted white with a curved white line, above bordered by a brownish-yellow angular line; the black subterminal line is deeply undulate with a broad red-brown shadowy band behind it, the light pink marginal area with yellow veins, fringe yellow. Expanse of wings: 97 mm. According to a ♂ from Colombia (Dept. of Antioquia), before me e Coll. NIEPELT from Bellavista (Western Colombia).

A. fimbridentata *Dogn.* (111 e) resembles *hübneri* in the main characters and is easily discernible by *fimbriden-* *tata*. the dentate and somewhat speckled fringe. Forewing brown, strewn with red-brown, the transverse stripes are dotted white on the veins, and on the inverted sides somewhat white, subterminally with a series of small dentate nebulous spots. Hindwing pinkish claret-coloured, at the costal margin brown, towards the margin very light pink, the ocellus, as in all the species of this group, with a yellowish iris extended into 2 points. In the ♀ the margin is still more deeply dentate, apex of forewing more produced, hindwing browner. Peru.

A. grammivora *Jones* (111 c). Forewing ochreous or light reddish-brown with a very characteristic *grammi-* *vora*. yellow or yellowish-white postmedian line from the apex almost to the base of the inner margin, where it meets the indistinct antemedian line; discal spot entirely absent or marked by some dark dots. Hindwing pink with a large jet-black, yellow-ringed ocellus, a yellowish-grey iris with 3 or 4 fine points and a white crescentiform pupil; the undulate-dentate subterminal line is scaled deep blue, behind it a red-brown band. Brazil (Castro. Parana; Rio Grande do Sul).

A. grammodes *Jord.* (= *unifasciatus* *Bouv.*) (111 e). Forewing narrow, ochreous, scantily strewn with *grammodes*. dark; discal spot with a white pupil; from the pointed apex a black oblique line extends straight to $\frac{2}{5}$ of the inner margin, it is inwards bordered with yellow. Hindwing orange ochreous, towards the margin with a feeble pink tint, with a black, white-centred ocellus and a black line behind it, bending strongly basad at the inner

margin. The larger ♀ shows a distinctly brown-belted abdomen. South-Eastern Peru, Ecuador and Bolivia.

salmonea. **A. salmonea** Cr. By this name CRAMER figures two very different females which surely belong to different species. I have seen nothing similar to the figure 162 A, unless it be identified with *porus*. Forewing deep purple red-brown, without a distinct anterior transverse line, the posterior line black, ending about 8 mm before the apex, the discal spot surrounded by yellowish atoms and parted by the yellowish-dusted cross-vein. Hindwing red, the black ocellus surrounded by yellow, with a yellowish-grey horsehoe-shaped iris enclosing a black crescentiform pupil with a white angular streak; the black undulate line and the reddish-brown band behind it as in the other species of this group. Abdomen red, with dark carmine-brown bands. The figure supplied by CONTE as the ♂ of *salmonea* (Essai t. XII, fig. 3) does not fit at all the above mentioned figure by CRAMER, and I should much rather place it as ♂ to the following species which I consider to be *roseus* Conte.

roseus. **A. roseus** Conte (= *salmonea* Cr. pro parte, *arminirene* Strd.) (111 e). The figure in CRAMER 395 A represents a much lighter, more olive-brown species with a light brownish median area, the anterior transverse line is almost straight, very feebly S-curved, inwards broadly light yellowish, like the margin of the discal spot which terminates outside with 3 black-dotted points; the posterior transverse line meeting the anterior one at the inner margin is inside bordered with whitish, outside of it a somewhat darker subterminal band. Hindwing hued with pink, the ocellus similar to that of *salmonea*, but much more narrowly surrounded with yellowish-white, marginal area very light. Surinam. It may be *erubescens* Bsdv. This might be ascertained by comparing it with the type in the Paris Museum. Moreover, the species is variable and occurs in a more olive grey and a more red-brown form.

arminia. **A. arminia** Stoll. (= *hersilia* Bsdv.) resembles the above mentioned figure of *salmonea*, being just as dark carmine-brown, the black postmedian line marked on the veins by white scales, the discal spot entirely absent, the antemedian line marked at the inner margin by a small spot of yellowish scales. On the rosy-red hindwing the large ocellus is transversely oval, broadly surrounded by yellow, the very extensive iris brown, with a small white-strewn, black pupil enclosing a short white angular bar. Likewise from Surinam. It is difficult to ascertain from the figure whether this species really belongs hereto.

latus. **A. latus** Conte (= *sinuosa* Dogn., *brutus* Strd., *caesar* Bouv.) (111 c). Forewing of ♂ red-brown, yellowish-brown or olive-grey to lilac-grey, in the ♀ predominantly olive or lilac brown, the lines olive brown, forewing basally and at the costal margin somewhat darker; lines fine, posterior line between apex and the centre of the inner margin regular and very deeply undulate-dentate, discal spot rectangular with black dots around it. Hindwing lighter, only apically somewhat darker, with a very large ocellus surrounded by yellow and white, in the centre with a grey horseshoe-shaped spot finely extended into fine points on the veins and with a white angular line; behind the undulate-dentate subterminal line with a very broad brownish-red, in the ♀ olive band. A most variable species from Guiana, Amazons, Peru, Bolivia.

cruenta. **A. cruenta** Wkr. (111 A b). Forewing greyish-brown, the lower half of the basal area dark brown, bordered above by the lighter median vein, outside by an almost straight whitish transverse line, the posterior line pointedly broken below the costal margin, outside bordered by a darker shade, between both a blackish-brown discal spot; behind the subterminal line receding far between 3 and 5 the margin is darker; at the costal margin before the apex with a dark trapezoid spot. Hindwing very light greyish-brown, basally pink, ocellus and transverse lines as in the allies. Abdomen blackish with reddish-yellow segmental indentations. Brazil.

praecruenta. — **praecruenta** Weym. & W. was not before me; according to the figure it is very similar, darker, with more distinct and broader yellowish-white median and subcostal veins, the margin of the discal spot, as well as the postmedian and subterminal lines broader, too. Hindwing in the disc lighter, yellowish-white, the subterminal band much broader and darker. Abdomen with rosy-red bands. Rio de Janeiro. Hardly a different species.

convergens. **A. convergens** Wkr. (111 A b) is very similar to the two preceding species, forewing duller and more blurred, more reddish-brown, the light transverse lines very straight, at the inner margin almost contiguous, the discal spot very long and narrow, little darker than the ground. Hindwing more extensively rosy red, the black ocellus narrowly surrounded by yellowish-white. Abdomen curled ochreous. Brazil. — **semirosea** Weym. (111 A b) the type of which is before me seems to me to be merely a somewhat crippled *convergens* with narrow wings, with a more falcate apex; the marking in the much flown specimen likewise the same, only the posterior transverse line a little more curved, towards the margin deeper concave. South Brazil.

rubicunda. **A. rubicunda** Schs. (111 A b). Forewing above brown, in the basal area more reddish-yellow, bordered by a very fine dark transverse line; behind the cell an undulate-dentate transverse line, the oblong discal spot dark brown; at the costal margin near the apex a dark triangular spot. Hindwing above bright red with a small black ocellus with a brownish iris strewn with white in the centre; behind it a black transverse line and a brownish submarginal band, then a brownish marginal shadow in a lighter ground. Beneath the forewing

is yellow with a large black, white-centred spot, hindwing reddish-brown, strewn with black, with a white discal dot and a brown lunar line behind it. The brown metathorax with long projecting white hairs, abdomen reddish. Expanse of wings: 54 mm. Petropolis (Brazil).

A. flexuosa *Fldr.* (= ♀ *mendosa* *Bsdv.*, *bouvieri* *Conte*) (111 A c) is the ♂ of *mendosa* which is only known *flexuosa*. in the female. Forewing brown, in the basal area much lighter, reddish-grey, bordered by a fine black irregularly sinuate antemedian line; discal spot blackish, oblong; posterior transverse line towards the margin concave, undulate-dentate, the most intensely between 5 and 7, apically behind it a small dark triangular spot; fringe crossed by light on the ends of the veins. Hindwing rosy-red, at the margin light brownish, with a small, somewhat oblong ocellus, in the centre strewn with white, behind it a strong black line and then a brownish-red subterminal band. In the ♀ the forewing is whitish, strewn with yellowish-grey and black, the fine black transverse lines on the inverted sides bordered with whitish; the large brown discal spot surrounded by blackish, projecting outside in the middle; before the apex at the costal margin a brown triangular spot, behind the subterminal line the upper half of the margin is brownish, the lower half irregularly clouded whitish. Hindwing in the disc very pale pink, the fringe on the ends of the veins broad whitish. Rio de Janeiro to Argentina.

A. superba *Burm.* is somewhat similar, smaller, with an obtuse apex, below it on 6 somewhat roundedly *superba*. produced. Forewing basally and at the margin more darkened, only the median area light, otherwise similarly marked. Hindwing as in *flexuosa*. Argentina; Bolivia.

A. saturniata *Wkr.* (= *caesa* *Bsdv.*) (111 A c) is a large beautiful very characteristic species; forewing *saturniata*. on the whitish ground dusted and strewn with brown, the ground-colour being most distinct in the basal third of the costal margin, on the inverted sides of the transverse lines and in the subterminal line; transverse lines double, black, filled with ochreous, between them the large dark brown, four-pronged discal spot. Hindwing light brownish-grey, base and inner margin more or less rosy-red, behind the medium-sized ocellus with 3 blackish-grey nebulous bands; fringe crossed by bright yellowish white. Abdomen ochreous, curled black. Colombia (Bogota).

A. flexilineata *Dogn.* is allied to *saturniata*, easily separated by the strongly dentate posterior transverse *flexilineata*. line terminating into the apex; discal spot likewise quite similar; ground-colour more greenish-yellow, dusted with pinkish-black. Colombia (Paramo del Quindiu), described according to a ♂.

A. aurora *Maass.* is light yellowish-brown on the forewing, finely strewn with black and coarsely with *aurora*. red-brown, with 2 black curved transverse lines, the posterior one being slightly S-shaped and far remote from the margin, with a small black discal ring between them, and before the apex at the costal margin with a dark triangular spot, before which there are 2 small dark sagittiform spots marking the beginning of a subterminal line. Hindwing rosy-red with an oblong black ocellus being strewn with white in the centre, a black curved transverse line and a broader brownish band, behind which the marginal area is light brownish, with a darker marginal shadow. Abdomen pinkish-yellowish with small black triangular dorsal spots. Rio de Janeiro.

A. montezuma *Bsdv.* (= *crudelis* *Maass.*) (111 A c). Forewing brown, in the basal area and behind *montezuma*. the postmedian line darker, with almost straight black transverse lines bordered lighter on the inverted sides, an oblong discal spot and median shadow behind it; subterminal line light, from the apex, in the lower half projecting somewhat towards the margin. Hindwing rosy-red with a black, white-dusted ocellus; behind the black postmedian line the margin is brown with a darker subterminal band and marginal shadow. Abdomen crimson with blackish rings. Common from Mexico. Specimens from Guatemala and Costa Rica are smaller, lighter brownish, finely strewn, the median shadow almost entirely absent, the posterior transverse line more distinct, straighter, rather concave towards the margin, and at the costal margin more apicad: — **pallidior** *pallidior*. *f. n.* (111 A d); type in the Berlin Museum.

A. rectilinea *Bouv.* (111 A d) cannot be compared with any other species; body and forewing very light *rectilinea*. yellowish grey, strewn with brownish with 2 almost straight transverse lines of a brownish colour, on the inverted sides somewhat lighter owing to the absence of the strewing; at the cell-end a small narrow brownish spot; subterminal line absent. Hindwing brick-reddish, the large ocellus with an olive brown iris, with a velvety black ring and a large oval densely white-strewn pupil enclosing a thick white transverse bar; interior line blackish, somewhat undulate, the exterior line broader, brownish-red; fringe of hindwing red-brown. From Sao Paulo, in the Berlin Museum, another ♂ from Coll. GSCHWANDNER, the type in the Paris Museum.

A. iris *Wkr.* (111 A d). Forewing reddish greyish-brown, finely strewn darker, with blackish transverse *iris*. lines, the anterior one angularly receding below the cell, the posterior one almost straight, inside generally narrowly lighter, outside feebly darkened, the discal spot hardly darkened, marked by black dots, with a dark median streak; subterminal line composed of small spots. Hindwing orange, at the inner margin red, with a middle-sized ocellus, the black postmedian line behind it occasionally feebly undulate. Abdomen reddish-ochreous. Mexico. — **ferruginea** *f. n.* (111 A d) is somewhat smaller and shows a rusty brown ground-colour, *ferruginea* the hindwing being deeper orange, too. According to 2 ♂♂ from Mexico City, type in the Coll. DRAUDT. —

occidentalis. **occidentalis** f. n. (111 A d) are somewhat smaller greyer specimens from Western Mexico (Guerrero) with a somewhat more intense marking and a darker and more extensive red colour at the inner margin of the hindwing.
daudiana. — **daudiana** Drc. (111 A e) is very similar, the forewing light ash-grey, the marking otherwise the same, but the postmedian line is feebly convex towards the margin. Probably also only a form of it from Cuernavaca.

hebe. **A. hebe** Wkr. (= *thyreon* Dyar) (111 A c). Forewing reddish ochreous, basally and at the costal margin often somewhat darker, both the transverse lines as well as the subterminal line marked by small blackish lunular spots, the postmedian line almost straight, the slightly darker, mostly somewhat more ochreous discal spot marked by dark dots or also not. Hindwing ochreous, at the inner margin red, with a small black, white-centred ocellus, behind it a black, then a red-brown feebly undulate line. Abdomen dark ochreous. The ♀ has a deep purple brown ground-colour, the small lunular spots of the transverse lines on the inverted sides bordered with greyish-white. Mexico. CONTE mixed *hebe* with *orestes* Bsd., which is impossible, WALKER'S description exactly fits that of *thyreon*-♀ which is very variable.

melmon. **A. melmon** Dyar. Somewhat larger than *hebe*. Both the sexes show a somewhat sharper apex of the forewing. Ground-colour of ♂ yellow, the macular lines brownish-grey, the two exterior ones almost straight, the interior one only traceable. In the pinkish-brown ♀ the transverse lines are only feebly marked by whitish scales. Hindwing as in *hebe*. Expanse of wings: ♂ 51 mm, ♀ 56 mm. Mexico. — **dandemon** Dyar (111 A c) exactly resembles *melmon*, but the shape of the wings is not so pointed at the apex; subterminal line almost entirely absent, postmedian line nearer to the margin. Hindwing with a more extensive pink disc. Probably only a form of *melmon* from Cuernavaca (Mexico). — **colenon** Dyar resembles *dandemon*, but the lines are undulate-dentate and more curved, and there is a notched antemedian line, the discal ring marked by dots is filled with brownish; subterminal line undulate. In the ♀ the lines are likewise marked by white scales, the exterior one strongly dentate, marginal area somewhat lighter. Hindwing only at the inner margin red, in the ♀ the disc is darker orange. Also from Cuernavaca. A species hardly separable from the preceding *hebe*.

eogene. **A. eogene** Fldr. (111 A e) belongs yet to the same group; I regard as ♂ two specimens from Mexico of my collection, exhibiting a darker reddish ochreous colour than *hebe*, more smoothly scaled and with more elongate wings; the spots of the transverse lines are much less distinct, the subterminal ones reduced to an anal spot and a subapical spot. Hindwing almost as in *hebe*, the disc deeper orange, the marginal area behind the submarginal line coloured as the forewing. The ♀ is very similar to *dandemon*, larger, more violettish pink like the marginal area of the hindwing, too. Mexico (City, Zacualpan).

io. **A. io** Fabr. (= *corollaria* Perry, *varia* Wkr., *fabricii* Bsdv.) (111 A f) is the well-known North-American species which is often also bred in Europe, rather variable, in the ♂ yellow, in the ♀ dark purple brown or red-brown, with spottedly notched transverse lines which are often, especially in the ♀, bordered with whitish on the inverted sides; discal spot filled with the same colour or brownish, bordered by dots or larger spots. Hindwing dark yellow, at the inner margin and in the subterminal line red. Ocellus large. — ab. **argus** N. & D. is a light yellow male form without any marking, only the large ocellus on the hindwing being visible. Described from Hoboken (N. J.). — **lilith** Stkr. (111 A f) is more obsoletely marked on the forewing, suffused with reddish, the hindwing in the disc not yellow, but blackened. Larva on Mangroves. Florida. — **lutheri** Ckll. (= *fuscus* Luther nec Wkr.) is the common North-Atlantic form of *io*, somewhat larger and generally dusted darker and especially the ♀ more intensely marked yellowish whitish-grey. Rhode Island. — **coloradensis** Ckll., described from Colorado, is similar to the form *fuscus*, but on the forewing more intensely dusted purple or violettish-grey, the ocellus removed very near to the black postmedian line or touching it. Discal spot of forewing usually small. — **neomexicana** B. & Benj. is in the ♀ forewing intensely strewn dark with deep purple grey triangular spots between the veins in the subterminal area. Hindwing as in *coloradensis*, but less intensely suffused with purple. The ♂ resembles a yellow *lilith* with an intensely black-edged discal spot. New Mexico. — **texana** B. & Benj. forms in the male an intermediary between the yellow and red-brown *lilith*-forms, and is similarly marked. The ♀ is dusted with deep purple grey, in the basal portion with orange hairs, also the hindwing darkened deep purple grey excepting the intensely orange ring around the ocellus. Texas. — In Mexico the species becomes much smaller. Forewing of ♂ yellow to ochreous red, the transverse lines much more spotted, towards the inner margin the postmedian and subterminal lines are mostly confluent forming a large blackish-grey spot; ocellus of hindwing smaller, the transverse lines behind it more closely together: **mexicana** subsp. n. (111 A e). Types: ♂♀ in Coll. DRAUDT. The gregariously living larva is green, with star-like hair-tufts and, beginning from the 4th segment, with a white, above red lateral line; it burns severely, lives on many fruit-trees, also on cotton and spins a cocoon between leaves.

erythrops. **A. erythrops** Blanch. has remained unknown to me; very similar to *griseoflava*, but above beautifully orange, the oblique postmedian line of the forewing distinct, especially beneath. Hindwing also beneath with a large red black-edged spot and a transverse band behind it. Chile (Coquimbo). The ♀ is lighter than that of the other species, approaching *acharon* f. *debilis*. Larva set with pointed, severely burning stings, greyish-brown with dingy white subdorsal and lateral lines and orange lines above and beneath the spiracles. On Bromelia, blackberry etc. The young larva lives gregariously, later on singly.

A. gayi Luc. (111 B a) is very similar to the following *griseoflava* and perhaps no different species: above *gayi*. orange with a small red discal streak and a feeble postmedian line almost parallel to the margin, both being very inconspicuous. Hindwing exactly as in *griseoflava*, but the postmedian line is finer black and somewhat more undulate. In the figure by BOISDUVAL the signatures of *gayi* and *lucasii* have been confounded, which mistake was also copied in CONTE's figures. Chile.

A. griseoflava Phil. (111 B a). Forewing greyish-yellow. discal dot red and double, the fine red post-*griseoflava*. median line inwards slightly convex, the transverse lines nearer together than in *erythraea*. Hindwing orange with a red, white-centred and black-ringed ocellus, a greyish-black postmedian line which is bent inward towards the costal margin and is fused with the interior edge of the ocellus, passing over into the broader grey antemedian line which extends towards the inner margin. Beneath the hindwing shows a white dot with a red ring. The ♀ is more greyish-brown with a slight pink shade, the distal area of the hindwing is often intensely blackened, like the basal and marginal areas of the forewing. — **A. acharon** Btlr. is very similar, the ♂ forewing *acharon*. greenish-grey with a very feeble reddish tint, with an orange costal margin and fringe, the blackish lines nearer together than in *erythraea*, the carmine spots at the cell-end similar. The ♀ is less greenish, more reddish, hindwing pink, the two distal thirds blackened, the postmedian line farther from the distal margin than in *erythraea*. — **A. debilis** Btlr. is more yellow than typical ♂♂, more sulphur-coloured, the base of the hindwing and the fringe *debilis*. saffron-coloured, the carmine spots of the forewing very small, the antemedian line less irregular. Chile. — Entirely carmine specimens suffused with blackish without any transverse lines are: **A. izquierdoi** f. n. All these *izquierdoi*. forms were bred by V. IZQUIERDO from one and the same laying of eggs. — There are also specimens in which the basal and marginal areas are suffused with red. — **A. contulma** f. n. (111 B b). Type 1 ♂ from Contulmo in *contulma*. the Berlin Museum. Larva above sepia-brown, beneath light greenish with 2 light yellow dorsal and subdorsal lines, with 2 orange undulate lines above and below the spiracles and 6 yellow stings with black tips on each segment. It lives on *Puya coarctata*, artichokes, and roses.

A. erythrea Phil. (111 B a). Forewing of ♂ above cinnamon-reddish with an olive tint, somewhat undulate *erythrea*. carmine transverse lines, often scaled black on the inverted sides, and with a small red discal spot; basal area and distal margin often suffused with red. Hindwing bright orange, ocellus and lines as in the preceding species, but the lines are broader and deeper black. The ♀ is carmine brown, otherwise marked the same, the postmedian line terminates towards the costal margin almost into the apex, the hindwing is more or less tinted yellow in the disc. Chile. — **A. olivacea** Btlr. (111 B a) differs in the more intense olive tint of the forewing and a broader *olivacea*. orange area of the hindwing and the blackened distal margins of these wings. Larva sepia-brown with 4 white longitudinal lines interrupted in the centre of the segments, and a dark yellow undulate suprastigmatal line and another one below it. Ventrums somewhat lighter and more greenish with 6 large and 2 smaller yellow stings on each segment. It lives on *Fagus pumilio*.

A. lucasii Bsdv. is very similar to *erythrea*, perhaps somewhat smaller, the anterior transverse line *lucasii*. broader red, the posterior one almost straight from the apex to the distal third of the inner margin, distinctly black, and between the veins slightly undulate inwards; behind it the whole marginal area is purple red. Hindwing as in the preceding species, but in the marginal area broadly suffused with purple red. Chile. Probably also only a form of *erythrea*.

A. microphthalma Izquierdo (111 B b) is much lighter yellow with a loam-coloured shade, the apex of *microphthalma*. the forewing very pointed, the anterior transverse line is absent, the posterior line is grey beginning at the costal margin 2 mm before the apex, with 2 grey discal dots. Hindwing in the disc somewhat more reddish yellow, with a very small black white-centred ocellus without any red, the feeble lines similarly shaped as in the preceding species, reddish-grey. ♀ more ochreous, strewn with a somewhat darker colour, the lines more reddish-brown. Chile.

Subordinate group: *Hyperchiria* Hbn. (Forewing angular below the apex; eyes red.)

A. incisa Wkr. (= *orodes* Bsdv.) (111 B b). Forewing loam-coloured to reddish-brown, with 2 fine *incisa*. brown transverse lines, a feebler median shadow between them, before which there is a fine discal streak; marginal area more or less smoked like the interior border of the subterminal line. Hindwing yellow or reddish-yellow with a large red, white-centred and black-edged ocellus and 2 broad blackish bands behind it, with a very feeble antemedian line. Abdomen orange, with black bands. Brazil, common.

A. orodina Schs. (111 B c) is extraordinarily similar to *incisa*, somewhat smaller, with an almost *orodina*. straight distal margin with a hardly noticeable angle; forewing lighter greenish-yellow, with very fine transverse lines. Hindwing of a purer lemon-colour. The ♀ is much browner. From Rio Grande do Sul to Paraguay. The thick cylindrical larva is light bluish-green, with very dense spiny hair, with dark pink ring-indentations. It lives on *Sapintacia* spec.

A. nausica Cr. (111 B c). Forewing brown, behind the postmedian line olive greenish-yellow with 2 very *nausica*. oblique blackish transverse lines, a less distinct median and subterminal shadow and a black discal spot situate in a greenish halo. Hindwing bluish-grey with an orange, white-centred and black-ringed ocellus, in the costal-marginal third brownish, with 2 broad black undulate transverse bands the interior one of which mostly unites with an antemedian one at the inner margin. Abdomen orange, with black bands. The ♀ is much browner.

- azteca*. From Guiana, Peru and Bolivia; also from Trinidad. — **azteca** *f. n.* (111 B c) has somewhat broader wings, the distal portion being of a purer sulphur-colour, the discal spot the same, almost without a black centre; the orange ocellus of the hindwing without a white centre, the black binds much lighter and narrower; the abdominal belts so, too. In numbers from Mexico: type in the Coll. DRAUDT.
- acutus*. **A. acutus** *Conte* (= *flavus Conte*) (111 B c) is similar to *azteca*, but at once discernible by the carmine ocellus; forewing more intensely dusted black, the two transverse lines black, less oblique and quite straight, the discal spot and the subcostally angled median shadow greenish-yellow like the marginal area in which there are single black vein-dots. Abdomen yellow, with black rings. Peru. *flavus* is surely only the ♂ of *acutus*-♀: there are 2 fresh ♂♂ from Vilcanota before me, from the Berlin Museum, which also exhibit a black-banded abdomen.
- aniris*. **A. aniris** *Jord.* is quite similar to *nausica* from which it is easily separated by the entirely black ocellus of the hindwing lacking a white central dot; lines of forewing less oblique, almost parallel to the distal margin. Costal margin of hindwing not lobate as in *nausica*, but uniformly convex. British Guiana.
- plicata*. **A. plicata** *Herr.-Sch.* (= *laciniata Bsdv.*) (111 B d) has a more intensely dentate distal margin of the forewing, and the dent below the apex is strongly bent downward; forewing marked as in *nausica*, but the colour is a dull brown without the yellowish marginal brightening. Bands of hindwing much more dentate. Brazil.
- cypria*. **A. cypria** *Gmel.* (= *io Cr.*, *stollii Bsdv.*) (111 B d). Forewing of ♂ reddish-brown to olive-brown with fine blackish transverse lines, the anterior one somewhat irregularly notched, the posterior one much feebler, beginning before the apex, between them a somewhat broader median shadow and a large oval whitish discal spot with a darker median streak, with some fine submedian black vein-dots; subterminal line below the apex with a small black spot, in the lower half twice projecting arcuately. Hindwing light brownish or reddish-grey with a red, white-centred and black-edged ocellus and 2 blackish transverse bands behind it. The ♀ is purple brown, dusted with violettish-white, especially in the marginal area, with a double postmedian line. Amazons, Rio de Janeiro. — **vala** *Ky.* (= *crameri Bsdv.*) based upon the very bad figure of the ♂ by CRAMER, likewise from Surinam, I do not consider to be a different species, only distinguished by a somewhat lighter, more reddish yellowish-brown ground-colour, though the colour is rather variable. — **pericinctus** *Conte*, in my opinion, is neither to be separated and refers to an otherwise typical damaged female specimen — not a ♂ as CONTE states in the text —, which shows some blackish shading also before the ocellus of the hindwing, forming together with the black postmedian line a circle around the ocellus. French Guiana.
- caudatula*. **A. caudatula** *Fldr.* (111 B d) has narrower wings with a more produced apex and a roundish tail-like extended angle on the hindwing. Forewing olive brownish, the markings as in *cypria*, but whitish, on the veins whitish, dark-centred dots. Hindwing hardly lighter brown, the two transverse bands behind the ocellus only little darker, the marginal area slightly dusted white. Abdomen ochreous, curled black. An evidently very rare species, reported from Central America, in the Berlin Museum a ♀ from Oxapampa (South-Eastern Peru).
- bulaea*. **A. bulaea** *M. & W.* (111 B d) is a very small species belonging to the same group; forewing very similarly marked as in the preceding species, but the apex of the forewing is falcately extended, not angular below it: olive brown, dusted with red-brown and lilac white, postmedian line double, discal spot very large. Hindwing coppery reddish-brown with a black, feebly whitish-centred ocellus, at the margin shaded with olive green. Beneath marked as the preceding species, the marginal areas of both wings dusted with brownish olive green. Southern Brazil (Novo Friburgo). Subordinate group.: *Gamelia* *Hbn.* (Forewing very broad with a long and pointedly extended apex in the ♀; eyes red.)
- abas*. **A. abas** *Cr.* (111 B a), 130 b. The ♂ is purple brown on the forewing, in the basal area darker, bordered by the dentate indistinctly double black antemedian line which is filled with single greenish-yellow hairs, the very small discal spot surrounded by black; the postmedian line comes from the apex and is likewise double, at the margin light red-brown, the ocellus red, centred white and encircled with black, behind it 2 grey lines, from the ocellus to the inner margin almost straight, from the ocellus to the costal margin recurved far towards the base, the interior line fine, the exterior one broader, widened analwards. The ♀ is more blackish-brown, in some places dusted with lilac grey, the apex of the forewing much longer, the discal spot larger, filled with brownish, encircled with light grey, the postmedian line inside bordered with a darker colour. Guiana, Amazons, Peru.
- abasia*. **A. abasia** *Cr.* (111 B e) is similar, somewhat smaller on an average, lighter brown, the antemedian line entirely absent, the basal area hardly darkened, the discal spot punctiform or a fine black circle, the postmedian line represented by 2 more intensely outlined black parallel lines. Hindwing lighter, more brownish, the red iris of the ocellus larger, the black ring relatively narrow, the grey lines more curved. Guiana, Amazons, to the north as far as Panama. Larva violettish-grey with a yellow lateral stripe and black burning stings provided with yellow branches. According to CRAMER, it lives on Guayavae.

A. pyrrhomelas Wkr. (♀ = *anableps* Fldr.) (111 B e, 130 e). The ♂ is somewhat larger than *abas*, otherwise very similarly marked, but of a more purple blackish ground-colour, the antemedian line very indistinct, the inner portion of the postmedian line thicker than the outer part, towards the costal margin inside of it a lighter brownish-grey triangle, coloured like the marginal area. Hindwing similar as in *abas*, but greyer, the 2 lines behind the ocellus stronger, the inner margin blacker haired. The ♀ is likewise similar to *abas*-♀, the postmedian double line more distinct, inwards not so strongly shaded, with a large oval lighter brownish spot at the costal margin. Colombia, Bolivia, Brazil.

A. banghaasi sp. n. (111 B f) is very similar, darker slate-coloured black, strewn with fine silvery blue scales particularly in the marginal area and in the distal half of the median area; only the basal area is dark carmine-brown, the shape of the lines as in *pyrrhomelas*, but the postmedian line terminates nearer at the apex; discal spot conspicuously earmine, above and beneath bordered by one thick black dot each. Hindwing almost unicoloured slate-black, ocellus larger with a narrower black ring. Shape of hindwing longer stretched, with an entirely rounded anterior angle. Abdomen above black, beneath and at the anus bright rusty red. According to a ♂ from St. Louis, type in the Coll. BANG-HAAS.

A. rubriluna Wkr. I do not know; according to the insufficient description based upon a ♀, it is nearest *rubriluna* to *abasia*-♀. Blackish grey, forewing very falcate, tinted with reddish-brown excepting the basal portion, the black postmedian line hardly bent, from the distal third of the inner margin to the apex, double, filled with reddish-yellow; the small blackish discal spot is mixed with red and encircled by reddish-yellow. Ocellus of hindwing large, round, carmine, centred white and broadly surrounded by black, behind it a blackish line, then a blackish curved band. Length of forewing: 30 lines. Amazons.

A. barii Bsdv. (111 B e) is somewhat smaller than *pyrrhomelas* and is intermediary between the latter *barii* and *abas*, with a rounded anterior angle, ocellus smaller, darker, the lines nearer together. Cayenne. Surinam.

A. pandarus Bsdv. According to the description and the figure supplied by CONTE this species must look almost like *abas* or *barii*, though it has 2 black central dots in the pinkish-white pupil of the ocellus on the hindwing. Brazil.

A. theseus Bsdv. is also similar, but the pupil of the ocellus on the hindwing shows but one black central dot; the two lines have the same course as in *abas*, but they are a little more remote from the ocellus than in *pandarus*, where the inner line touches the ocellus. Patria unknown. They presumably are both only variable forms of one species.

A. arguta Bsdv. (= *anableps* Conte nee Fldr.) (130 b) is allied to the preceding species, but of a bright red-brown with a slight purple tint, the postmedian double line very distinct, filled up with whitish, the round discal spot and an oval spot before the postmedian line at the costal margin yellowish greyish-white, the antemedian line beginning at the costal margin with a white spot. Hindwing lighter, the pinkish-white pupil of the very large ocellus pupilled black. The ♂ is lighter and more yellowish than the ♀. Colombia, Ecuador; the statement Mexico is wrong.

A. irmina Cr. (♀ = *episcopus* Bsdv.) (111 B f, 130 d) is smaller than *abas* and very similarly marked, but much lighter yellowish red-brown, the basal area darker, the antemedian line as in *abas*, but more distinctly double, filled with greenish-yellow like the round discal spot which is finely surrounded with blackish; the subterminal line is spotted, the extreme apex blackened. Hindwing light pinkish-brown, the transverse lines behind the ocellus very feeble, not recurved basad at the anterior angle, by what the species is always discernible especially in the female. The ♀ is more greyish brown or purple brown, the transverse lines on the inverted sides broadly bordered with red-brown, so that only a narrow median band remains, strewn with lilac grey; on the hindwing the exterior band is very broad analwards. Panama, Guiana, Colombia, Ecuador, Amazons.

A. catharina sp. n. (111 B f). In Southern Brazil *irmina* is represented by a similar species of a stronger structure, resembling also *abas* and, on the other hand, *arguta*. Forewing bright red-brown, basal area darker, distally defined by the antemedian line which is scaled blackish and yellowish-green and strongly notched as in *irmina*; discal spot small, blackish, surrounded by greenish yellow; postmedian line as in *abas*, inside scaled somewhat whitish, at the costal margin before it a yellowish spot as in *arguta*. Hindwing on the light red-brown ground grey-haired; ocellus large, of a bright earmine with a small pinkish-white centre, broadly edged with black; behind it 2 greyish-black lines which bend round farther basad at the costal margin and are more distinct than in *irmina*, the exterior one somewhat broader; margin light reddish-brown. Type: 1 ♂ from Sa. Catharina in the Berlin Museum.

A. remissa Weym. (130 b) is easily distinguished from the preceding species by the course of the postmedian line of the forewing, beginning at the costal margin 5—8 mm before the apex and terminating into the inner margin parallel to the distal margin. Ground-colour pinkish-brown, basal area and the subterminal area strongly darkened. Hindwing light pinkish brown, dusted with black, the ocellus small, dull red, centred

white, the two lines behind it removed far apart, the area between them of a purer pinkish brown. Brazil (Espiritu Santo); a couple from Passa Quatro, Sul de Minas, is much smaller, the ♀ was figured.

seitzi. **A. seitzi** *sp. n.* (111 B f) is allied to *remissa*, but larger; costal and distal margins almost straight, apex very pointed, produced; forewing light brownish-grey; antemedian line darker, inside bordered with light, straight to the inner margin; discal spot oval encircled with a somewhat darker colour; postmedian line from 5 mm before the apex to the distal third of the inner margin, very feebly incurved, olive-brown, behind it a slight doubling separated by a somewhat lighter interspace and terminating outside directly into the subterminal band. Hindwing basally with pink hairs, ocellus red, with a tiny white centre and a black ring; postmedian line almost straight, slightly bent only at the costal and inner margins, blackish, outside broadly scaled yellowish-red, behind it, separated by a narrow space, strewn with grey scales. Beneath the disc of the forewing shows a red shade, the postmedian lines are in both wings straight, brown, scaled red. Type: 1 ♀ from Peru in the Senckenberg Museum, Frankfurt-on-the-Main.

musta. **A. musta** *Schs.* I know only from the description according to which it must be very closely allied to *catharina*, though much larger. The ♂ is dark red-brown in the basal third, bordered by the double blackish brown antemedian shadow which is filled with yellowish, behind it lilac brown, the postmedian line double, filled with reddish-yellow; discal spot ochreous, parted by a blackish central streak; before the posterior line with a reddish-brown costal-marginal spot. Hindwing reddish yellowish-grey, darkened at the inner margin, ocellus large, red, white-centred, with a broad black ring, and distally produced to the distal margin through the blackish-grey postmedian line; subterminal shadow widened analwards, but it remains here far above the anal angle; marginal area lilac brown. Expanse of wings: 68 mm. According to a ♂ from Costa Rica (Juan Vinas).

pygmaea. **A. pygmaea** *Schs.* (111 B e) is a very small species; forewing red-brown, without the antemedian line, the postmedian line fine, yellowish-white, on both sides very feebly and finely bordered by a darker colour, the tiny whitish discal spot inside bordered with black. Hindwing pinkish-brown, with hardly any markings except the red, black-ringed ocellus with a black centre in a lighter halo. S. Paulo (Brazil).

auletes. **A. auletes** *H.-Schäff.* (111 B f, 130 e) is unmistakable. Forewing rusty yellowish-brown, especially in the median area with black white-ringed vein-dots; transverse lines very fine, double, filled with a lighter colour, the very large yellowish greyish-white discal spot before the distal border with a fine black interior ring and a black central streak with a distally extending transverse streak; between 6 and 7 below the apex a blackish spot, behind it dusted whitish. Hindwing in the disc very light lilac grey, base, costal margin and inner margin with light cinnamon-reddish hair; ocellus carmine with a white centre and a black ring, behind it 2 grey transverse lines, the exterior one duller and broader, particularly analwards. Guiana and Venezuela.

8. Genus: **Ancistrota** *Hbn.*

Structurally closely allied to the *irmina*-group of the subgenus *Gamelia*, separated by the slightly drooping last palpal joint; on the forewing the uppermost subcostal branch arises much more remote from the upper cell-end; on the hindwing 6 and 7 arise on a stalk, in *Gamelia* 7 comes distantly separated from the upper cell-edge. Only 2 species: type: *A. plagia* *Hbn.*

plagia. **A. plagia** *Hbn.* (112 a). Above bright yellow, antemedian line of the same shape as in *irmina*, brownish, towards the base bordered with white, the posterior transverse line from the apex to the third quarter of the inner margin, likewise inwardly bordered with white; at the cell-end a variably large black ring filled with white, often centred black; instead of the subterminal line more or less distinct small purple brownish spots, the lowest removed towards the base. Hindwing in the basal third with brownish hair, in the disc a small, dull, brownish spot, behind it a rather straight postmedian line, before the margin a few small brownish subterminal spots. The larger ♀ is red-brown or pinkish-brown, in the median area with a slight lilac shade. Brazil. — *ferruginea*, **ferruginea** *f. n.* (112 a), from Petropolis (type in the Berlin Museum) is also in the male entirely red-brown above.

stramentalis. **A. stramentalis** *sp. n.* (112 a) is somewhat larger on an average, the forewing more straw-coloured, the postmedian line extends from the apex obliquely to the centre of the inner margin, it is not bordered with white, but distally feebly shaded with red-brown; at the cell-end only a feebly darker streak. Hindwing as far as the subterminal line dusted with red-brown, the subterminal line darker red-brown, notched. Abdomen yellow, brownish above excepting the last 2 rings. Peru (Callanga); Bolivia (Songo; Corvico). Type: ♂ from Peru in the Berlin Museum.

9. Genus: **Cinnomata** *Btlr.*

More robustly built than the preceding genus with a long and densely haired thorax. Last palpal joint straightly porrect or slightly drooping. Wings, especially of the ♀, more elongate, the costal margin of the

hindwing quite straight. ♂ antennae bipectinate, ♀ filiform. Veins of forewing as in *Gamelia*, but in both wings the cross-vein extends very obliquely in a straight line from above inside to below outside; on the hindwing 6 and 7 comes from the upper cell-angle.

C. bistrigata *Btlr.* (112 a). Pale straw-coloured, in the ♂ more intensely, in the ♀ less strewn with olive *bistrigata*. brown, from the apex to the base of the inner margin a blackish longitudinal line above bordered with yellowish-white, slightly flawed at the lower cell-angle, and a double straight subterminal line filled with white. Hindwing of ♀ similarly coloured, of ♂ more reddish ochreous with a black central dot and a blackish postmedian line flawed above 6. Chile.

10. Genus: **Prohylesia** *n. g.*

Connects *Ancistrota* with *Hylesia*; in general of a structure similar to that of *Ancistrota*, the last palpal joint not drooping, but very feebly turned obliquely upward, longer than in *Hylesia*, antennae shorter than in *Hylesia*. in the ♂ bipectinate, in the ♀ very short and thin filiform or set with short bristly hairs. Prothorax with a flatly compressed, comb-like erected tuft; abdomen shorter than hindwing, without the long hair of *Hylesia*. Veins of forewing exactly as in *Ancistrota*, hindwing with an almost hook-like projecting costal-marginal angle, especially developed in the ♀ (similarly as in *Automeris flexuosa-mendosa*). Veins likewise as in *Ancistrota*, but 6 and 7 not stalked, but together with 5 all three arise at equal distances, only in *friburgensis*-♀ 6 and 7 arise from the same place of the upper cell-angle.

Type: *P. friburgensis* *Schs.*

P. zikani *sp. n.* (112 b) ♂ on the very light brownish ground shaded and strewn with a darker brown, *zikani*. with 2 fine dark transverse lines on the averted sides bordered with whitish, the anterior one vertical on the inner margin, the posterior one begins 5—6 mm before the apex and extends convergently to the former to the inner margin, where it is 2—4 mm distant from it; at the cell-end there is a large reniform light macula before which the cell is darkened brown; behind the postmedian line darker spotlike dusting; the subterminal line is irregular, with spotlike notches, blackish-brown. Hindwing dusted with red-brown, with 2 curved blackish-brown postmedian transverse lines, between and behind which the ground of the wing is lighter, the posterior line from the darkened apex; at the cell-end a light spot. The ♀ is uniformly suffused with chocolate-brown, with a pinkish lilac tint, the markings as in the ♂. Type: ♂ from Sa. Catharina, ♀ from Passa Quatro (Minas), ZIKAN leg., both in the Coll. HOPP. Co-type 1 ♂ from Sa. Cruz in the Senckenberg Museum.

P. rosalia *sp. n.* (112 a) is somewhat similar, of a light pinkish-brown ground-colour, the two transverse *rosalia*. lines more distinctly dark brown, slightly undulate, not bordered with a lighter colour, of the discal spot only 2 black dots at the upper and lower ends are visible, of the subterminal line only 2 black dots above the anal angle; before the cellular dots and behind the postmedian lines at the costal and inner margins some olive brown shading. Hindwing red-brown as in *zikani*, only the interior postmedian line more distinct, the exterior one rather indistinct. Thorax light yellowish-grey, the edge of the prothoracal comb darker brown. 1 ♂ from Passa Quatro, Minas, Brazil. Type in the Coll. HOPP-Charlottenburg; a ♂ more intensely dusted olive brown, from Leopoldina, in the Berlin Museum.

P. friburgensis *Schs.* (112 b) was described as a *Micrattacus*. Head and thorax yellowish-grey, abdomen *friburgensis*. light reddish-brown. Forewing yellow reddish-grey, strewn with black hair-scales, costal-marginal area above the median vein and 4 dusted with light reddish-brown; transverse lines straight, whitish ochreous, distally shaded dark, the basal oblique line from the base of the costal margin, the antemedian line feebly excurved, the postmedian line slightly incurved, at the cross-vein a blackish-brown streak bordered with ochreous white; the light subterminal line extends sharply notched from 4 to the anal angle; costal margin grey. Hindwing light reddish-brown with a fine blackish-brown cross-vein shadow; behind the fine black distal line an irregular blackish-brown shadow; ends of fringes white. Forewing beneath yellow, at the costal margin red-brown. The ♀ is more intensely darkened olive grey, the transverse lines with a broader light border, the discal spot below widened in the shape of a hammer and filled here with deep black. Novo Friburgo, Rio de Janeiro.

11. Genus: **Hylesia** *Hbn.*

An uncommonly large and uniform genus, probably the most difficult item in the whole lepidopteral world, since it appears to have been impossible hitherto to separate the species by differences in the sexual armatures. Structurally it scarcely differs from *Automeris*. Chiefly small grey species, mostly thinly scaled, apex of forewing often more or less feebly falcate. On the hindwing 5, 6 and 7 arise more distantly separated than in *Automeris*, the abdomen shows longer and coarser hair. Mr. HOPP-Charlottenburg, who has minutely investigated into the *Hylesia*, writes to me about them: It is rather very difficult to decide which is a species and which a variety, since there are no morphological differences whatever; some of the larvae, however, vary

to a great extent. Most of the larvae live gregariously in large nests from which they wander at night to the feeding place in processions, returning in the morning by the same way. There are also, however, without doubt *Hylesia* that lead a solitary life.

In elaborating this genus I was most kindly aided by Dr. SCHAUSS-Washington, who was able to identify all the species before him. The National Museum of Washington contains the types of nearly all the species so that in this way they could be most reliably identified. Most of the new species were denominated by SCHAUSS.

Type: *canitia* Stoll.

Sect. 1. Hindwing at least of ♂ with an ocellus (*Micrattacus*).

nanus. **H. nanus** Wkr. (= dissimilis *H.-Schäff.*) (112 b). Forewing with a very falcately produced apex. Ground-colour of ♂ copper reddish-brown, at the apex darkened, with fine yellowish transverse lines which are finely bordered with dark on the inverted sides, the anterior line undulate, interrupted towards the base below the cell, the posterior line almost straight, from about 5 mm before the apex, the subterminal area behind it somewhat blackish; at the cell-end a greenish-grey oval macula finely encircled and centred with dark. Hindwing in the disc darkened, with a yolk-coloured small ocellus with a fine darker, sometimes also fine orange red ring and tiny centre; the marginal area behind the almost straight postmedian line redder than the forewing. Abdomen rusty reddish, thorax in the middle and at the end deep dark brown. The ♀ is monotonously brownish or blackish grey, the markings arranged as in the ♂, but slightly darker. Abdomen with ochreous hair. Colombia; Brazil; Bolivia.

scortina. **H. scortina** sp. n. (112 b) is of the same shape, though larger, the ground light tan-coloured brownish, at the apex dark violettish-grey, the transverse lines blackish-brown, fine, at the inner margin much nearer together than in *nanus*, the macula at the cell-end much larger, narrowly oval or feebly reniform, coloured like the ground, very rarely with a feeble greenish tint. Hindwing dark violettish-grey, in the marginal area with a rusty reddish hue, ocellus and lines as in *nanus*. Abdomen reddish ochreous. Brazil; Paraguay. Type in the Berlin Museum in Coll. STGR. Numerous ♂♂, but no ♀ that might have been identified except perhaps 1 ♀ which resembles *nanus*-♀ on the wings excepting the much longer discal macula, whilst the abdomen is like that of *corevia*.

corevia. **H. corevia** Schs. (112 c) has broader wings, a slightly falcate apex of the forewing, a most variable ground-colour, tan-coloured brownish, ochreous, red-brown or almost entirely violettish-grey, in the costal portion often greenish-yellow, marked very much like *nanus*, the anterior transverse line still more undulate, the discal macula of a very different size, mostly filled with yellowish-green or greyish-green. Hindwing as in *nanus*, but the ocellus more broadly surrounded with rusty red; mesothorax and metathorax varying between red-brown and black. Abdomen beneath red, with black bands. ♀ very large, purple blackish, discal macula and posterior transverse line broad, bordered and filled with black. Abdomen above black, laterally and beneath rusty yellow. A most variable species from Brazil.

metapyrrha. **H. metapyrrha** Wkr. (112 c) I should have considered to be the same species as *corevia*, judging from WALKER's description, but TAMS writes to me with reference to it: "Nobody can give any information about it, HAMPSON has not discovered the type, and neither myself nor Lord ROTHSCILD to whom I spoke about it can gather anything reliable from the description, I do not believe that it is the same as *corevia*." ♂ light rusty brown, thorax with a posteriorly widened black median stripe; abdomen beneath bright red, with black bands. Forewing along the costal margin indistinctly tinted greenish, the roundish discal spot brownish-white, bordered with black and centred black; behind $\frac{3}{4}$ of the length an oblique band, distally undulate, inside bordered with light, towards the apex obsolete, the apex itself blackened. Hindwing towards the inner margin purple blackish, at the distal margin reddish-yellow with a slightly undulate blackish band; discal spot almost round, yellow, indistinctly encircled with brown. Hindwing beneath purple violet, $\frac{1}{3}$ of the distal portion reddish-yellow with an oblique black band which borders on this colouring and separates it from the yellow, black-centred discal spot. Rio de Janeiro. This description exactly fits the figure of our ♂ from Passa Quatro, which, however, can by no means be specifically separated from *corevia*-♂, as all the transitions are present.

lineata. **H. lineata** Drc. (= *ondulatus* Conte) (112 c) is distinguished from the similar species by the hindwing projecting angularly on vein 3; forewing light brownish, basally, in the costal half of the median area, subterminally and in the upper half of the distal margin darkened blackish, with 2 light transverse lines, on the distal sides bordered with dark, often olive greenish, at the cell-end with a dark, white-centred ring; subterminal line in the upper half forming a bow which is concave towards the margin. Hindwing with a rather large carmine ocellus sometimes centred light and with a broad black ring, and 2 olive blackish lines behind it. The ♀ is reddish-grey, the markings slightly darker, broader than in the ♂, the ocellus on the hindwing marked by a feeble ring. Abdomen ochreous, above black. Mexico to Costa Rica.

subaurea. **H. subaurea** Schs. (= *coadjutor* Dyar) (112 c) is very similar, somewhat larger, more monotonously coloured, without the dark shading, the transverse lines bordered with a somewhat lighter, though not contrasting colour, more olive green. Hindwing less angular, ocellus not round, but elongate. Mexico (Orizaba).

H. funebris *Conte* I know only from the description and figure in CONTE, Essai etc., it seems to be very *funebris*. similar to *subaurea*, but much more distinctly and contrastingly marked and of a more blackish-grey ground-colour, with ochreous lines inwardly bordered with whitish, the subterminal line distinctly whitish. Hindwing more brownish. Abdomen ochreous, with black rings. Honduras.

H. omeva *Dyar* (112 e, d) is still larger and has much broader wings, the hindwing without any angle, *omeva*. variably coloured, mostly lighter with a somewhat pinkish tint, otherwise very similarly marked; the black ring of the ocellus thinner, especially on the side of the inner margin. The ♀ is brownish pink, thinly scaled, feebly marked, ocellus of hindwing marked by a feeble blackish ring filled with pink. Mexico (Zacualpan).

H. iola *Dyar* (112 d) is likewise very similar, lighter, brownish-pink, discernible by the ocellus on the *iola*. hindwing representing a small crimson ring. Abdomen above blacker than in the allied species. The ♀ is exactly like *omeva*-♀, but lighter, the ring of the hindwing is red, not blackish. Mexico.

Seet. II. Hindwing without an ocellus (*Hylesia*).

a) Hindwing of ♂ strongly angled below the centre.

H. melanostigma *H.-Schäff.* (112 d). A well characterized species, with a falcate apex of the forewing, *melano-*
light brown, with 3 darker transverse lines, the two first lines oblique, distinct, distantly separated, the *stigma*. subterminal line parallel to the margin, more obsolete; at the cell-end with a very conspicuous oblique black spot. Hindwing with 2 postmedian lines very near together, abdomen rusty yellow, metathorax dark brown. The ♀ the same, but the apex of the forewing not falcate. Guiana. — **propex** *f. n.* (112 d), from Western *propex*. Colombia, is much darker lilac brown, the discal spot much shorter and narrower, encircled with light, the transverse lines towards the margin bordered with a lighter brownish pink, the subterminal line inside broadly shaded; hindwing at the inner margin black-haired. Abdomen blackish-brown, with yellowish ochreous and whitish hair. Type in the Coll. NIEPELT.

H. gyrex *Dyar* (112 d), as *melanostigma*, but with a very feeble discal streak, the two median transverse *gyrex*. lines nearer together, therefore the subterminal area much broader. On the hindwing only a curved nebulous postmedian line is visible and a very feeble subterminal shadow between this line and the margin. Guiana, Colombia.

H. vespe *Dogn.* (112 e) is likewise similar to the two preceding species, but the transverse lines are *vespe*. less oblique, the antemedian line vertical on the inner margin, the postmedian line here 3 mm farther outside, extending to the costal margin parallel to the distal margin; marginal and basal areas somewhat lighter lilac brownish, discal spot black. The ♀ is similarly coloured and marked, but it has no falcate apex of the forewing, a lilac whitish brightening at the apex. Upper Amazons (S. Paulo de Olivença). Ecuador (Maeas).

H. aeneides *Drc.* (112 e) differs considerably from all the species known in the more slender structure, *aeneides*. the very broad shape of the wings, and a somewhat undulate margin. Forewing brown, in the median area and subapically darker, subterminally and in the inner-marginal half of the median area intensely strewn with bluish-white; transverse lines similar as in *corevia*, discal macula as in *nanus*. Hindwing pinkish-brown, with 2 inwardly faded blackish transverse lines, the distal line between the veins 2 and 4 with 2 rounded projections towards the tail, and a dark central dot. Abdomen ochreous red. The ♀ is more monotonously greyish-brown, thinly scaled, apex of forewing as in *praeda*-♀ extended into a fine point. Panama; Amazons, Colombia.

b) Hindwing not angular.

H. praeda *Dogn.* Forewing brownish or brownish-grey, in some places tinted with lilac, with a large *praeda*. discal spot and broad, very oblique blackish-brown transverse lines, the posterior line flatly undulate, with a finer parallel line behind it, bending round shortly before the costal margin in an acute angle towards the base, here as far as the apex a narrow dark brown trapezoid spot above it; subterminal line shaded, below the centre projecting towards the margin. Hindwing lighter, greyer, with 2 nebulous postmedian lines and a feeble discal spot. Abdomen black with cinnamon-reddish anal hair. The much larger ♀ is more blackish violet. Ecuador; Colombia; Guiana; Amazons.

H. rufex *sp. n.* (112 e) is a very peculiar insect, its scheme of markings somewhat similar to that of *rufex*. *praeda*. Forewing in the basal two thirds light violettish-brown, behind the postmedian line rusty yellowish-brown; basal area darker; antemedian line blackish-brown, in the cell and submedianly projecting; at the cell-end a large olive yellowish macula finely surrounded by dark and parted by a dark cross-bar; postmedian line similar as in *praeda*, but beginning from the acute-angular bend it extends in a large flat, distally concave bow to $\frac{2}{3}$ of the inner margin, double, the interior stronger line bluish-black, the exterior one brown, more shaded; subterminal line shadow-like as in *praeda*. Hindwing ochreous, in the basal $\frac{4}{5}$ dusted with cinnamon-brown. Thorax violettish-brown, abdomen ochreous. Beneath with 2 straight postmedian transverse lines, forewing before it red-brown, behind it ochreous, hindwing rusty red, before the line dusted light lilac. The ♀ is more dark brown, in the basal $\frac{2}{3}$ of the hindwing dusted with lilac. Brazil (Minas Geraes; Sa. Catharina). Types in the Berlin Museum.

H. index *Dyar* (112 f). Forewing sooty yellowish-brown, densely dusted with light lilac, with broad *index*. shadow-like olive brown transverse lines similar as in *praeda*, but less oblique, vanishing towards the costal

margin, between them with a large discal shadow-like spot; subterminal line as in *praeda*. Hindwing greyer with 2 darker postmedian nebulous lines and discal spot. Abdomen ochreous brown. Peru, Amazons (before me from Itaituba e Coll. STGR.).

annulata. **H. annulata** Schs. Thorax and abdomen above black, beneath golden ochreous. Forewing brownish-grey with blackish-brown transverse lines, the interior one inwards, particularly at the costal margin, bordered with light reddish-brown, interrupted below the cell, in the cell outside with a light brown spot, behind it with a large blackish-brown discal ring filled with light brown; exterior transverse line fine, dark brown, apex blackened, subterminal line an irregular brownish shadow, the margin behind it darker and strewn with olive brown. Hindwing olive grey, cell and inner margin blackish-brown, with a dark postmedian line, subterminal shadow and discal ring. Expanse of wings: 56 mm. Costa Rica.

ochrifex. **H. ochrifex** Dyar is allied to *annulata*, smaller, at once discernible by the ochreous abdomen with its brownish bands. Apex of forewing hardly falcate as in *annulata*; discal ring smaller, finer and less shaded, the dark area at the base less black, more intensely light-spotted, the distal line less curved. Expanse of wings: 44—48 mm. Carabaya (Peru).

rufipes. **H. rufipes** Schs. Thorax blackish-brown, with lilae hair, abdomen above black, laterally, beneath and at the end red, with rosy-red feet. Wings lilae pink, with fine olive brown veins and similar transverse lines, the interior one almost straight, inwardly shaded with blackish brown, the posterior line a dark shadow with a line which is distantly separated from the posterior line, but confluent with it on vein 4; at the cross-vein a dark brown more or less ring-shaped shadow; subterminal shadow of the usual shape with distal projections between 2 and 4. Hindwing at the inner margin brownish with a feeble discal spot, a dark postmedian line and subterminal shadow. Expanse of wings: 41 mm. Costa Rica.

scalex. **H. scalex** n. sp. (112 f). Allied to *ochrifex*, lilae brown, basally and in the median area darker purple brown with lighter spots, the base of the inner margin as well as the basal area of the hindwing with ochreous hair; antemedian line almost covered by the dark basal area, the discal ring, too; posterior transverse line feebly curved S-like, double, the interior portion distinctly dark brown, the exterior part somewhat lighter, distally faded, between these parts fine dark veins, looking like the rungs of a ladder; marginal area very light, subterminal line sharply and pointedly notched on 5, 6 and 7. Hindwing as in *index*, the interior postmedian line more angular. Abdomen ochreous, with brown bands. The ♀ is monotonously grey with a slight lilae tint. ♂ type from the Rio Songo (Berlin Museum), ♂ co-type from Villavieencio (Colombia). Coll. HOPP-Charlottenburg, ♀ type from Pto. Alegre, Rio Paehitea, in the Berlin Museum.

gigantex. **H. gigantex** sp. n. (114 f). Very large, apex of the wing produced, distal margin oblique. Sooty brownish, antemedian line rather indistinct, of the same shape as in *scalex*, far produced in the cell, nearing the discal spot and almost parallel to it, receding on the median vein as far as the origin of 2, and once more obtusely distally angled on the submedian fold; discal spot large, hazy black; the dark, distally light-edged postmedian line parallel to the margin, forming fine distal toothlets on the veins; subterminal band defined by the lighter marginal area, forming pointed dents on 6 and 7, and above it terminating with the most pointed and darkest dent into the apex, projecting rounded between 2 and 4. Hindwing with a very feeble discal streak, postmedian and subterminal lines, the latter line very near to the margin. Abdomen with rusty brown hair. Type 1 ♀ from Bella Vista (W. Colombia) in the Coll. W. NIEPELT.

polyploca. **H. polyploca** sp. n. (112 f) has narrower wings than *gigantex*; light grey, finely dusted with white, at the costal margin broad white, with brownish-grey transverse lines and a distinct discal ring; anterior transverse line below the costal margin at first inwardly angled, on the subcostal vein pointedly outwardly angled, below the cell inwardly broken off, then obliquely outward to the centre of the inner margin, inwardly bordered with a lighter colour, the exterior line somewhat distally produced on the veins, with a feeble darker shadowy line before it, which bends down subcostally as a broad distinct nebulous stripe and extends vertically to the costal margin, behind it with the darker subterminal shadow of the usual shape; the darkened apex is parted by a white oblique patch. Hindwing very light pinkish-grey, at the margin brownish-grey, sharply defined by the subterminal shadow, before it with a very feeble postmedian shadow. Thorax grey intermixed with long white hairs, base of abdomen, abdomen above black, laterally narrowly rusty yellow, ventrum light greyish-brown. Type: 1 ♂ from Brazil, exact habitat not mentioned, in the Berlin Museum; 1 ♂ co-type with broader wings, more shaded, from Passa Quatro (Southern Brazil) in the Coll. HOPP-Charlottenburg.

e) *acuta*-group with a falcate apex of the forewing and a dark brown oblique basal band at the inner margin.

acuta. **H. acuta** Drc. (112 f) is monotonously lighter or darker pinkish-brown, with hardly any markings excepting the smoky blackish apex, traces of the postmedian shadow and the oblique basal band which is deep brownish-black like the thorax. Abdomen golden ochreous. The larger ♀ is paler, with a broad brownish postmedian nebulous band and discal spot, feebly marked also on the hindwing. Mexico.

hamata. **H. hamata** Schs. (112 g) is extremely similar to *acuta*, darker purple brown with faint traces of a postmedian line before the nebulous stripe and a very indistinct small discal spot. Abdomen less bright ochreous, more sooty brownish, anus reddish ochreous. Guatemala; Costa Rica.

H. petena Schs. (112 g) resembles *hamata*, thorax almost black, abdomen dark brown, only the anus *petena*. rusty red; forewing dark brown with a slight carmine tint, the double postmedian line shadow-like as in *hamata*. Hindwing in the inner-marginal portion pinkish-brown, at the base with ochreous hair. Abdomen of ♀ olive-brown with yellow hair, wings as in *acuta*-♀ more distinctly marked. From a great number of cocoons in a large common web the imagines crept out during a period of 2 years. Guatemala.

H. tapareba Ky. i. l. ? (112 g) is dark brownish-grey, the postmedian line quite obsolete, at the cell-end *tapareba*. with an oval brownish-grey ring filled with yellowish and with a dark centre; both the transverse lines are sometimes feebly bordered with yellowish-white. Abdomen sooty ochreous brown. Guiana, Amazons. The species, which is in the British Museum, seems to have been never described.

H. tapabex Dyar (112 g) is on the forewing, particularly basad, lighter than *tapareba*. with traces of 3 *tapabex*. indistinct slightly darker transverse shadows, the discal spot as in *tapareba*. Abdomen of a brighter ochre colour, ventrum rusty yellow, with a brownish-grey lateral stripe. The ♀ is purple brown, forewing with an angular apex, at the base darker, with a large discal spot and a broad straight distal band. Venezuela, Colombia.

H. dyarex Schs. Head and abdomen ochreous, thorax brown. Forewing loamy brownish as far as the *dyarex*. antemedian line which meets the postmedian line at the inner margin, the area behind it below vein 4 somewhat darker brown, above purple grey; at the cell-end a dark streak broadly edged with loamy whitish. Hindwing whitish-grey, basad and at the inner margin with dull yellowish scales, with a fine dark discal streak. Expanse of wings: 45 mm. Quirigua (Guatemala).

H. rosacea Schs. Head and thorax yellowish olive brown, abdomen dark brown, with ochreous hair. *rosacea*. Forewing pink with the usual dark olive brown basal oblique band, the veins in the marginal area finely brown, at the cell-end with a large olive brown oblique spot; posterior transverse line fine dark, at the margin a brownish shadow ending pointed at the margin on vein 3 and touching the postmedian line below 7. Hindwing pink, at the inner margin darker with a fine postmedian line and a feeble subterminal shadow. Expanse of wings: 46 mm. Costa Rica.

H. thaumex n. sp. (112 g) is very similar to *rosacea*, but more lilac pink, anterior body and the basal *thaumex*. oblique band deep dark brown like the narrow oblique discal spot, the almost straight postmedian line very distinct, with a feeble antemedian line vertical to the inner margin; behind the postmedian line the whole marginal area is dark brownish-grey, at the apex parted by a whitish conspicuous spot, only at the anal angle before and behind the subterminal band, which is only here visible, lighter like the ground-colour. Hindwing somewhat greyer than the forewing, at the inner margin with pink hair, and with 2 feeble darker postmedian shadowy lines. Abdomen ochreous, with blackish-brown bands. Western Colombia (Type in Coll. NIEBELT). *teratex*. — **teratex** f. n. (112 h) may be a form of it, somewhat smaller and instead of the lilac pink colouring ash-grey, the conspicuous greyish brown discal spot larger; the thorax is blacker, the ochreous abdomen with hardly darker bands. Surinam; 4 ♂♂ presented by SCHAUS to the Berlin Museum, where the type is too.

H. subfasciata Dogn. likewise belongs yet near *hamata*. Body brown, base of abdomen with some *subfasciata*. ochreous hairs. Forewing earthy ochreous grey, basad and in the inner-marginal half somewhat lighter, the basal oblique band brown; the fine antemedian line is hardly visible, interrupted below the cell, the postmedian line darker, parallel to the margin, behind it a feeble subterminal shadow, at the cell-end a dark streak, the apex somewhat darkened. Hindwings likewise darker, with 2 postmedian transverse lines. Beneath the two postmedian lines are inclined to form a darkened band, whereby the species is easily separated from *hamata*, beside the different colouring. Expanse of wings: 48 mm. Southern Peru (Chaquimayo).

H. lilacina Dogn. described according to but 1 female has light lilac wings, the forewing and hindwing *lilacina*. only with an obsolete hardly visible discal spot, the forewing without any transverse lines, the hindwing with 2 parallel, rounded, feeble postmedian lines. Centre of thorax ochreous brown, patagia lilac, abdomen brown. French Guiana.

H. tiphys Dogn. Anterior body blackish-brown with single ochreous hairs, abdomen bright ochreous, *tiphys*. ventrum brown. Forewing violet-blackish with darker veins, with the usual blackish-brown basal oblique band and on the cross-vein an intense blackish-brown indistinctly defined strigiform spot; behind the middle two very feeble shadowy lines parallel to the distal margin; marginal area in the lower half and at the apex lighter. Hindwing without distinct transverse lines, but the space between the two lines somewhat lighter. Sao Paulo (Brazil).

H. gracilex Dogn. (112 h) is a smaller species allied to the preceding ones, the apex of the forewing *gracilex*. somewhat less falcate. Thorax brown, abdomen ochreous. Forewing pinkish or lilac grey, marked brownish; the forewing with the usual brown basal oblique band, a discal shadow and a feeble postmedian line behind it, the feeble subterminal shadow vanishes in the darkened apex which shows a small lighter spot. Hindwing with 2 feeble postmedian transverse lines. Amazons (Sao Paulo de Olivença).

H. mymex Dyar (112 h). Thorax black, abdomen ochreous brown, with blackish-brown rings. *mymex*. Forewing hardly falciform, purple brownish or more lilac pink, at the apex darkened; the anterior transverse

line is most distinct in the cell, whereby a cellular streak is produced parallel to the discal streak, basally removed below the cell; postmedian line very intense, almost straight, the subterminal band extinct. Hindwing with 2 shadowy bands in the middle and before the margin. Colombia.

violax. **H. violax** *sp. n.* (112 h). Forewing lilac with brown markings, basal area shaded, the antemedian line broad, basally removed below the median vein, submedianly flawed, much more oblique to the inner margin, inwardly bordered by light. Discal spot shaded, touching the slightly bent postmedian line which is triangularly widened at the costal margin, outside in its entire length slightly bordered with rusty yellowish; subterminal shadow feeble. Hindwing with a small discal spot and 2 feeble shadowy lines. Thorax blackish-brown, base of abdomen rusty red like the base of the hindwing, abdomen above blackish, beneath and at the end reddish-yellow. Type: 1 ♂ from Passa Quatro (Sul de Minas), Southern Brazil; in the Coll. HOPP, Charlottenburg.

d) In the following group the dark brown basal band is absent.

bolivex. **H. bolivex** *Dogn.* (112 h). Thorax brown, base of abdomen with a rosy or brown tint, abdomen above black, beneath and at the end bright golden ochreous. Forewing pinkish-brown, with broad brown transverse lines which are nearer together, a brownish base, a broad subterminal shadow and discal spot, the margin between 7 and 4 brownish. Hindwing somewhat lighter and more pink, with 2 postmedian shadowy bands parallel to the margin. The much larger ♀ is more lilac grey, the abdomen ochreous grey. Peru and Bolivia.

ernestonis. **H. ernestonis** *Strd.* (114 f). Of this doubtful species which was described according to but one ♀ I only know the figure of the type, according to which the species seems to be allied to *bolivex*. Brownish-grey, basally and at the inner margin darkened, the discal spot like a horizontal T, the foot distally prolonged to the almost straight postmedian line; the subterminal line is a distinct straight notched line, narrowly darkened at the margin. Hindwing with 2 postmedian arcuate lines, the postmedian line widened, the subterminal line narrower.

minasia. **H. minasia** *Schs.* (112 h). Thorax purple brown, with cinnamon-red hair, abdomen above black, beneath and at the anus rusty brown. Forewing lilac, basal area darkened brownish, the brownish transverse lines more or less distinctly double, the subterminal shadow violet-grey, discal spot brownish. Hindwing of a purer pink, at the margin somewhat greyer with feeble postmedian and submarginal lines. Brazil, Paraguay.

macellex. **H. macellex** *n. sp.* (112 h) is very similar to *minasia*, larger, with broader wings; pinkish-grey, shaded with dark purple brown as far as the postmedian line, at the costal margin densely dusted with bluish-white, the anterior transverse line somewhat darker, rather straight, close at the small oval, somewhat lighter centred discal spot; postmedian line broad, shadow-like, towards the margin eoneave, between it and the broad subterminal band a lighter band crossed by the slightly darker veins, at the apex a small light spot; base of inner margin with ochreous hair. Hindwing pinkish ochreous, the inner line near the centre, feeble, the exterior line near the bluish-grey margin, broader. Abdomen black, base, ventrum and end reddish yellow. Type: 1 ♂ from Sao Paulo in the Berlin Museum; another ♂ from S. Bernardino, Paraguay, in the same museum.

wagneri. **H. wagneri** *Bouv.* is unknown to me, ranged here by the author. Distal margin slightly concave, thorax in front reddish ochreous, the rest brownish-violet with ochreous hair, the centre of the abdomen blackish, the other parts pinkish ochreous. Forewing light lilac-pink at the costal margin and base, the rest lilac greyish-yellow; anterior transverse line indistinct, behind it a small brownish-violet cross-vein spot; postmedian line double, the interior portion broad, ochreous, the exterior portion less clear, violettish ochreous, behind it a sinuate lilac subterminal band. Hindwing very light pinkish-white, with a darker distal band. In the ♀ the forewing is claret-coloured brick-reddish, the hindwing lighter. Larva brown with light yellow bands and tufts of large ramulous hairs: it lives on a Melastomaceae: Tibouchina holosericea, and pupates in a reddish-white cocoon. Organ Mts.

sorana. **H. sorana** *Schs.* (113 a). Forewing light brownish-pink, thorax and markings dark brown; anterior transverse line below the cell removed far towards the base, submedianly once more angled, cellular spot large, indistinct; posterior transverse line very strong, almost quite straight, right behind it the slightly darker subterminal shadow begins, receding above the middle in a basally concave bow and forming below it 2 sinuous projections towards the margins, the margin darkened into the concavity of the subterminal line. Hindwing greyer, blackened at the inner margin with 2 postmedian shadowy lines, the interior one being more distinct. Abdomen above black, beneath and at the end ochreous. Brazil (Sao Paulo).

lilax. **H. lilax** *Dogn.* (113 a). Forewing pinkish-brown like the thorax, patagia violettish-grey, transverse lines and discal spot dark red-brown, the former broad, on the averted sides bordered with lighter lilac; subterminal shadow feeble, distally light, dentate. Hindwing more pink with 2 redbrown postmedian shadowy lines. Abdomen above black, at the base carmine-brown, laterally and beneath ochreous. The ♀ is much darker purple lilac. Brazil (Amazons. Sao Paulo).

margarita. **H. margarita** *Dogn.* (113 a) is very similar, lighter and softer pinkish lilac, the markings very slightly darker and hazy, thorax rusty brown, abdomen above deep black. Hindwing lighter pink, at the margin somewhat darker. Guiana, Venezuela.

H. novex *Dogn.*, founded upon but one fresh ♀ and a worn ♀, is above greyish-brown with a lilac tint *novex*. and lighter transverse lines, the anterior line oblique, at the costal margin 14 mm, at the inner margin 8 mm distant from the base, the posterior line parallel to the margin, the median area between them somewhat darker, only around the discal spot lighter; at the apex and in the lower marginal half brighter. Hindwing more brownish with a dark discal spot and traces of two light transverse lines. Expanse of wings: 74 mm. Amazons and Peru.

H. olivenca *Schs.* (113 a). Blackish ashy grey, in the median area darker, enclosing traces of a darker *olivenca*. discal spot; transverse lines broad, very light and almost straight; subterminally, as in *novex*, in the lower half lighter and at the apex a whitish spot. Hindwing much more monotonous, the light lines very indistinct. Abdomen greyish ochreous intermixed with long whitish hairs. The larger ♀ is more scantily scaled, lighter, the postmedian line very broad. Amazons, Colombia, Ecuador, Peru. Very similar to *novex*, larger, the discal spot is confluent with the somewhat darker interior border of the postmedian line, whilst in *novex* it is distantly separated.

H. natex *sp. n.* (113 a) is quite a different insect, very conspicuous by the almost unmarked creamy- *natex*. white colour of the ♂, with the same feeble brownish marking as in *olivenca*; shape of wings somewhat broader, the apex more rounded, slightly smoke-coloured, without the light apical spot. Hindwing without markings, almost purely white. Another ♂ is all white, without any traces of markings. The ♀ is more scantily scaled and more grey, the body feebly yellowish. Described according to 2 ♂♂ and 1 ♀ from the Rio Pachitea, Porto Alegre (Rio Grande do Sul). Types in the Berlin Museum.

H. terrosex *Dogn.* Thorax dark brown, abdomen intermixed with lighter hairs. Wings light earth- *terrosex*. brown, with extinct darker brown markings; forewing in the basal third darker, subcostally as far as the centre of the cell strewn with white; at the cell-end a large faded shadowy spot; the anterior transverse line marked by white strewing, the posterior line is a broad faded band, inwardly strewn with white, distally passing over directly into the subterminal shadow; apex somewhat darker. Hindwing with a discal shadow and feeble traces of two postmedian lines. Expanse of wings: 55 mm. Ecuador.

H. pluto *Dogn.* is very similar to *terrosex*, but larger and beneath on the hindwing with but one *pluto*. transverse line. Expanse of wings: 62—66 mm. Bolivia (Rio Songo).

H. palcazua *Schs.* (113 b). Thorax brown, abdomen somewhat lighter, intermixed with yellowish hairs. *palcazua*. Forewing of ♂ cinnamon-brownish with a small dark discal spot and a broad postmedian shadow in a slight S-curve, touching a costal-marginal shadow on vein 6; marginal area lighter grey with a fine dark subterminal line and a darker marginal shadow between 8 and 3. Hindwing with a dark discal spot and traces of two darker lines behind it. The larger ♀ is more monotonous. Eastern Peru; Rio Grande do Sul.

H. nigradorsata *Dogn.* (= *murmur* *Dyar*) (113 b). Body deep black, intermixed with white hairs, anal *nigradorsata*. end light ochreous. Forewing light lilac grey with broad brownish-grey transverse lines, the interior line interrupted below the cell, the exterior one feebly bent, touching the intense discal spot; subterminal shadow in the upper half extending obliquely inward, below it with the two usual projections between 2 and 4; marginal area very light, only darkened in the upper half. Hindwing somewhat darker with two parallel postmedian transverse bands. Peru, Bolivia.

H. roseata *Dogn.* (113 b) is somewhat similar to the foregoing species, but the forewing is longer, the *roseata*. apex more produced, the black colour of the body is intermixed with pinkish claret-coloured hairs, the colour of the wings is lilac pink, with the same markings, but on the hindwing the two transverse lines are equally strong and equidistant from each other and from the margin, in *nigradorsata* the postmedian line is stronger and the subterminal line is nearer to the margin. The species is also somewhat larger, the ♀ grey, scantily scaled. Colombia; Pacho; Monte Tolima.

H. bouvereti *Dogn.* (113 b) is monotonously greyish-brown, the body somewhat darker, the anal hair *bouvereti*. intermixed with a few yellowish hairs. Forewing with two broad whitish transverse bands without a distinct discal spot, only the cross-vein being more prominently dark. Hindwing with a broad faded light median band. Ecuador and Colombia.

H. mixtipler *Dogn.* (= *multiplex* *Dogn.*) (113 c). Anterior body sooty black, abdomen somewhat *mixtipler*. browner with ochreous anal hair. Wings sooty blackish with darker transverse lines and fine white hairs which in some places form dense lines; at the cell-end a large faded spot touching the postmedian line which runs slightly concave to the inner margin and is distally strewn with whitish; at the apex, subterminally in the centre and terminally at the anal angle whitish spots. Hindwing scarcely lighter with traces of two dark postmedian lines. Peru (Yahuarmayo).

H. frigida *Schs.* (113 c). Anterior body blackish-brown, abdomen above black, with lateral and anal *frigida*. ochreous hair. Forewing purple blackish with darker brown veins, an indistinctly darker basal shadow and a blackish median area which may be defined by darker lines which, however, may also be absent; the interior border is almost straight, the exterior border obliquely inward, somewhat excurved below the costal margin;

at the cell-end a dark strigiform spot; the dark subterminal shadow is indistinct and irregular. On the hindwing only the darker veins and a very feeble subterminal shadow are noticeable. The black ♀ shows hardly any marking. Guatemala; Costa Rica.

vittex. **H. vittex** *sp. n.* (113 c) is very similar to *frigida*, smaller, lighter yellowish-grey, the median area more distinctly prominent, brownish-grey, the interior border not straight but submedian, not on the median vein, inwardly projecting in a right angle, in the cell fused with the discal streak. Hindwing with a broad, straight dark median band. Body blackish, but very thickly covered with rusty yellow hairs, so that only the abdomen above shows through dark. Guatemala. According to 2 ♂♂; type in the Coll. HOPP-Charlottenburg.

pauper. **H. pauper** Dyar (113 c) has somewhat narrower wings than the preceding species, with a somewhat more produced and slightly falcate apex of the forewing; light drab, transverse lines very feebly whitish; a very conspicuous white spot in the cell before the slightly darker discal spot, and a whitish apical spot. Abdomen somewhat ochreous. Colombia; Peru.

medifex. **H. medifex** Dogn. resembles *frigida*, but it is somewhat smaller, lighter drab, and distinguished by a very narrow lighter median band which is only 2 mm broad at the inner margin, 5 mm at the costal margin and contains a still darker discal spot; apical area down to vein 4 somewhat darkened. Hindwing in the marginal third somewhat lighter with a feeble indistinct discal streak and a subterminal band which is only visible in a certain exposure to light. Described according to a ♂ from Pacho (Colombia).

terranea. **H. terranea** Schs., described only according to a ♀, is monotonously dark brown, scantily scaled, no markings except faint traces of a discal spot. Abdomen laterally with ochreous hair. Expanse of wings: 53 mm. Petropolis (Brazil).

leilex. **H. leilex** Dyar is drab, shaded somewhat blackish, with fine darker veins, with a large round dark discal spot and small irregular shadowy spots instead of the subterminal line, the other transverse lines being absent. Expanse of wings: 40 mm. Peru.

ascodex. **H. ascodex** Dyar is similar to *leilex* but of a softer drab colour, without the blackish shading, on the forewing only with a large feeble discal spot and traces of the undulate-dentate distal border of the subterminal line. Hindwing with two feeble darker distal bands. Abdomen with ochreous hair. Expanse of wings: 40 mm. Peru.

metabus. **H. metabus** Cr. is said by SCHAUS to belong to this place; the insect is unknown to me, CRAMER's figure representing a brown ♀ without any markings is difficult to determine. Surinam.

athlia. **H. athlia** Dyar (113 c) has broader wings than the preceding species, the apex of the forewing is more rounded, the abdomen with brownish ochreous hair. Wings drab with a slight brownish tint and a broadly darkened discal spot; transverse lines broad, light, convergent to the inner margin, but the interior one more or less extinct, the marginal area behind the subterminal line somewhat lighter with a prominent whitish apical spot. Hindwing with a feeble dark cellular spot and only a light distal line which is slightly darker on both sides. Peru; Bolivia.

individiosa. **H. individiosa** Dyar is very similar to *athlia*, somewhat smaller, the apex of the forewing not rounded, the markings less distinct, the transverse line of the hindwing straighter and nearer to the cell. Expanse of wings: 32—34 mm. Panama.

valvex. **H. valvex** Dyar (113 c, d) is a larger species, with a blackish-brown front body, the abdomen with ochreous hair. Wings lilac grey with a sooty brown tint, basal area broadly darkened, the broad faded postmedian band directly passes over into the subterminal band the discal border of which is almost straight; in the lighter median area a faded discal spot. Hindwing with a discal spot and 2 distantly separated postmedian shadowy lines. The ♀ is still more indistinctly marked. Guiana, Amazons.

umbratula. **H. umbratula** Dyar (113 d). Head and thorax ochreous brown, abdomen lighter ochreous. Forewing reddish lilac brown, transverse lines brown, both broad and uniform, the subterminal line undulate, irregular, narrow and extinct. On the hindwing the interior line is distinct, the exterior one faded, with a discal spot of medium intensity. Allied with *valvex* and *umbrata* Schs., but lighter and of a pink ground-colour instead of grey. Teapa (Tabasco, Mexico), Guatemala.

latex. **H. latex** *sp. n.* (113 d) may belong to this place. One female from Venezuela (Valencia) shows a marking similar to *approximans*-♀, but the wings are much broader, the apex is quite round, the costal margin of the hindwing much longer, the inner margin shorter than in *approximans*-♀. Ground-colour brownish-grey, with fine dark veins, basal area darkened, discal spot longer, but narrower than in *approximans*, the postmedian and subterminal bands forming a coherent broad dark area, below the costal margin turning rounded towards the base with its interior half, whilst the exterior half extends straight on towards the apex, so that a lighter triangular spot is enclosed. Discal spot of hindwing small, shortly behind it the whole subterminal and marginal area is darkened. Type in the Berlin Museum. A similar ♀ without denomination in the U.S. Museum of Washington. Another ♀ from Muzo, Colombia, in the Coll. HOPP-Charlottenburg.

H. approximans *Wkr.* (= *pollex* *Dyar*) (113 d). Head and thorax brownish-grey, abdomen intermixed with ochreous hairs. Forewing lilac brownish-grey, basal area darkened, without a distinctly prominent antemedian line, with a large extinct discal spot; the broad faded postmedian band slightly separated from the subterminal band by a faded lighter interspace. On the hindwing with a small discal spot both the lines are united into an indistinct broad band. Panama, Venezuela. *approximans.*

H. darlingi *Dyar* (113 d) is very similar to the preceding species, the collar of a brighter ochre colour, the markings less bright and contrasting, the costal-marginal portion lighter than in *approximans*, the discal spot more shaded, the abdomen somewhat more brownish. Larva with a cerise head, whitish with black angular markings and spots, whitish thorns with light branches; it lives on the Cachu tree (*Anacardiaceae*). Panama. — **H. tendex** *f. n.* (113 e) is presumably a southern form with narrower more elongate wings with a more produced apex, ground-colour more lilac, more contrastingly marked, the discal spot thicker, rounder, with broader transverse lines, but the subterminal shadow much narrower and paler, the apical marginal shadow broader, the small white spot in it much smaller. Hindwing more triangular with a longer anal angle and a straight margin, distinct discal spot, the two transverse lines much more separated, the interior line almost straight, close at the discal spot, the exterior line broader, close at the margin. Abdomen lighter yellow. Type: 1 ♂ from the Rio Pachitea, Porto Alegre (Rio Grande do Sul). — A very similar form with still narrower forewings, a more oblique distal margin and a narrower postmedian line, from Surinam, shows the transverse lines of the hindwing much closer together: — **H. guayanensis** *f. n.* (113 e). *darlingi.* *tendex.* *guayanensis.*

H. lilacinex *sp. n.* (113 e) is intermediary between *darlingi* and *umbrata*, larger than the latter, with a more pointed apex of the forewing, the forewing quite light lilac grey, basal area darkened as in *darlingi*, the lower end of the large discal spot touches the postmedian band which is somewhat narrower than in *umbrata* and likewise bifurcates Y-like between 6 and 7. Subterminal band light as in *tendex*, but somewhat broader, the light apical streak narrow and distinctly contrasting. Hindwing darker sooty blackish, the two transverse lines distantly separated, narrow, the interior line close at the cellular streak, behind the distal line the marginal area is narrowly lighter lilac. Abdomen yellowish ochre, collar with long yellowish hair. According to a ♂ from Balzapamba (Ecuador); type in the Coll. Hopp-Charlottenburg. *lilacinex.*

H. umbrata *Schs.* (113 c) is closely allied to the two preceding species and variable, but discernible by the very broad postmedian band which is distinctly separated from the subterminal band. Thorax lilac brown, strongly haired ochreous, abdomen ochreous. Forewing dull pinkish lilac brownish, basal area darkened, bordered by the antemedian line, discal spot large, distinct, more prominent than in the preceding species. Hindwing with fine dark veins, the two lines separated. Guatemala; Costa Rica; Colombia. *umbrata.*

H. murex *Dyar* (113 e, f) is a smaller species with somewhat falcate forewings, drab, thorax somewhat darker, abdomen with ochreous hair, the transverse lines almost quite obsolete, the exterior one somewhat better marked at the costal margin, with a small light spot behind it; subterminal line broadly shaded, nearing the margin between 2 and 4. Hindwing between the two lines and before the margin somewhat lighter. Surinam. *murex.*

H. nigripes *sp. n.* (113 f) is somewhat similar, smaller, more slender, apex more produced, the small hindwing rounded. Forewing purple blackish, marked darker smoky black; basal area darkened, the postmedian line confluent with the subterminal shadowy band which projects but little between 2 and 4; the dark discal streak in a dark shadowy spot. Hindwing without the discal spot, with 2 shadowy bands which are distantly separated, the interior line extends through the cross-vein. Abdomen golden ochreous brown, with blackish bands. Tibiae and tarsi black. Muzo (Colombia); type in the Coll. Hopp-Charlottenburg. *nigripes.*

H. cedomnibus *Dyar* to a certain degree resembles *pauper* and *athlia*; it is larger and the forewing is more quadrangular not falcate at the apex, light drab, with somewhat lighter obsolete transverse lines, the absent discal spot is indicated by a light cellular spot before it, at the apex another whitish spot. Hindwing quite indistinctly marked, the marginal area somewhat lighter with an irregular interior border. Carabaya (Peru). *cedomnibus.*

H. pachobex *Dogn.* is likewise very similar to *athlia*, forewing less rounded, margin more oblique and straighter, postmedian line correspondingly also more oblique and nearer to the discal spot. Ground-colour less blackish, but in the ♀ blacker; ♀ more marked, beside the two light transverse lines another median line. Pacho (Colombia). Expanse of wings: ♂ 44, ♀ 60 mm. *pachobex.*

H. schausi *Dyar* (113 f). Lilac grey, with a slight (in the ♀ somewhat more) rosy tint, abdomen with ochreous hair. Forewing with somewhat lighter transverse lines, the distal line near the discal spot and inwards band-like dark, narrowing down towards the inner margin; behind the indentation of the subterminal line in its upper half dark marginal filling with a small whitish apical spot. Hindwing with 2 feeble distal lines without a discal spot. Venezuela; Guiana; Peru. *schausi.*

H. canitia *Stoll* (113 f) is very similar to *schausi*, larger, with narrower wings, with an oblique distal margin, of a greyer colour, more intensely marked, the cell before the discal spot light, basal area dark, the distinct antemedian line bordered with light towards the base, subterminal line more distinct. On the forewing the lines are represented by two shadowy bands. The ♀ is much larger and greyer. Venezuela; French and Dutch Guinea. *canitia.*

- composita*. **H. composita** Dogn. (113 f). Blackish-grey with a slightly darker median area, the transverse lines bordering on it still more distinct, the interior line inwardly interrupted below the cell, both bordered with lilae whitish on the averted sides; at the cell-end another darker spot; subterminal band of the usual shape, towards the margin accompanied by a whitish brightening; the bands on the hindwing narrower than in *canitia*. Merida (Venezuela).
- egrex*. **H. egrex** *sp. n.* (113 g) in the scheme of markings recalls *composita*, but it is twice as large, with a more prolonged apex, shape more that of *indurata*, suffused with lilac pink, with a very large contrasting discal spot, basally at the inner margin below 2 darkened brown; between 4 and 7 the distal subterminal border forms a straight shadowy line towards the apex. Thorax blackish brown, in the centre light grey. Abdomen above black, basally with pinkish ochre hair, laterally, beneath and at the end bright rusty yellow. Type: 1 ♂ from the Chaco, La Paz (Bolivia) from an altitude of 3000 m in the Coll. STGR. (Berlin Museum).
- obsoleta*. **H. obsoleta** Stoll is hardly determinable from the figure; a ♀, light lilac pink with 3 oblique broad light bands, without the discal spot. Surinam. SCHAUS places the species here.
- oroyex*. **H. oroyex** Dogn. (113 g) is near *composita*, a little more brownish, abdomen of a brighter ochre, the markings less contrasting, the two transverse lines distantly separated, but on the hindwing nearer together.
- amazonica*. Merida (Venezuela); we figure a co-type from the Coll. DOGNIN. — **amazonica** *f. n.* (113 g) is probably the same species according to SCHAUS; larger, more lilac grey, with fine dark veins, discal spot much larger. Type from S. Paulo de Olivença (Upper Amazons) in the Berlin Museum.
- indurata*. **H. indurata** Dyar (113 g) is of a more slender structure, with a produced, slightly falcate apex of the forewing, lilac grey with a faint pink tint, abdomen brownish, laterally and at the end light ochreous as at the base of the hindwing; transverse lines rather near together, the anterior line in the cell close at the discal spot, the posterior line flatly concave, acute-angularly bent below the costal margin at which it begins with a large triangular shadowy spot; marginal area in its upper half darkened with a proximally convex bow. Lines of hindwing rather close together. French Guiana.
- mystica*. **H. mystica** Dyar is closely allied to *composita*, forewing at the apex rounded, shaded darker on the lilac grey ground, the light transverse lines feeble, between them an obsolete narrow shadowy spot; marginal area lighter, in the upper half with a rounded marginal shadow. Hindwing with a lighter band in the distal third, the lines bordering on it hardly or not visible. A small species with an expanse of 32 mm, the ♀ being 45 mm large is still darker shaded, the abdomen covered with ochreous hair. Guiana; Trinidad.
- andrei*. **H. andrei** Dogn. (= *grisoli* Bouv.) (113 g) is somewhat like *canitia*, smaller, brownish-grey, abdomen with ochreous hair; transverse lines whitish, at the costal margin somewhat expanded, the interior line in the cell close before the discal spot, receding far below the cell, at the inner margin only 1 or 2 mm distant from the posterior line, the light spotted distal border of the subterminal line at the anal angle and apex removed to the margin. Hindwing with 2 light distal lines. Apparently widely distributed; from Guiana, Venezuela, Amazons, and Peru.
- vindex*. **H. vindex** Dyar (113 f, g). Black, abdomen excepting base dark ochre; forewing with a very large black discal spot and whitish transverse lines being convergent towards the inner margin; the light submarginal shadow between 5 and 7 more or less interrupted. Hindwing with a round obsolete discal shadow and light
- solvex*. postmedian and marginal bands. A common species from Southern Brazil. — **solvex** Dyar may be only a smaller form in which the light postmedian line shows a darker interior border touching the discal spot. From Rio Grande do Sul.
- angulex*. **H. angulex** *sp. n.* (113 g) is allied to *vindex*, though not black but greyish-brown, the abdomen scantily intermixed with ochreous hairs; it is well characterized by the antemedian line being distally interrupted below the costa, proximally bordering on the discal spot in the cell, below it interrupted far basad, extending obliquely distad to the inner margin. Type, a ♀ from Pebas (Amazons), in the Berlin Museum; ♂ type from Minas Geraes in the Coll. HOPP-Charlottenburg.
- fulviventris*. **H. fulviventris** Berg (113 h). Front body lilac grey, abdomen black, beneath, laterally and at the end bright ochreous. Wings lilac grey, in the basal half shaded brownish, enclosing the brown antemedian line which is inside bordered with lilac grey, discal spot brownish, shadow-like; the posterior transverse line is distinctly dark brown, almost straight, on its outside the brown subterminal shadow is closely adjacent; marginal area lilac grey, in the upper half shaded with brown. Hindwing lighter with 2 feeble transverse lines. The ♀ is
- oralex*. more blackish, but more obsoletely marked. Southern Brazil, Argentina. — **oralex** Dyar is probably only a somewhat darker form, or the same as the typical form.
- remex*. **H. remex** Dyar (113 h). Thorax dark grey, abdomen mixed with dull ochreous hairs. Forewing lilac grey, basal area only feebly shaded, without a distinct antemedian line, discal spot elliptical, the straight postmedian line distinct as in *fulviventris*, the subterminal shadow narrower and straighter than usual. Hindwing with 2 lines nearing the margin. Rio de Janeiro. Sao Paulo.

H. caucanex *sp. n.* (113 h) is allied to *remex*, ground-colour almost lilac whitish, abdomen lighter *caucanex*. ochreous, antemedian line distinct, below the cell strongly removed basad, submedianly thicker, the subterminal shadow much broader, anal angle and apical spot very contrastingly light; hindwing with a distinct discal spot, close at it the interior line, the exterior line thrice as broad, shaded darker. Type: ♂ from Popayan, Dep. Cauca (Colombia), co-type: ♂ from Ieononzo (Pandi, Colombia), both in the Coll. HOPP-Charlottenburg.

H. livex *Dyar* (113 h). Thorax brownish-grey, abdomen with ochreous hair. Forewing similar to *livex*. *fulviventris*, lighter brownish-grey, more contrastingly marked, the antemedian line proximad, especially at the costal margin more profusely marked white, postmedian line narrower. Lines on hindwing close together, exterior line broader, with a somewhat irregular distal border. The ♀ has a more faded marking, thorax and abdomen brown, the abdomen laterally and at the end with ochreous hair. It may be *H. subcana* *Wkr.* which was described only according to a ♀.

H. discutex *sp. n.* (113 h) is likewise very similar to *livex* and especially to *fulviventris*, but the abdomen *discutex*. is quite ochreous as in *livex*. Forewing almost exactly that of *fulviventris*, the discal spot smaller and more distinct, the postmedian line not so oblique, somewhat broader and more faded, behind it at the costal margin as small whitish spot, the white apical spot larger and longer, the broad subterminal band receding more between 4 and 7, the brown marginal shadow opposite it broader, reaching the subterminal band between 6 and 7. On the hindwing the two lines are nearer together, the interior one is stronger than the exterior one. ♂ type from Sao Paulo de Olivença, ♀ from Chanchamayo (Peru) in the Berlin Museum. According to SCHAUS a distinct new species.

H. peruvex *sp. n.* (117 a) is near *livex*, larger, much more indistinctly marked, the antemedian line *peruvex*. broadly faded, vertical on the inner margin, in *livex* submedianly distally angular, inwards likewise bordered with whitish, the white in the cell extending to the large discal spot indistinctly coherent with the costal margin, the latter spot touching the broad faded postmedian line on vein 4; behind it especially at the costal margin a spot-like white brightening, also at the apex and behind the subterminal line. Hindwing as in *livex*, but the transverse lines more separated, the interior line crossing the discal spot. Under surface behind the straight postmedian line light, with distinct dark veins. Abdomen more olive yellowish-brown, not ochreous. Type: 1 ♂ from Marcapata (Peru) in the Coll. HOPP-Charlottenburg.

H. vialactea *sp. n.* (114 a) is very similar to the preceding species from which it is at once discernible *vialactea*. by the light violettish-white median area enclosing the large intense oval discal spot; antemedian line not angular, but forming one bow each in the cell and submedianly, below 1 obliquely distad to the inner margin; marginal area as in *fulviventris*. Hindwing with a small discal spot touching the interior feebly curved line. Abdomen brown, only at the end more ochreous. Type: ♂ from the Chaco. La Paz (Bolivia), from an altitude of 3000 m, in the Coll. Stgr. (Berlin Museum.)

H. orbifex *Dyar*. Thorax brownish-grey, abdomen thickly covered with ochreous hair, the brown *orbifex*. ground only showing through on the dorsum. Forewing exactly as in *fulviventris*. Hindwing with a large discal spot, the two lines far behind it, just as dark, but the exterior one much broader than the interior one. Expanse of wings: 38 mm. Rio de Janeiro.

H. discifex *sp. n.* (114 a) is very near *orbifex*, but also similar to *vindex*. Abdomen brighter golden *discifex*. ochreous than in *orbifex*, wings blacker though not so black as in *vindex*: basal area darkened, the transverse stripes broad, somewhat hazy, convergent to the inner margin, behind the distal one at the costal margin a triangular light spot of the ground-colour, the subterminal band, moreover, only separated by a very narrow, blurred line from the postmedian band which is distally less sharply defined. Hindwing with a large discal spot, the lines distantly separated, hazy, the interior one stronger than the exterior one. Type: 1 ♂ from Rio Grande do Sul in the Coll. Stgr. (Berlin Museum).

H. maurex *sp. n.* (114 a) is an entirely sooty black species, the ventral side of the abdomen also black, *maurex*. the markings still deeper black, the transverse lines moderately broad, shaded, the posterior one passing over directly into the broad subterminal shadow. Hindwing with a discal spot and 2 lines, the interior line stronger, touching the spot. ♂ and ♀ from Passa Quatro, Sul de Minas (Southern Brazil); types in the Coll. HOPP-Charlottenburg.

H. muscula *Vuillot* (114 a) is quite a different larger species which may be best ranged after *maurex*; *muscula*. it is also somewhat similar to *Automeris violascens* (114 g), but it does not fit to *Automeris*. Entirely black, thinly scaled, a little more densely in the basal half and the apical part of the costal margin, with a much produced apex of the forewing, a thick, deeper black discal spot and a very feebly marked postmedian shadow obliquely from the apex to the centre of the inner margin. Hindwing with a very faint discal ring-shadow. Abdomen beneath rusty red, above black. The ♀ is still more thinly scaled, diaphanous blackish-grey, the discal spot of the forewing much less developed. Abdomen beneath much darker, only feebly intermixed with rusty brown. Sa. Catharina. Larva on the 4 first rings yellowish-green, from the 4th ring on the venter and sides blackish-grey, from the 5th ring there are laterally large white, oval oblique spots bordered with deep black, from the 5th ring on the dorsum purple red saddle-spots with black longitudinal lines; ring-indentations yellowish-green, of the same colour the branched thorns.

- liturex.* **H. liturex** Dyar (114 a). Near *livex*, smaller and much less contrasting, the postmedian line hazily passing over into the lighter subterminal shadow. Lines of hindwing relatively distant from each other, the distal one nearer to the margin. Guiana, Amazons.
- coëx.* **H. coëx** Dyar (114 a). Thorax brownish-grey, abdomen with ochreous hair. Forewing lilae grey, basad irregularly shaded darker; a small discal spot in the cell and a larger one at the end; the broad distal transverse line straight, shaded as far as the subterminal line. Hindwing instead of the discal spot with the interior line through the cell-end, the exterior line feeble, irregularly shaded. A small species from Venezuela (Aroa, Orinoo), the figured ♂ smaller than the type.
- rex.* **H. rex** Dyar (114 b) differs from *coëx* in its larger size, the more falciform apex of the forewing and darker colouring; the small interior cellular spot is absent, the distal line broader, the following shadow feeble. Hindwing likewise darker, the lines feeble, the exterior one more broadly shaded, the marginal area behind not lighter. Guiana, Amazons.
- nigricans.* **H. nigricans** Berg (114 b) is a somewhat variable species. Thorax dark ash-grey, abdomen ochreous. Forewing varying between lilac grey and brownish, as far as the distal transverse line mostly feebly darker, the two transverse lines blackish, the interior one mostly obsolete, incurved below the cell, the exterior one fine, very feebly curved; discal spot large, blackish, often touching the postmedian line; subterminal shadow feeble, of the usual shape, before it at the costal margin a small more or less light triangular spot, behind it in the upper half the usual marginal shadow. Hindwing sometimes darkened blackish as far as the exterior line, mostly only at the inner margin feebly darker, the two transverse lines distinct, the interior one beneath straight and stronger than the exterior one. The ♀ is dark violettish-grey or blackish-grey, the lines and discal spot broadly shaded with black. Abdomen black, beneath, laterally and at the end densely covered with rusty yellow hair. Southern Brazil; Argentina, Paraguay, Patagonia. The larva is yellow, laterally spotted black, with a black head and long ramified thorns ending on the 3 first rings with black hairs. It lives on Camphoromaea laxa and many other trees and shrubs. Mr. KÖHLER in Buenos Ayres writes me about it besides: *nigricans* is officially declared a vermin in the Province of Buenos Ayres and often strips wide stretches of willows and other plantations. The larva burns vehemently with its burning hairs. It lives together in nests and only separates shortly before the pupation. Few years ago the insects were in such immense numbers in the willow-plantations near the City that the droppings were to be heard drizzling to the ground like rain. Mr. KÖHLER took there also 2 incomplete hybrids being male in general, but darker, with a female black abdomen and little anal wool.
- paulex.* **H. paulex** Dogn. (114 b) is allied to *nigricans*; somewhat larger, the front body dark brown, abdomen ochreous. Forewing drab with a brownish tint, slightly strewn with white, the transverse lines on the averted sides feebly lighter or whitish, like the subterminal shadow on its outside; discal spot rather large and distinct. Hindwing with a somewhat more blackish tint, the cellular spot and both the distal lines feebly marked. S. Paulo.
- biolleya.* **H. biolleya** Schs. (114 b) is more sooty blackish-brown than the preceding species, basally still darker, the anterior transverse line lighter, the posterior line fine dark, outside likewise light-edged, the discal spot quite obsolete, but large; subterminal line as in *paulex*. Hindwing sooty brownish with but one shadowy indistinct postmedian line. Abdomen orange brownish. Costa Rica; Brazil (?).
- mortifex.* **H. mortifex** Dyar. Thorax deep brown, abdomen with ochreous hair and somewhat darker bands. Forewing slightly falcate, lilae grey, densely shaded with dark grey, costal margin in the median area dusted whitish, discal spot large, faded; postmedian line fine, very feebly incurved, subterminal shadow as usual. Hindwing with 2 shadowy lines, the exterior one undulate towards the margin. Expanse of wings: 35 mm. Venezuela.
- lolamex.* **H. lolamex** Dyar (114 b) resembles *nigricans*, but the forewing is more falcate, the discal spot larger, browner and faded, the distal transverse line browner and straighter, gradually vanishing in the brown subterminal shadow. Hindwing above with 2 curved feeble shadowy lines, beneath with 2 feeble curved, distantly separated bands, the interior one not straight and stronger than in *nigricans*. Venezuela.
- molpex.* **H. molpex** Dyar, according to the description, looks exactly like *rex* and is perhaps a form of it; on the hindwing the interior line is situate close behind the feebly visible discal spot. Expanse of wings: 35 mm. French Guiana.
- munonia.* **H. munonia** Schs. Body dark greyish-brown, abdomen cinnamon-reddish. Forewing reddish claret-coloured greyish-brown with a broad lighter subterminal shadow reaching the margin below 4; costal margin before the centre with white hairs, antemedian line light reddish-yellow, irregularly interrupted, the posterior line feebly incurved, brown, distally bordered with olive reddish, proximad with a lighter reddish claret-colour. Hindwing at the costal and distal margins light brownish, in the disc reddish yellowish-brown, thickly clad with dark claret-coloured hair; at the cross-vein a dark double line, behind it the dark postmedian line and a dark subterminal shadow. Expanse of wings: 40 mm. S. Paulo (Brazil).

H. falcifera *Hbn.* (= *myops* *Wkr.*) (114 b). Wings more falciform; brownish, rather variable; the *falcifera*. interior transverse line more or less distinct, acute-angular below the costal margin and here sometimes bordered with whitish, the posterior line very distinct, dull brown, at the costal and inner margins somewhat triangularly thickened, almost straight, only below the costal margin slightly flawed; discal spot elongate, subterminal shadow very faint; in the shading of the upper marginal half a more or less distinct whitish spot. Hindwing in the inner marginal half mostly somewhat blackened, behind the exterior transverse line the margin is somewhat lighter. Brazil.

H. obtusa *Dogn.* is a small species characterized by the obtuse apex and straight distal margin of the *obtusa*. forewing. Front body brown, abdomen rusty yellow. Wings drab, with 2 darker lines, a straight postmedian line being broad on the forewing and running parallel to the margin, and a subterminal line being likewise parallel, but only complete on the hindwing, on the forewing only marked at the costal margin; discal spots scarcely visible; forewing with traces of a lighter marginal line proximally bordering on the darker margin from the apex to 3. Described according to a ♂ with an expanse of 32 mm, from Obidos (Amazons).

H. pallidex *Dogn.*, likewise based upon but 1 ♂ from Uruguay, is light grey, the thorax somewhat *pallidex*. darker, frons, collar and abdomen ochreous. Forewing light grey, apicad somewhat darker, the apex itself with a small light spot, with 2 fine dark transverse lines which are only 1 mm distant from each other at the inner margin, but 8 mm at the costal margin, thus almost forming a V; between them a thick dark discal spot; subterminal shadow intense, disappearing towards the costal margin. On the similarly coloured hindwing the lines are hardly indicated, beneath much more distinct, the exterior line is a broad band. Expanse of wings: 35 mm.

H. croëx *Schs.* (114 c). Head and thorax dark grey, abdomen above brownish yellow, beneath grey. *croëx*. Wings thinly scaled, dull grey, the hardly discernible lines on the averted sides whitish, the posterior line at the costal margin broader; apically a feeble light shadow; a very feeble subterminal brightening; discal spot feeble, shaded. On the hindwing the margin is somewhat lighter behind the subterminal band; the small discal spot is feeble. Guatemala.

H. colombex *Dogn.* (114 c) is somewhat larger than the preceding species and not quite so thinly scaled, *colombex*. the lines are only a very indistinct whitish brightening, a scarcely darker median area encloses the shadowy discal spot; subterminal band very indistinct, touching the postmedian line between 4 and 6. Hindwing with a feeble discal streak and 2 quite indistinct lines. San Antonio (Colombia). It also resembles *inficita* in which, however, the more oblique postmedian line is more remote from the apex at the costal margin, the hindwing being without any lines.

H. tinturex *Schs.* (114 c) likewise resembles the two preceding species, but the ground colour is more *tinturex*. of a dull pinkish lilac, the very faint antemedian line is whitish, the postmedian line broad and fadedly darker, the subterminal area with hardly any marking. Hindwing with a broader median shadow and a narrow subterminal line. Guatemala.

H. humilis *Dogn.* (114 b) may be only the Amazons-race of *colombex*, somewhat smaller than the latter, *humilis*. the abdomen lighter yellowish, greyer, the transverse lines at the costal margin bordered with a more whitish shade. Sao Paulo de Olivença (Amazons).

H. inficita *Wkr.*, as mentioned above, is said to be very similar to *colombex*, but the postmedian line is *inficita*. more remote from the apex at the costal margin, more oblique and soon ends below the costal margin; the marginal line is also farther away from the distal margin. Hindwing without any lines. Brazil; Costa Rica (?).

H. alinda *Drc.* (114 c) is a more slender species with a produced falciform apex, the ground colour most *alinda*. variable from an almost pure pink with all tints to brownish or lilac grey, the transverse lines broad, somewhat faded, on the averted sides mostly somewhat lighter, with an obsolete discal spot and a more or less distinct subterminal band. Hindwing with 2 faint transverse lines. Guatemala, Costa Rica. — **colombiana** *Dogn.* *colombiana*. (114 d) is larger and more contrasting, the postmedian line straighter, otherwise coloured and marked the same. From Costa Rica to Eastern Colombia. — **pernex** *f. n.* (114 d). In Western Colombia the species is represented *pernex*. by a still more slender form with a still more produced apex of the forewing and a higher shape of wings owing to the longer distal margin. Almost of a pink flesh colour, the two transverse lines more parallel, therefore the median area at the inner margin much broader, the subterminal band narrower, the light apical spot long and distinct. Hindwing more triangular, the transverse lines nearer together and straight. Type: 1 ♂ from Bella Vista (Western Colombia) in the Coll. NIEPALT.

H. zonex *sp. n.* (114 d) is allied to *alinda*, forewing narrower with a more produced apex, hindwing *zonex*. almost triangular, with an acute-angular anal angle and a straight distal margin; ground colour light violettish-grey, strewn with white, especially basad, at the costal margin and anal angle; the two transverse lines close together, forming a narrowly triangular dark median band which encloses the faded discal spot; subterminal and marginal markings the same as in *alinda colombiana*. Hindwing more blackish, behind the indistinct distal transverse line lighter reddish, with a faint discal streak. Abdomen with ochreous hair and blackish bands. Legs not pink. Colombia. Type: 1 ♂ in the Coll. HOPP-Charlottenburg, from Icononzo (Pandi).

- chirex*. **H. chirex** Schs. (114 d). Front body lilac brown, abdomen with ochreous hair, with blackish-brown ring indentations. Wings pinkish lilac brown, the lines faded, the antemedian and postmedian lines broadly flown together at the inner margin, at the cross-vein a dark shadowy streak; subterminal line distally feebly bordered with a lighter colour. Hindwing with 2 almost straight median and postmedian shadowy lines. Guatemala.
- colimatifex*. **H. colimatifex** Dyar (114 d) is similar to *chirex*, pink with a faint orange tint, the lines not contrasting. the posterior line straight, united with the discal spot; subterminal band distally bordered with a lighter pink. Hindwing with 2 straight dark bands. Body more orange pink. Mexico (Colima).
- rubrifrons*. **H. rubrifrons** Schs. (114 d) is more pinkish lilac, with fine darker veins, the exterior transverse line passes over into the broad subterminal shadow which is distally bordered with a lighter colour. Hindwing with a faint discal streak and feebly visible lines, the interior one somewhat angular. Frons and legs of a bright crimson colour. Costa Rica. — **H. muzoensis** f. n. (114 e) is much more distinctly and contrastingly marked, the lilac pink median area broader, the broad distinct postmedian line separated from the somewhat lighter subterminal shadow by a narrow light lilac line, between 5 and 7 confluent with the very dark marginal spot; on the hindwing both lines are very distinct. Abdomen ochreous without blackish bands, with lilac pink dorsal hairs. Perhaps a distinct species. Muzo (Colombia); type: 1 ♂ in the Coll. HOPP-Charlottenburg.
- multiplex*. **H. multiplex** Schs. Pinkish-brown, body densely covered with pinkish-brown hair; antennae brown, not yellow. Apex of forewing scarcely falciform; pinkish-brown with darker lines; basal area darkened; exterior transverse line broad, touching the discal spot on vein 3, subterminal band feebly shaded darker, the apical marginal band darker. Hindwing with 2 fine curved lines and a narrow discal spot. Expanse of wings: 48 mm. Costa Rica.
- dalina*. **H. dalina** Schs. (114 e) is somewhat smaller than *rubrifrons*, the legs likewise bright earmine, but not the frons. On the forewing the median area is very broad, the narrow discal streak isolated, the broad almost straight transverse line near the margin, widened at the costal margin, the subterminal band narrow, separated by a light interspace from the postmedian band, apex with a lighter spot. Hindwing lighter, with hardly any marking. Guatemala.
- dalifex*. **H. dalifex** Dogn. (114 e) is similar to *dalina*, the legs not pink, hindwing with a very slight angle on 3, forewing with an obtusely falcate apex; median area not so broad, postmedian line more oblique, the oblong discal spot larger. Hindwing with 2 distinct lines. Colombia.
- coinopus*. **H. coinopus** Dyar (114 e). Purple brown or lilac pink, legs similarly coloured, not pink, abdomen ochreous brown. Both wings with round, faded though not indistinct discal spots, with a lighter, somewhat undulate distal band which is straighter in the ♀, whilst on the hindwing it is faint in the ♂ and altogether absent in the ♀; only traces of a whitish subterminal line. Mexico (Coatepec). Larva with a mahogany-brown head and a yellowish body which is densely spotted black, so that only undulate dorsal, subdorsal and straight lateral and subventral lines remain of the ground colour, set with light long thorns. The species resembles *continua*, but it is larger, more pink, and with more distinct white transverse lines. In the Coll. HOPP there is a ♂ labelled: Texas. The statement that *alinda* occurs in Texas may refer to *coinopus* which is often confounded with *alinda*.
- continua*. **H. continua** Wkr. (114 e) is a smaller lilac grey species with a very faint reddish tint, a thick faded discal spot and hardly recognizable transverse lines; a discal spot is also on the hindwing, but no distinct lines. Mexico?
- euphemia*. **H. euphemia** Dyar (114 e, f). Pinkish-brown, palpi and legs rosy red. Apex of forewing not falciform, marked as *alinda*, but more fadedly and indistinctly. Abdomen of ♂ with ochreous hair and blackish bands, ♀ laterally and at the end with golden ochreous hair. Mexico (Misantla).
- cressida*. **H. cressida** Dyar (114 f) is likewise very closely allied to *alinda*, but the ♀ is black-haired on the sides and at the end of the abdomen. Somewhat smaller than *alinda*, forewing less falcate, the markings less distinct. This species and the preceding one are so very similar in the ♂ that they are hardly separable, but the ♀♀ are well discernible by the abdominal hair. Mexico.
- ebalus*. **H. ebalus** Gr., according to the figure, is a small pink male which is not to be identified: perhaps the ♂ of *obsoleta* Stoll?

12. Genus: **Lonomia** Wkr.

We insert this genus here owing to certain resemblances in the structure of the body to *Hylesia*. Proboscis absent or only a feeble thread; palpi relatively well developed, ascending, but not projecting beyond the frons, with a very short last joint. Body slim, wings broad, in the ♂ sometimes slightly falciform, very much like a Geometrid. Forewing with the same neuration as in *Dirphia*, on the hindwing the cross-vein is more oblique, the lower cell-end is produced, 3 and 4 near together; the origins of 5, 6 and 7 are likewise close

together. ♂ antennae usually shorter than the thorax, rather feeble, bipectinate, in the ♀ plain. The species are distinguished by an uncommon variability, especially in the males.

Type: *L. achelous* Cr.

L. achelous Cr. (= *obliqua* Wkr., ♂ *albigutta* Wkr.) (119 c) ♂ ochreous or reddish ochreous, strewn *achelous*, with a scarcely darker colour, smoothly scaled, with a hardly traceable somewhat greyer antemedian line forming distally convex bows in and below the cell; in the upper and lower cell-angles one white spot each; the purple brown or black almost straight postmedian line from shortly before the apex to the centre of the inner margin, inwardly bordered with whitish or grey, occasionally before it yet a grey parallel line; subterminal faint grey irregular shading, projecting between 2 and 4. Hindwing with a straight grey median line and a hardly traceable subterminal shadow. Beneath lighter, more coarsely speckled, with 2 small blackish, light-ringed discal spots on each wing; hindwing especially costally spotted grey with a large apical spot and a whitish undulate subterminal line. ♀ more thinly scaled, lighter and more greyish-brown, in the marginal area somewhat darker, with a distinct subterminal shading. Widely distributed: Brazil, Bolivia, Antilles. -- **vulpina** f. n. (119 c) is the name of a particularly large, reddish ochreous form, from Novo Friburgo, with a *vulpina*, strong black double line filled with lead-grey, and intense blackish subterminal shading. Type in the Berlin Museum. — **carnica** Schs. is very similar, but of a flesh-coloured or carmine pink ground colour and only faint *carnica*, subterminal shading; the oblique line is here also double and filled with grey, the upper one of the two discal spots blackish, only the lower one white. Under surface light brownish-red with a broad marginal brightening, hindwing with a black, white-edged discal spot. Petropolis; Sa. Catharina.

L. cynira Cr. (= *electra* Drc.) (119 b, c) has somewhat broad and obtuse wings coarsely strewn with *cynira*, blackish, otherwise very similar and just as variable, the two white discal spots mostly connected by a curved or angular blackish streak or rarely situate in an oval blackish spot. The ♀ is more grey or reddish-brown, with a more distinct light dentate-undulate subterminal line. --- **concordia** Drc. are somewhat deeper orange males *concordia*, with a more distinct subterminal shading. Mexico to Guiana; probably only the northern form of *achelous*.

L. submacula Wkr. (= *apicalis* Wkr., *falcata* Wkr.) (119 d) differs in the ♂ in the higher and shorter *submacula*, shape of the wings. Apex of forewing slightly falcate. Distal margin somewhat concave, hindwing with a slight angle below the centre. Light reddish-brown, strewn darker, with 2 blackish transverse lines, the anterior one forming 2 bows, the posterior line from the apex to the distal third of the inner margin; discal spot oval, blackish with one or two faint whitish centres above and beneath; behind the feeble subterminal shading some small light yellowish spots; hindwing the same, the yellowish small subterminal spots very prominent. ♀ in the marginal area on both wings darkened brown, otherwise the same. Venezuela to Peru and Brazil.

L. diabolus (Maass. i. l.) sp. n. (119 d). Shape of wings the most similar to *submacula* and almost *diabolus*, similar to that of small *Copaxa*. Monotonously blackish-brown, strewn a little with lead colour, without the antemedian line, only in the lower cell angle a small white spot; the oblique line of the same course as in *submacula*, slightly darker, inwards bordered with lead colour; subterminal shading hardly marked. Beneath lighter and more brownish with a slightly darker oblique stripe and small, lighter-ringed discal spots. According to 2 ♂♂ from Cayenne, type in the Berlin Museum; a third ♂, likewise from Cayenne, is smaller and more reddish-brown; another ♂ from Teffé (Amazons), in the Senckenberg Museum, is also somewhat browner and has a very distinct straight antemedian line on the hindwing. Apex of forewing somewhat less falcate.

L. abnegata Wkr. has unfortunately remained unknown to me.

abnegata.

13. Genus: **Periga** Wkr.

Scarcely different from *Lonomia*: apex of forewing somewhat more pointed and distal margin straighter, anterior angle of hindwing somewhat angular. Palpi and antennae somewhat longer. On the hindwing 6 and 7 rise still nearer together than in *Lonomia*. Only 2 species:

Type: *P. circumstans* Wkr.

P. circumstans Wkr. (= *eluacina* Drc.) (119 d) is just as variable as the *Lonomia* species. ♂ straw- *circum-* coloured yellowish, orange, brick-red or brown, more or less strewn with blackish, with blackish transverse *stans*, lines, the anterior one undulate or only feebly bent, the posterior one straight, in the darker forms inwards bordered with a lighter colour; behind it an undulate subterminal line; at the cell end 2 blackish, often white-pupilled small spots which are mostly connected by a curved streak. Hindwing with a curved antemedian line, a stronger straight median line, and a dentate-undulate subterminal line. ♀ more thinly scaled and of a light ash-grey colour. Panama to Brazil.

oculata.

P. oculata Schs. is light orange with a fine brown antemedian line and a large grey spot at the cell end, surrounded by black and centred black; postmedian line whitish, slightly undulate and bordered somewhat greyish-brown from the apex to the distal third of the inner margin, distally shaded with orange; some dark subterminal lunulae. Hindwing with traces of a distal line, and a subterminal line which is dentate between 4 and 2. Expanse of wings: 40 mm. Minas, Brazil.

14. Genus: **Dirphia** Hbn.

Since KIRBY'S Catalogue few authors have hitherto discussed the classification of the genera *Dirphia* Hbn., *Phricodia* Hbn., *Ormiscoles* and *Catocephala* Blch. and *Plateia* Hbn., which is a sheer impossibility, for on superficially examining the species jumbled up there, it will be clear that on the one hand many species cannot remain together, on the other hand all the 5 genera contain species that belong into one genus. All the attempts of PACKARD, GROTE, and LYAR are neither satisfactory, because they comprised a much too small circle of species. Considering this fact, we have been forced to abandon the principle of our work, i. e. only to supply a classification of the lepidoptera hitherto known, and to try to arrange the species as well as possible according to the differences in the neurulation, as HAMPSON did, and it was found, in fact, that in this way a very suitable order could be attained. However, it must be considered that the arrangement of veins may sometimes also vary within the species even to a great extent. Thus I discovered, for instance, among a large series of *D. mexicana* Bouv. all kinds of variations: forewing 6 and 7 stalked, from the same base or separated, hindwing 6 and 7 the same, in one case even together with 5 from the same base; the same is the case in the forms of *avia*. The type, however, being assumed as the fundamental species always predominates by far.

Before characterizing the genus *Dirphia* in the following lines, we supply here an analytical table of our subdivisions. We must of course leave it to future authors to keep up or to alter this provisional and rough sifting in revising the insects in question here. It may be that the examination of the genitals will provide better results than those yielded today.

Dirphia (+ *Ormiscoles*, *Catocephala*, *Phricodia*, *Plateia*) sensu latissimo.

A. Forewing veins 6 and 7 not stalked.

a. Forewing veins 6 and 7 from the same base.

a¹ Hindwing veins 5 and 6 separated; ♀ without anal tuft and lateral wool.

a² Hindwing veins 6 and 7 separated

Dirphia Hbn.

b² Hindwing veins 6 and 7 from the same base or on a short stalk.

a³ smaller species, distal margin of forewing slightly convex

Catocephala Blch.

b³ larger species, distal margin of forewing slightly concave

Ormiscoles Blch.

b¹ Hindwing veins 5 and 6 mostly from the same base, ♀ with anal tuft and lateral wool *Hidripa* nov.

b. Forewing veins 6 and 7 separated.

a¹ Hindwing veins 5 and 6 from the same base

Dihirpa nov.

b¹ Hindwing veins 5 and 6 separated

Phricodia Hbn.

B. Forewing veins 6 and 7 stalked.

a. Hindwing veins 6 and 7 not stalked.

a¹ Hindwing veins 5 and 6 separated

Phidira nov.

b¹ Hindwing veins 5 and 6 stalked

Mesoleuca Wkr.

b. Hindwing veins 6 and 7 stalked.

a¹ Anterior tibia with a long horny sting

Kentroleuca nov.

b¹ Anterior tibia without a horny sting

Hirpida nov.

The forms which accordingly belong to the genus *Dirphia* are partly still very heterogeneous and will probably have to be subdivided later on. They are mostly very large lepidoptera, especially the ♀♀ are large, stout insects, most variably coloured and marked; according to the latter differences various groups of species can be assorted. Proboscis absent, the hairy palpi are very well developed, but do not project beyond the frons. Antennae of ♂♂ strongly pectinated, in the ♀♀ serrate and ciliated. Abdomen mostly short and rarely projecting beyond the hindwing. Legs short and stout, tibiae and femora covered with a dense hairy fur, hind tibiae only with one pair of short terminal spurs. Wings rather broad. As to the neurulation we refer to the table above.

Type: *D. tarquinia* Cr.

I. *tarquinia*-group.

D. *tarquinia* *Cr.* (= *acidalia* *Hbn.*, *tarpeius* *Hbn.*) (115 a) is a most variable and sexually most dimor- *tarquinia*.
phous species, at least in the male. The latter on its brown ground intensely white-haired and scaled, so that only an oblique basal area, a more or less large discal area enclosing a fine white Y-spot, and a subterminal notched band remain brownish-black. Hindwing basally and in the disc rusty brown with a black oblong discal spot, postmedianly more greyish-brown, turning whitish at the margin. Abdomen rusty yellow with black rings. The ♀ is blackish-brown, basally with a pinkish grey trapezoid spot, a long creamy white discal Y and an almost straight, only feebly undulate subterminal line behind which the marginal area is dusted with greyish white. Hindwing reddish brown with a blackish discal spot. Guiana, Amazons. BOUVIER describes an extreme variation from Venezuela; the ♂ with a much lighter oblique basal band and a very light brown discal spot, the submarginal band is almost entirely absent; hindwing without any white marginal zone; the ♀ lacks the greyish-white basal area and the white border line; wings dorsally very light chestnut brown.

D. *multicolor* *Wlr.* (= *ramigera* *Fldr.*) (115 a, b) is likewise sexually most dimorphous; ♂ with a dark *multicolor*.
brown oblique basal band and inner marginal half of the median area, a very irregular basal spot and the harpoon-shaped discal Y whitish, the apex of the latter black, projecting far beyond the undulate postmedian line; costal-marginal portion of the median area, and distal margin light brown, behind the postmedian line more or less broad pinkish-white, veins 6 and 7 with a few thick black dots. Hindwing pinkish-brown, basally darker pink, with a black discal oval or spot and 2 brown transverse bands behind it. Abdomen black with narrow reddish-yellow rings. The ♀ looks very much like that of *tarquinia*, but it is at once discernible by the light costal-marginal part and the differently shaped, more pinkish-white basal spot. Hindwing basally intensely dark pink, abdomen with much narrower reddish-yellow rings. Brazil. -- ***brasiliensis*** *Bouv.*, described *brasiliensis*.
according to a very large ♀ with an expanse of 135 mm, from Brazil, probably belongs to this place here; according to the description there seems to be only the difference that the discal Y does not extend to the subterminal line.

D. *horcana* *Schs.* (115 b) is much smaller, basal area with creamy white scales, produced in long dents *horcana*.
to the centre of the costal margin and of the inner margin, and brownish before the distinct border line, striped brown on the costal marginal veins; median area brownish-black with a narrow fine discal Y, distally defined by a straight postmedian line which is distally narrowly bordered with brown, traversed by creamy white veins; marginal area likewise creamy white, dusted with brownish, with a notched subterminal line forming dark brown notched spots between 2 and 3 and below the costal margin. Hindwing bright rusty yellow, at the margin greyish-white, with 2 greyish-brownish subterminal arcuate lines. In the larger ♀ the basal and marginal areas are pinkish-brown, the creamy white discal Y-spot reaches in the type ***brevifurca*** *Strd.* neither the ante- *brevifurca*.
median nor postmedian line, whereas in another specimen it reaches both. Costa Rica, Ecuador, and Colombia. In a male specimen from Villavicencio the blackish-brown median area is very narrow, the light basal spot extends at the costal margin with its apex beyond the postmedian line, the hindwing is intensely dusted with greyish-brown; it is probably only an individual variation.

D. *horca* *Dogn.* (115 c) is very similar to *horcana*, but the light basal spot does not form any distal *horca*.
notch at the costal margin, but bends subcostally still farther basad; subterminal line distally very slightly concave; the discal Y is much thicker, particularly the cross vein branch which contains an ochreous central streak. Hindwing redder, otherwise marked the same. The ♀ is similar to that of *horcana*. Ecuador; Venezuela: 1 ♂ c Coll. BANG-HAAS is labelled "Mexico"; South-Western Colombia (Putumayo).

D. *subhorca* *Dogn.* is exactly like *horca*, but the brownish-black median area is equally broad at the *subhorca*.
costal and inner margins, the hindwing exhibits a small black discal spot, and close behind it a postmedian line, both being absent in *horca*. Expanse of wings: 73 mm. Paramba (Ecuador), described according to a ♂.

D. *aculea* *Vuill.* (115 c) ♂ light pinkish-brown with a narrow brownish-black median area not reaching *aculea*.
to the inner margin and containing a fine creamy white Y, and traces of a mottled subterminal line which is only more distinct between 2 and 3; marginal area slightly darker. Hindwing pinkish-brown with a small darker discal spot and a reddish-brown postmedian line. The ♀ is very similar to that of *tarquinia*, but much smaller, with more pointed wings, basal and marginal areas pinkish-brown, basal area much more extensive; the discal Y does not reach to the postmedian line, its upper branch bears a fine brownish-black central streak. Amazons: Eastern Colombia (Upper Rio Negro).

D. *lombardi* *Bouv.* (115 c) is a smaller species, very similar to the following species and perhaps only *lombardi*.
a form of it; the oblique pinkish-grey basal area has distally a convex border, the dark brown median area is at the costal margin twice as broad as at the inner margin, the Y similar as in the preceding species, the upper branch centred brownish-black. Marginal area proximad pinkish-white, distally brownish with a notched subterminal line which begins very dark and intense at the costal margin, so that a light oblique streak parts the apex, and vanishes more or less in the centre. Hindwing very thinly scaled greyish-brown with a fine discal streak and a slightly darker postmedian line. Abdomen black, dotted white, at the anus reddish-yellow. Parana; Minas (Southern Brazil).

- della.* **D. delta** Foett. (= ♂ aphrodite Schs.) (115 d) is very similar to *lombardi*, the median area is narrower, the light basal portion outside irregularly bordered, the subterminal line is absent except a triangular dark costal-marginal spot, the discal Y almost entirely lacks the proximal branch, and the upper one ends more rounded. Hindwing of ♀ without the discal spot and postmedian line; in the ♂ they are present. South-Eastern Brazil.
- oridocea.* **D. oridocea** Schs. (115 d). Forewing with a dark oblique basal inner marginal area, the light pinkish-grey basal spot therefore ends pointedly below; in the dark brown median area with a creamy longitudinal spot on the median vein, and at the cell-end a large irregular spot outside with a long appendage ending taperingly and cutting the pinkish-brown postmedian line, the spot itself filled with a brown linear marking; occasionally there are small white dots above and below the appendage which may also be separated from the discal spot itself; marginal area as in *pulchricornis*. The ♀ is much lighter brown. Peru; Bolivia; Brazil (Espiritu Santo).
- tresignata.* **D. trisignata** Fldr. (= *irregularis* Foett.) (115 d) is somewhat similar to *oridocea*, darker brown, the pink basal area at the costal margin longer than at the inner margin; at the cell-end a glossy silvery creamy-white renimacular spot centrally marked brown, with 1 or 2 dots behind it; subterminal area scarcely lighter, the subterminal line very indistinct. Hindwing brown, basally pink. Brazil. Larva, according to a figure by F. SCHADE-VILLARICA, above yellowish-green, beneath more bluish-green with a pink lateral stripe, scanty fir-tree-like short spines and on the 2nd and 3rd rings 2 much longer straight porrect spines each, on the last ring 2 turned hindward.
- pulchricornis.* **D. pulchricornis** Wkr. (= *pomona* Fldr.) (116 a) is very similar to *trisignata*, of a duller colouring, the basal spot does not end so pointedly at the inner margin, the median area is bordered more in a parallel way, behind the discal spot the dots are absent; hindwing lighter pinkish-brown with a distinct lighter submarginal line. Mexico to Venezuela.
- schreiteri.* **D. schreiteri** Schs. (116 a). Palpi, chest and legs red, head olive brown; thorax and abdomen black, basal segment red, the following ring-indentations without scales, anus orange, ventrum whitish, with olive hair, laterally spotted and dotted white. Forewing with a blackish-brown basal stripe, behind it a large white triangular spot; median area sandy brown, slightly strewn, at the costal and inner margins whitish; cell end blackish-brown, with a short white streak on the median vein and a large white reniform spot at the end between vein 3 and the subcosta, centred yellow, strewn with black scales, and with a white branch on vein 5; marginal third somewhat lighter than the median area with a whitish postmedian spot from the costal margin to 6, and a white line between 3 and the inner margin; a broad subterminal whitish band incurved from the costal margin to 5, excurved to the margin on 3 and at the anal angle. Hindwing scantily scaled, basal and marginal areas suffused with sandy brownish, the marginal area strewn with white, at the cross-vein a spot bordered with white, and red hair at the base of the inner margin. Tucuman, Argentina.
- spumosa.* **D. spumosa** Vuillot was not before me. Forewing brownish ashy-grey, spots and markings yellowish-white; at the base a hook-shaped spot extending along the costal margin, then turning narrowed back to the inner margin, and cutting a long white spot at the lower edge of the cell; at the cell end a large triangular white spot; a subterminal whitish brightening from the apex, very sinuate, then narrowed to the inner margin, traversed by brown veins; hindwing light chocolate, scantily scaled, at the inner margin with light red hair. Metathorax and patagia with long grey hair; thorax brown, posteriorly garnet-red. Abdomen above brown, beneath red-brown, on each side 2 white dots on each ring. Expanse of wings: 80 mm. Brazil, Sa. Catharina.
- flora.* **D. flora** Schs. is near *pulchricornis*, more pinkish brown, the large irregular yellowish-white discal spot is erect, not oblique as in *pulchricornis*, it exhibits in the centre an irregular brown spot parted by a white line: distal area lighter brown with a grey subterminal shadow and behind it pink shading before the marginal area which is brown between the apex and vein 2. Hindwing brownish, at the margin narrowly pink. Expanse of wings: ♂ 69, ♀ 89 mm. Costa Rica.
- ayuruoca.* **D. ayuruoca** Foett. (116 a), described according to a ♀, is of a lighter yellowish-brown ground colour, the oblique dark basal inner marginal spot is absent, the basal spot is greyish-white and below the cell it shows a long narrow appendage; behind the discal renimacular spot there are single yellowish-white dots and a longitudinal streak on vein 5; postmedian line parallel to the margin and to the subterminal line behind it, the latter projects, dusted with greyish-white, towards the margin between 2 and 4. Hindwing lighter and greyer with a feeble discal spot and a straight subterminal line. Abdomen black, with narrow reddish-yellow rings, with rusty brown anal hair. Southern Brazil.
- epiolina.* **D. epiolina** Fldr. (116 a) connects *ayuruoca* with *picturata*. Forewing on the olive yellow ground densely strewn with black hair-scales, marking very similar to that of *picturata*, basal spot not reddish but light yellowish-grey, the discal macula much larger and more complicated, all the veins of the median area abundantly spotted yellowish-white; the marginal markings almost as in *picturata*, but more yellowish-white, and before them with a bluish subterminal band. Hindwing more smoke-brown, at the inner margin with cinnamon-brown hair; abdomen as in *picturata*. A most variable species, from Venezuela to Southern Brazil (Sa. Catharina; Casa Branca).

D. picturata Schs. (116 a) is the most similar to *oridocea*, of a much darker brown ground colour, the *picturata*, very irregularly shaped basal area darker pink, the yellowish-white discal spot with generally 3 dots behind it on vein 5 and often a strigiform spot below the median vein before it with a silvery gloss; in the lighter pinkish-brown subterminal area the very distinct subterminal line broken up into dark brown spots. Hindwing basally pinkish carmine with a small pink-ringed discal spot and 2 strong dark arcuate lines behind it. Rio de Janeiro.

II. rosea-group (*Rhodormiscodes* Pack.).

D. rosea Drc. (114 g). In the blackish-brown thorax long stiff white hairs are intermixed; abdomen *rosea*, orange, above with black rings, a black lateral line, below it white with black spots. Forewing basally below the cell with a large blackish-brown spot, above it pinkish-whitish, striped brownish; at the cell end a distally mostly three-pronged, white-edged discal spot; the oblique black postmedian line from 6 to the inner margin, inside bordered with pinkish-white, outside the broad brown subterminal band distally bordered with pinkish-white, subapically at the costal margin a large blackish-brown trapezoid or triangular spot. Hindwing pinkish blackish, basally pinkish carmine with a large hazy blackish discal spot and 2 bands behind it. Fringe at the ends of the veins speckled lighter. Mexico; a most variable species.

D. ninfa Schs. is extremely similar; head and palpi more orange, the abdomen lacks the black lateral *ninfa*, line. On the forewing the upper edge of the blackish-brown basal spot is somewhat rounder, the distal one on the submedian fold interrupted inwards; before and below the discal streak one grey spot each. Expanse of wings: 52 mm. Described according to a ♂ from Jalapa (Mexico).

D. latemedia Drc. (114 g) is similar, larger, browner, the blackish-brown discal spot considerably larger, *latemedia*, basally produced on the median vein; the transverse lines are composed of black internerval lunae, scaled orange on the averted sides, then bordered with whitish; terminal area as in *rosea*. Hindwing brown, without any pink, the strong postmedian line is distally broadly edged with whitish. Abdomen beneath brownish-black. Described from Ecuador, also from the Amazons, Bolivia, and Peru.

D. tusina Schs. differs from *rosea* in the deep pink ventral side; thorax and abdomen above as in *rosea*, *tusina*, separated from the likewise similar *latemedia* by the more pinkish-brown wings, especially in the median area of the forewing which shows a black dot at the base of the costal margin, the transverse lines as in *latemedia* intensely scaled orange; the apical costal marginal spot is small. Hindwing as far as the postmedian line purple red, behind it lighter; the large round black discal spot touches the thick postmedian line. Expanse of wings: 61 mm. Tuis, Costa Rica.

D. placida Schs. (114 h) is likewise similar, but the abdomen is orange beneath, the white tarsi with *placida*, black rings. Forewing brownish grey, the basal inner marginal spot above straightly cut off, outside bordered by 3 black crescentiform bows; the crescentiform postmedian line is straight between 2 and the inner margin, the apical spot triangular, bordered with white, the large brown discal spot inwards bordered with black. Hindwing brownish, at the inner margin darker, otherwise as in *latemedia* from which the species chiefly differs in the abdomen being orange beneath. French Guiana.

D. lulesa Schs. (114 h) is likewise allied to *latemedia*, but the ground colour is more olive grey, inter- *lulesa*, mixed with single red-brown hairs, the black crescents of the transverse lines bordered by dark yellow scales; the brown discal spot is bordered with black and dark yellow; subterminal line as in the other species, the subapical spot is a triangular shadow. Hindwing whitish with a brown marginal band and subterminal line, the latter black towards the inner margin; costal margin and disc as far as the postmedian line flesh-coloured pink, base, cell and inner margin with long pink hairs, at the cell end with a large round black ocellus centred with light blue; postmedian line thick, black, incurved below the costal margin; marginal veins dark yellow. Argentina (Lules).

III. sabina-group (*Molippa* Wkr.).

D. sabina Wkr. (114 h). This group differs from the preceding one merely in the somewhat more *sabina*, produced apex of the ♂ forewing and in the thoracal hair being intermixed with stiff black oar-shaped hairs. A most variable and common species of a wide range. Forewing yellowish-white, more or less densely strewn and mixed with ochreous, brown and grey. Marking exactly that of the *rosea*-group, i. e. the base of the inner margin with a large somewhat darker spot, transverse lines as in *latemedia* composed of lunulae, double; discal spot of a most variable shape and size; the dark apical costal marginal spot outside bidentate. Hindwing with a most variable discal spot, 2 dentate more or less black lines behind it, and orange veins in the marginal area. Type from Brazil. — **nibasa** Maass. (114 h) shows a very clear marking, a very dark basal inner-marginal spot *nibasa*, of the forewing, and very distinct, narrow, deep black bands on the hindwing. Type from Mexico. — **simillima** *simillima*, Jones (122 e) are specimens in which the black bands of the hindwing are said to bend down analwards, whereas in *sabina* they end straight. According to JONES' observations, *simillima* is yielded from yellow larvae irrorated

with black, remaining during the day on the food-plant (Eucalyptus, Mimosa etc.), *sabina* from dark grey larvae hiding in the daytime on the trunk of the same food-plants. The problem *sabina-simillima* must yet be carefully investigated. JONES considers *sabina* to be the species with a male uncus split like a Y, *simillima* that in which the spiny uncus is somewhat stalked patelliform. BOUVIER, on examining the species in the Paris Museum, found *simillima* to be the form occurring to the north as far as Mexico, *sabina* to be the Brazilian form, which fact I can substantiate according to about 50 specimens at hand. All the specimens from Mexico, Guatemala, Venezuela, and Colombia have an unsplit uncus, thus to be placed to *simillima*, whilst all the Brazilian specimens before me are *sabina*. JONES on the contrary, however, found in Brazil the larvae of both forms at the same time on the same food-plant. The neural differences in both forms or species stated by BOUVIER I cannot confirm according to the great number of specimens before me; I have never seen such an oblique course of the discocellular as it is sketched by the said author, in all the specimens seen the cross-vein stands almost vertical on the upper and lower cell-margins. Moreover, it is very easy to state where the ♂ belongs to, since by slightly brushing off the anal hair the very characteristic uncus is at once visible: as to the ♀, it seems that all attempts of identification have been in vain.

basina. **D. basina** Maass. is similar, but smaller, darker, on the forewing much more mixed with blackish-grey, particularly in the marginal area ashy grey. Hindwing slightly hued with salmon-pink. Abdomen orange, with narrow black rings. From Venezuela (La Guayra).

binasa. **D. binasa** Schs. (114 h) is very similar to *basina*, at once discernible by the abdomen being quite black above; forewing somewhat lighter, in the median area pinkish-white, the anterior transverse line irregularly notched brown, double, the posterior line deeper black; the light ashy grey subterminal band is traversed by orange veins, the narrow marginal area behind the white undulate line is orange brown. Hindwing salmon-pink, the postmedian line which touches the black discal spot with a jet-black central line is incurved below the costal margin, behind it there is a broad black subterminal band; the pink marginal area between the orange veins is densely strewn with black. Argentina (Tucuman); also from Rio de Janeiro.

basinoides. **D. basinoides** Bouv. is allied to *sabina* and *basina*. Body the same, on the rusty red abdomen also with orange spatulate hairs. Forewing in the basal costal marginal half as far as the median vein and the postmedian line grey, the large yellowish grey dark cellular spot somewhat rectangular, bordered with whitish; transverse lines as in *sabina*, olive grey, bordered with white; subterminal area blackish grey, the darkest proximad; the space below the cell olive grey like the marginal area behind the white irregular submarginal line; veins in the distal two thirds orange. Hindwing unicoloured yellowish-white at the margin olive grey, before it with a blackish subterminal band, traversed by the orange veins; at the cell end only a feeble blackish streak. Expanse of wings: 64 mm. Brazil, described according to a single ♂.

IV. speciosa-group.

cutteri. **D. cutteri** Schs. Head and mesothorax reddish-yellow with a black spot on the collar, metathorax dark pink, abdomen as in the preceding species. Forewing reddish-brown, suffused with pink, with black veins, at the cell end a thick antimony yellow spot with a whitish dent along vein 4 distally as far as behind the broad blackish straight postmedian line; fringe at the distal and inner margins pink. Hindwing pink, with black veins with broad blackish postmedian and subterminal shadows. Ecuador.

upanona. **D. upanona** sp. n. (116 b) is very similar to *cutteri* and perhaps a form of it. Head and thorax black, collar and patagia with single yellow hairs, abdomen quite black with reddish ochreous anal hair. Forewing coffee-brown, with black veins, the discal spot quite yellow, fringe claret-coloured; the blackish postmedian shadow is scarcely visible. Hindwing quite sooty black, without markings, with fine black veins which are thickened into small triangles before the claret-coloured fringe. Type: 1 ♂ from Normandia, Rio Upano, Ecuador in the Coll. BANG-HAAS.

radama. **D. radama** Drc. (116 b) is chrome-yellow, in the inner marginal portion of the forewing dusted with a somewhat deeper or brownish colour, with fine black veins, a white, above black-striped Y-spot at the cell end, cutting a blackish shadowy line. Hindwing likewise yellow with a blackish postmedian shadow; fringe speckled black and white. Abdomen black, with white rings and an ochreous anal tuft. Ecuador.

mota. **D. mota** Drc. (116 b). Head and thorax rusty yellow, wings pink, with yellow veins; forewing in the median area and at the inner margin slightly mixed with a rusty yellow colour; cellular spot as in *radama*, but the white discal portion broader and rounder. Hindwing at the inner margin with rusty yellow hair, with a small whitish discal spot. W. Colombia, San Antonio; before me from the Agnaca Valley.

pachona. **D. pachona** sp. n. (116 b) is similar to *mota*, larger, forewing and hindwing quite fox-coloured, with fine yellow veins, with the same blackish postmedian shadow; discal spot of forewing as in *mota*, but the middle part and the upper branch of the Y filled quite black, with an extremely fine yellow vein-line running through. Body as in *mota*. Type: 1 ♂ from Pacho (Eastern Colombia) (FASSL leg.) c Coll. BANG-HAAS.

D. speciosa Cr. (= quadricolor Wkr.) (116 c) is an uncommonly variable species. Head and thorax *speciosa*, varying between rusty yellow and brown, abdomen black with white rings and a rusty yellow anal tuft. Forewing in the type pinkish carmine, with black veins, a more or less distinct blackish postmedian nebulous band and a long white, interruptedly black-filled Y-spot at the cell-end, below which there is often another white sagittiform streak on 3. Colouring variable; another form: — **brunnea** f. n. (116 c) exhibits instead of the pink colour a *brunnea*, light coffee-brown colour, at the margins often more or less hued with pink, but apparently it flies together with the typical form without any transitions. Costa Rica to Ecuador, Peru and Bolivia, also in Trinidad. — **flavoscripta** Dogn., described according to a ♂ from Ecuador with an expanse of 75 mm, probably belongs to *flavoscripta*, this species, too. Forewing chestnut-brown, at the costal margin strewn with yellow, the continuation of the Y, situate on the cross-vein in the direction to the costal margin, is yellow, the other parts as in the type black and white; abdomen above black, without the white rings, beneath brown. The Berlin Museum owns a chestnut-brown ♀ from Chuchuras, Peru, which likewise shows an entirely black abdomen without white rings, but an entirely white Y as in the type. In a carmine ♀ from Rio Pachitea, Porto Alegre, only the first ring is broadly edged with white, all the others are quite black. — **avenata** f. n. (116 c) I denominate a form from Chiriqui, *avenata*, Panama, in which the veins of both wings are of the ground-colour, not prominently black. Ground-colour rusty brown, with a rosy-red hue at all the margins. Hindwing with a thick white discal streak. Type in the Berlin Museum. It may be a distinct species.

D. consaepta sp. n. (116 c) is very similar to the brown forms of *speciosa*, but at once discernible by *consaepta*, white fringes speckled black at the ends of the veins. The brown ground-colour shows a more olive yellowish tint; the blackish postmedian nebulous stripe is situate nearer to the margin and mostly more prominent; the discal Y is creamy white, much thicker and proximally more deeply and acute-angularly notched, the part resting on the end of the median vein and vein 3 is very broad. Hindwing in the proximal inner-marginal half with somewhat lighter reddish hair, the nebulous stripe broad and distinct, beneath with a white costal-marginal stripe and white dusting in the disc and behind the postmedian stripe. Body as in *speciosa*. Types: 1 ♂♀ from Icononzo near Pandi (Colombia) in the Coll. HOPP, Charlottenburg; 1 ♂ from Chaco, La Paz (Bolivia) in the Coll. BANG-HAAS.

D. flavodiscata Dogn. (116 d). Forewing olive yellowish, in the interspaces strewn with blackish hair-*flavodiscata*, scales which are intensified in the first and second thirds to nebulous transverse bands, the posterior band somewhat concave towards the margin between veins 2 and 3; veins black, at the margin thickened into small triangles; at the cell-end a large yellow spot. Hindwing the same, but without the yellow cellular spot. Abdomen with yellow and black rings, basally more intensely black, the anus red. Colombia, Bolivia.

D. erythropus Maass. (116 d) is similar; on the forewing the interior transverse band is situate behind, *erythropus*, not before, the white (not yellow) angular spot, the exterior band is nearer to the margin and outside broadly bordered with white. Legs rosy-red. Ecuador.

D. zeta Berg is distinguished by long red-brown antennae; thorax blackish-brown mixed with yellow, *zeta*, abdomen blackish-brown with rusty yellow segmental margins and a yellow anus. Forewing reddish-yellow, densely striated and strewn with black or blackish-brown, the whole cell filled with black, outside and below marked with a black, white-edged Z. Hindwing likewise Isabel-coloured, only at the margin striated blackish-brown, at the cell-end with a large round black macula; fringes in both wings light brownish. Expanse of wings: 105 mm. According to a ♂ from Buenos Aires (Sierra Chica), Argentina. The species having remained unknown to me, I can only insert it here provisionally; it may belong rather to *Ithomisa* or *Eudyarina*.

D. laverna Drc. probably belongs to the same group. As I could not examine the species myself, I cannot *laverna*, tell whether it belongs to *Dihirpa* next to *litura* owing to the white basal cellular spot. Forewing semidia-phanous black, densely strewn with yellow, with black veins, a yellow longitudinal spot behind the base of the cell, and a yellow angular spot at the cell-end; the white fringe is speckled with black on the ends of the veins. Costal margin of hindwing beneath yellow. The black body is covered with long yellow hair, the collar yellow, abdomen with black and yellow segments, anus and legs red. Antennae black. Ecuador. — **albomaculata** *albomaculata*, Dogn. is somewhat smaller, blacker, and more densely scaled; the spots in the cell are of a pure white, not yellow, the discal spot divided into two parts or almost divided, also on the hindwing an intense discal spot. Legs and anus light pink. Loja (Ecuador).

D. monticola Zerny (118 e) is rather isolated, but surely no *Heliconisa*. Forewing varying between *monticola*, ochreous and olive brown, with fine blackish veins; a white postmedian arched line parallel to the margin bends inwards above the inner-marginal vein and extends to the base of the costal margin, without reaching it: at the cell-end a whitish small, brown-centred oval spot. Hindwing darkend towards the margin with a rather inconspicuous lighter submarginal line. Thorax darker than forewing, abdomen above black, laterally and at the anus rusty red. The ♀ is darker. Larva black, with black spines and a red-brown head, it lives on *Rapanea flocculosa*; the pupa lies on the ground, without a web, amidst dry grass in a hollow made by the larva. The ♂ imago flies in the afternoon, it also comes to the lantern at night. South Brazil.

V. *menander*-group.

- radiata*. **D. radiata** Dogn. (116 d). Antennae ochreous, body dark brown, thorax with a white transverse stripe, abdomen with ochreous-red bands. Forewing olive brown, with white veins, with a brown discal streak which is bordered with white on both sides, and 2 double transverse lines, the anterior one straight, the posterior one somewhat undulated, interrupted by white and brown strewn internerval streaks which terminate at the margin in long white lance-points; margin strewn with white; fringe speckled brown and white. Hindwing somewhat lighter olive brown with traces of a rounded postmedian line, white marginal strewing and white ends of the veins. French Guiana.
- dukinfieldi*. **D. dukinfieldi** Schs. (116 d) may not belong here, because the discocellular especially on the hindwing extends more obliquely and the lower cell-end is therefore more produced, as in the genus *Heliconisa*, to which the species, however, does not belong owing to the ♂, nor to *Hemileuca* as which it was described. Head and thorax blackish, with olive yellow hair, patagia of ♂ deep black. Abdomen above bright ochreous, ventrum yellowish-grey, sides deep black with small white spots. Forewing blackish-grey, veins orange, narrowly edged with light yellow; behind the cell with a white transverse line parallel to the margin; base of fringe narrowly orange, ends greyish-white. Hindwing the same, but duller, veins finer and more distinct, purely orange. Castro, Parana; Paraguay.
- amarilla*. **D. amarilla** Schs. (116 e). Head black, collar dark pink; thorax greyish-brown, the patagia covering almost the whole thorax are dull yellow; abdomen above black, base and anus pink, ventrum orange with black spots, sides pink with black transverse lines. Wings dull yellow, forewing with dark violettish-grey veins, similar stripes at the costal margin, in and below the cell; violet antemedian and postmedian transverse shadows, and at the cell-end a dark red spot. Veins of hindwing in the distal half dark violettish-grey, at the cell-end a pink spot. Costa Rica, Volcano of Turrialba.
- menander*. **D. menander** Drc. (116 e). Body rusty yellow, abdomen with black segments. Forewing brownish red, with a white, slightly S-curved postmedian transverse stripe not reaching the costal margin, ending in the centre of the inner margin and being edged with jet-black on both sides; the veins distally to it whitish, on both sides broadly shaded with grey, fringe white. Hindwing blackish-grey with a white median line and white fringe. Nicaragua and Panama. — **reducta** Her. & Hopp (116 e), a fine race from Western Colombia, differs in its brighter, more carmine ground-colour and the straight white median stripe which is only outside edged with black; the veins also in the hindwing of a broader and purer white, less shaded with grey. In the genital organs also somewhat different.
- carminata*. **D. carminata** Schs. is light brown on the head and ventral side, thorax, base of abdomen and anus like the forewing light red, abdomen black, with brownish bands. Forewing in the distal half with fine white veins, with an antemedian and a postmedian transverse line divided into 3 black spots each and on both sides bordered with white. Hindwing basally light brown with a large dark spot at the cell-end and a dark, distally whitish-edged median band; distal half blackish-brown, with fine white veins. Mexico (Jalapa). — **niepelti** f. n. (117 a), from West Colombia (Bella Vista), is a magnificent, much larger and deeper carmine form. Head and ventrum are here deep black like the white-ringed abdomen; between the white veins in the marginal area there are towards the apex white internerval triangles, the largest between 7 and the apex; the uppermost of the postmedian spots is divided into two parts. Base of hindwing and inner margins of both wings broadly haired rusty yellow, hindwing besides also in the basal half black, the black median band especially below the cell also proximally broadly bordered with white.
- zikani*. **D. zikani** Schs. (117 a) is a smaller species which is difficult to range. Head brown, thorax brownish-grey, behind with pinkish-white hair; abdomen above black with white segmental lines and a red anus, beneath greyish-brown. Forewing greyish-brown with blackish-brown transverse lines, the interior line vertical from the costal margin to the median vein, then turning to the inner margin, on both sides bordered with white, inside broader; at the cross-vein a black dot and a fine line excurved to vein 4; the black postmedian line is only inside bordered with white, from the costal margin to the centre of the inner margin; a whitish subterminal lunar line distally shaded with dark grey and vanishing between 4 and the apex. Hindwing greyish-brown, base of costal margin pink, with a fine dark discal line and a postmedian line from the costal margin to 4; fringe between the ends of the veins white. Passa Quatro, Minas, Brazil.

VI. *agis*-group.

- agis*. **D. agis** Cr. (117 a) is a large species, forewing light brownish-grey, the ground of the wing almost invariably with a slight rosy tint or pinkish-brown, with distinct dark brown veins; the anterior transverse line, feebly convex towards the margin, is black, proximally white and extends, as in all its allies, from the base of the costal margin behind the interior third of the inner margin; cross-vein almost straight, below the centre only slightly flawed inwards; posterior transverse line straight or feebly concave towards the margin, slightly widened at the costal margin, blackish-brown, inside white, the traversing veins here orange, it cuts vein 4 close at the lower cell-angle as far as $\frac{1}{4}$ at most of its length; the darker subterminal shadow recedes to the transverse line between 4 and 5, between 2 and 4 farther towards the margin than between 5 and 7. Hindwing mostly somewhat darker smoke-brown. Abdomen orange, with black rings. Brazil to Peru.

D. regia *sp. n.* (117 b) is very similar, perhaps only a form of it. Ground-colour rosy-red, behind the cell, below it between 2 and 3 and subterminally feebly covered with olive grey; transverse lines deep velvety black, proximad cut by snow-white not yellow, the smoke-brown veins only behind the line faintly tinted with rusty brown; anterior line quite straight, not extending to the inner margin, but below 1 curved upwards again, for a short distance parallel to the white border of the posterior line which is quite straight, cutting 4 close behind the cell. Hindwing brownish pink with a feeble whitish arcuate line in the centre, fringe white. Abdomen almost quite orange, the black rings in the ♂ only very narrow. Types: 1 ♂ from Western Colombia, Bellavista, in the Coll. NIEPELT, 1 much flown ♀ from the Chiriqui, Panama, in the Berlin Museum.

D. imperialis *sp. n.* (117 b) is of a bright orange on the thorax and forewing, with brown veins; transverse lines as in *regia* deep black, proximally white, before it again some black scales, the white portion black, the black portion traversed orange on the veins; course of the anterior line as in *agis*, posterior line likewise almost straight, cutting 4 as far as $\frac{1}{3}$ behind the base; subterminally darkened as in *regia*, between 2 and 4 not projecting farther towards the base than between 5 and 7. Hindwing bright crimson with a somewhat lighter arcuate stripe as in *regia*, fringe white. Abdomen orange with black rings. Type: 1 ♂ from Bellavista (Western Colombia) in the Coll. NIEPELT.

D. mexicana *Bouv.* (117 b) is similar to *agis*, more greyish-brown, mostly without a pink tint, all the veins, also the submedian fold orange; cross-vein mostly feebly concave; transverse lines similar as in *agis*, but often contiguous at the inner margin as in *regia*; basal area lighter than the ground; the posterior transverse line cuts vein 4 before or in its basal third; the subterminal darkening does not quite recede between 4 and 5 to the posterior transverse line. Hindwing scarcely darker than forewing. Mexico.

D. eumedidoides *Vuill.* (117 e) is smaller, ground-colour darker, more chestnut or greyish brown, in the type at hand the basal area is remarkably lighter, almost whitish, antemedian line very fine, blackish, proximally not bordered with white, with yellow spots on the median vein and vein 1; veins hardly darker than the ground, the cross-vein forming a flat angle, the sides of which are equally long; posterior transverse line slightly curved, expanded into a white triangle at the costal margin, very fine black, inside scantily bordered with white hair-scales, cut by yellow; it cuts 4 behind the basal quarter; subterminal line irregular, whitish, undulated, the area before it darker grey, behind it light reddish-brown. Hindwing like the marginal area of the forewing with a broad extinct postmedian nebulous band. Amazons, Colombia. Peru.

D. eumedide *Stoll* (117 c) is mostly darker than *agis*, without a pink tint, otherwise very similar, but the posterior transverse line feebly bent and cutting vein 4 in or behind the basal third. Panama, Ecuador, Guiana.

D. varia *Wkr.* (117 c) is likewise extremely similar; the cross-vein forms an angle the upper side of which is shorter, the lower one longer; before the discal spot angularly covering it the cell is lighter whitish almost to the base; transverse lines as in *eumedide*, the posterior one cuts vein 4 in less than $\frac{1}{3}$ from the base. Bolivia, Peru.

D. infuscata *Bouv.* (117 c) is dark smoke-brown, the transverse lines are broader white than black, the yellow-crossing veins are not very prominent; the cross-vein and discal spot form a basally slightly convex bow; the anterior transverse line forms a straight very oblique line running far distally; the posterior line cuts vein 4 in more than $\frac{1}{3}$, often in $\frac{1}{2}$ of its length. The black abdominal rings are very broad. Colombia, Ecuador.

D. peruvianus *Bouv.* (117 d) is very similar to *infuscata*; ground-colour dark smoky brown, sometimes with a violettish-pink tint, veins fine black, generally not very prominent; anterior transverse line as in *infuscata*, often twice cut by yellow, but the yellow may also be absent; on the posterior transverse line there are mostly only white vein-dots, but at the costal margin it is expanded into a white triangle. Abdomen above almost quite orange, only laterally with broad black segments with white spots. Peru, Ecuador.

D. pallida *Wkr.* (117 d) is creamy white on the wings, with yellow veins, the fine transverse lines blackish-brown, at the inner margin both are very near together; the cross-vein is an ochreous angular streak; the posterior transverse line cuts vein 4 within the proximal quarter. Thorax as forewing, abdomen above unicoloured orange, beneath creamy white, laterally with feeble traces of darker segmental margins. Antennae black. Colombia.

D. alba *Drc.* (103 A a) I only know from the photograph of the type which was kindly sent by Mr. TALBOT of the Hill Museum and which we figure; it seems to be allied to *pallida*. Head yellow, antennae black, anterior body grey, abdomen white, 2nd segment and anus yellow. Forewing white, with brown veins, with a curved brown line from the base of the costal margin to the centre of the inner margin, and a straight brown distal line; apex and 2 marginal thirds dusted with blackish-brown. Hindwing snow-white, costal and distal margins bordered with brown, fringe white. Under surface white, with black veins and apex of forewing. Eastern Ecuador, Alpayacu, Rio Pastazza, 3600 m.

D. aurora *Vuill.* (117 d). Body orange, also the abdomen only in the proximal half laterally somewhat black with white spots therein. Wings light ochreous or brick-coloured reddish, with yellow veins on the forewing, the oblique antemedian line rather inconspicuous; posterior line greyish-white, rather straight, inside very

finely, outside broadly edged with blackish-grey, on the outside the black colour on either side of the yellow veins is somewhat flown out towards the margin, so that a kind of denticulation may be produced; at the cell-end a tiny black dot may be present or also absent. Hindwing with a hardly noticeable trace of a light median line. In the ♀ the postmedian line may be reduced to an equally broad straight grey band crossed by the yellow veins. Antennae black. Colombia; Guiana.

medinensis.

D. medinensis *sp. n.* (117 A a). Anterior body light ochreous, abdomen of a brighter orange, laterally black with white spots, tarsi and antennae black. Forewing ochreous, in the marginal area with slightly darker veins; antemedian line straight, broadly edged with white, finely with blackish; at the cross-vein a darker spot; posterior transverse line distantly remote from the margin, quite straight, broad white, outside very narrowly bordered with brownish ochreous, at the inner margin almost united with the anterior line; in the broad marginal area an irregularly undulated whitish subterminal line is distinctly visible. Hindwing somewhat lighter than forewing. Type: 1 ♀ from Medina (Eastern Colombia) in the Coll. BANG-HAAS.

obliqua.

D. obliqua *Bouv.* (117 A a). Forewing light reddish yellow, often with fine darker veins, dusted with brown or grey, particularly behind the antemedian line, cross-vein, and subterminally, and a little before the margin; anterior transverse line short, convex, below the median vein and on 1 almost angular, black, crossed by 2 yellow veins, the basal area lighter; cross-vein dark, in the middle strongly introangular; posterior transverse line characterized by its oblique course, at the costal margin much nearer to the apex than at the inner margin to the tornus, little white, outside intensely black, traversed by orange and almost undulate-dentate. Hindwing generally still darker than the subterminal area of the forewing. Abdomen orange, with narrow black rings, laterally black with white spots. Peru; Bolivia.

gregatus.

D. gregatus *Bouv.* is known to me only from the description and figure. It is said to be closely allied to *peruvianus*; more dingy grey above a pink ground-colour, the veins scarcely darker; anterior transverse line inside at the inner margin with small black spots; posterior transverse line inside and outside bordered with black, only narrowly traversed by yellowish, with a very narrow white costal-marginal spot. Shape of wings shorter and broader than in the other species. Venezuela. Larvae in an oval bag of 15 to 20 cm length, light grey, with both ends open, fastened with a stalk at the end of a branch by using neighbouring leaves. The bag contains 10 to 12 cocoons. Larva itself green with stellately arranged tufts of red-brown thorns with black tips. It lives on "Mamon".

biremis.

D. biremis *sp. n.* (117 A a) is a large species. Thorax blackish-brown, abdomen orange with broad velvety black rings, ventrum black, laterally with white spots, anus rusty red. Forewing dark brown, with black veins; antemedian line broad white, outside broadly inside feebly bordered with black, traversed by 3 yellow veins, the cross-vein is a black angle; posterior transverse line slightly curved, white, on both sides very broadly bordered with black and broadly traversed by orange vein-rays of 6 to 8 mm length; subterminal line marked by the contrast with the lighter marginal area, receding between 4 and 5 as far as the postmedian line; fringe rusty brown, hindwing with a faded, slightly darker postmedian shadowy band. According to 2 ♀♀, type from Sa. Catharina in the Coll. W. HOPP, Charlottenburg, another specimen from Macas (Ecuador) in the Coll. NIEPELT.

albosignatus.

D. albosignatus *Bouv.* was not before me. Forewing smoke-brown, somewhat lighter than in *infuscatus*, with scarcely darker veins; cross-vein and discal spot feebly flawed a little above the centre, before it a white spot; anterior transverse line somewhat zigzag-shaped, rather indistinct; postmedian line parallel to the distal margin, somewhat more convex than the latter, almost quite black, without any white, the yellow traversing veins very feeble; it cuts vein 4 behind its middle; the undulate subterminal line is quite indistinct. Described from Venezuela.

niceros.

D. niceros *Dogn.* (117 D e). Forewing black with a chestnut-brown reflection and 2 white transverse lines, the first extending from the base of the costal margin obliquely distad and being interrupted below the median vein and at the inner margin; the posterior line is parallel to the margin, subterminal, interrupted by the veins and vanishing towards the apex. Hindwing as forewing with the continuation of the subterminal line which is here distinct and not interrupted by the veins, extending to the inner margin; the black thorax is intermixed with ochreous hairs; abdomen black with yellow rings, with a lateral row of white dots. Northern Peru (Huancabamba).

albilinea.

D. albilinea *Schs.* (103 A b). Head and thorax light brown, abdomen above ochreous, beneath light brown, with a lateral row of black, blue-centred spots. Forewing light brown, with fine ochreous veins, with a white diffuse spot in the cell; from the base of the costal margin an oblique dark line extends to the inner margin, being interrupted below the cell by a broad white stripe which extends from the base almost to the margin where it meets a white, darker brown-edged stripe proceeding from the costal margin from near the apex. Hindwing with a very feeble whitish distal band. Goyas, Brazil.

VII. albata-group.

albata.

D. albata *n. sp.* (*Maass. i. l.*) (117 A a). A very peculiar insect. Head and prothorax ochreous, palpi black, antennae smoky brown; the absent abdomen (a wrong one has been glued on the type) is presumably

ochreous with black rings. Wings white, the forewing at the apex and margin broad smoke-brown, between 2 and 4 somewhat narrower. Costal margin black, veins especially towards the margin smoky, at the cell-end a small black spot. Hindwing all white with a narrow smoke-brown marginal line. Type: 1 ♂ from Mexico in the Berlin Museum e Coll. MAASSEN, on the label "*Heliconisa albata*" has been written. I could not discover any description.

VIII. calchas-group.

D. calchas *Stoll* (117 A b) is the chief representative of a group of allied species the ♂♂ of which mostly *calchas*. exhibit a dark triangular spot at the costal margin, whilst the ♀♀ have a broad median band instead of it. Anterior body dark brown, abdomen reddish-yellow, with broad black bands. Forewing greyish-brown with a dark basal spot which is outside white-haired, a dark discal spot and above it a mostly small dark brown triangle with whitish edges; subterminal line dark, distally with a more distinct undulating border, receding between 4 and 6, proceeding between 2 and 4 in two obtuse bows. Hindwing basally bright red-brown with a large dark discal spot, a black postmedian line behind which generally a lighter band follows and then a darker subterminal band. The costal triangular spot may be almost quite absent, but also fused with the discal spot. The ♀ is mostly of a duller greyish-brown with 2 dark transverse lines bordered with whitish on the averted sides. Hindwing in the basal half less bright red-brown. Brazil (Sa. Catharina; Rio Grande do Sul; Porto Alegre).

D. rothschildi *Dogn.* (117 A b) is very similar to *calchas*, but easily discernible by the almost entirely *rothschildi*. black hindwings, and the black abdomen showing only very narrow brownish rings. Thorax and the oblique basal area much deeper black. The discal spot of the forewing is larger and black, mostly coherent with the black costal-marginal triangle. Brazil (Sao Paulo; Joinville).

D. fornax *Drc.* was not before me; it must be extraordinarily similar to *rothschildi*. Body blackish- *fornax*. brown, abdomen with long grey hairs. Forewing reddish-brown, densely strewn with grey, with a black oblique basal spot, a large black triangular spot in the centre of the costal margin and a round discal spot below it. Hindwing blackish-brown, in the distal half more reddish-brown, strewn with grey, with a narrow dark brown submarginal band therein. Under surface dark greyish-brown, with a narrow greyish-white median line. Expanse of wings: 4½ ins. Southern Brazil (Rio Grande do Sul).

D. thliptophana *Fldr.* (117 A c) is extremely similar to *calchas*, the costal-marginal spot sandglass- *thliptophana*. shaped, with or without a white central spot therein, the lower edge of the spot extending from proximally below obliquely, in a straight line upward distally. Hindwing almost exactly as in *calchas*. WEYMER described a specimen as the ♀ of it, which, however, according to the description I consider to belong rather to the *ursina*-group. The ♂ described by him probably also belongs rather to *calchas*. Amazons.

D. fraterna *Fldr.* (117 A c) is very similar to the preceding species. Forewing more cinnamon-brown *fraterna*. with a pink tint, the large discal spot is very broad at the costal margin, in the middle slightly strangulated, the lower edge with an almost rectangular point extending down to vein 2, bordered with whitish, with a white angular or comma-shaped streak near the exterior edge or also only a small white spot; marginal area lighter towards the subterminal shadow which is indented between 4 and 6. Hindwing as in the preceding species, with much duller transverse lines; a dark discal spot with a light ring may be present or absent. Amazons (Iquitos; Matto Grosso); Peru. — A Colombian form: **callosa** *f. n.* (117 A c), from Villavicencio, has broader *callosa*. wings and is more greyish-brown, the hindwing also without any red-brown; discal spot of forewing much deeper strangulated, producing outside and inside almost right angles; the enclosed white central streak is therefore also rectangularly flawed, the lower branch yellowish-brown, finely filled with black, only the upper branch white; marginal area with a yellowish ochreous tint. Hindwing beneath with a broad lilac white, distally concave median band which is only indicated in the typical form.

D. javarina *Btlr.* was not at hand; it is allied to *avia* and *concolor*. Forewing above light cinnamon *javarina*. pinkish brown, with a broad chocolate median band, at the costal margin thrice as broad as at the inner margin, the proximal border oblique and undulated, the distal border straighter; base dusted with brown, the basal area itself black, outside bordered by a white line; subterminal band darker brown, expanded in its upper quarter, apex before it mixed with yellowish. Hindwing basally reddish-brown, distal half more pinkish-brown, inside regularly bordered by the ground-colour. Thorax dark chocolate, abdomen rusty brown, laterally deep red, at the base with 2 black belts. Expanse of wings: 5 ins. 4 lines. Rio Javary.

D. avia *Stoll* and the following forms of it are rather variable. Dr. JORDAN writes to me that STOLL's *avia*. figure is inaccurate and the 3 bands on the hindwings are a mistake of the painter, since the hindwing above exhibits but one distinct blackish submarginal band, though between it and the cell there are sometimes traces of another band, and the 3 bands of STOLL are to be explained by the darkening of the centre of the wing. In the British Museum, according to the kind information by TAMS, *avia* is united with *orasia* *Stoll*; he says that the figure of *orasia* has been made from a very small ♀ or from a ♂ without antennae which the artist has added according to his own opinion. — **avia** *Stoll* (= *orasia* *Stoll*, *concolor* *Wkr.*) (117 A d) is the oldest form *avia*.

described of a brownish-grey ground-colour with a somewhat more prominently dark median band of a variable width, at the margins edged by whitish lines which gradually pass into the brown ground towards the averted sides; the somewhat irregular subterminal band is widened towards the costa and darker. Hindwing at the base feebly red-brown, with a narrow blackish submarginal band bordered lighter on both sides. Abdomen as in all the allies black with orange bands, especially in the ♀ intermixed with very long greyish-white hairs. Panama; *nora*. Colombia; Venezuela; Guiana; Eastern Peru; Trinidad. — *nora* Drc. (117 A c, d) is the mostly somewhat smaller form with a much lighter pinkish-brown ground-colour; especially in the ♂ the median band is reduced to a chestnut-brown costal triangle, sometimes, as in the figured specimen with an inner-marginal spot besides, more rarely with a distinct median band which is almost invariably present in the ♀. The type is from Panama; *triangulum*. distributed as far as Colombia. — *triangulum* Wkr. (117 A d) denotes specimens of a more violettish-grey ground-colour with a distinct olive green colouring of the costal-marginal triangle resp. median band; the subterminal band also shows a greenish tint; in both sexes the triangular spot may be widened into a median band, in any case they are bordered with a lighter lilac whitish colour. Hindwing at the base sometimes very bright rusty red. Mexico to Brazil and Bolivia. All the said forms are not distinctly defined, but extremely variable in colour as well as the development and size of the costal-marginal triangle or the median band, so that, if there are a sufficient number of specimens at hand, one may have all sorts of transitions. Nor is the neurulation constant (cf. p. 764), but most variable. On superficially examining the forms I found the uncus of the ♂ to be of the same shape in all the three forms.

dentimaculata. **D. dentimaculata** Schs. Anterior body dark brown intermixed with yellowish-white hairs, frons light brown; abdomen orange with black bands. Forewing light ochreous, with the exception of the marginal area thickly strewn with brown, a dark brown postmedian shadow fadedly passes over into the marginal area; in the centre of the costal margin a large brown triangular spot bordered at first with black, then with white, proximad deeply strangulated and distad with 3 short projections. Hindwing brownish with blackish-brown postmedian and subterminal shadows, the space between them being ochreous like the margin, and strewn with brown. Under surface light ochreous with feeble greyish-brown postmedian and subterminal shadows. Expanse of wings: 80 mm. Brazil.

hortensia. **D. hortensia** Schs. (117 B a). Thorax olive with light brown hair, abdomen brownish-red, with black bands. Forewing yellowish reddish-grey, strewn with olive and with irregular fine horizontal striae; an indistinct subterminal shadow, below the costal margin widened into a darker shadow; centre of costal margin with a large olive brown, lighter haired triangular spot, bordered with black, enclosing a black discal streak, the distal border being feebly undulated. Hindwing at the base and inner margin brown, outside and towards the costal margin darker shaded, with a dark discal spot and a blackish-brown postmedian and subterminal shadow, marginal area as on forewing. Sao Paulo (Brazil).

muscosa. **D. muscosa** Schs. (117 B a) is apparently more common, very similar to *hortensia* in the olive greenish ground-colour; the costal triangle is chiefly developed into a narrowed band extending to the inner margin and being outside and inside strongly dentate; its black border is besides mostly bordered outside with whitish; hindwing at the base of a brighter brown, the discal spot and the two anteterminal lines very thick and distinct. Abdomen bright rusty red with black bands and intermixed with long light yellowish-grey hairs. Colouring and marking most variable, often very dark blackish-green, particularly the ♀♀ are frequently intensely intermixed with white, the median band is often very broad, often narrow, occasionally interrupted above the inner margin, so that there is a small isolated inner-marginal spot is left, which may also be absent, so that only the costal triangle is present. Venezuela to South Brazil, a great many specimens being at hand.

curitiba. **D. curitiba** sp. n. (117 B b) is evidently very closely allied to *muscosa*, but smaller, the ground-colour basally and in the marginal area more lilac-grey, as in *triangulum*, only the broad median band being olive brown; the coarse striation and strewing of the preceding species is entirely absent; the median band is on both sides regularly though flatly dentate, scarcely bordered with black, but on both sides bordered with a whitish line; the black discal spot indistinct and much less obliquely arranged; the darker subterminal shadowy band is very faint and almost rectilinearly defined, whereas in *muscosa* it recedes far between 4 and 6. Hindwing brown, towards the base yellowish ochreous, the 2 anteterminal nebulous bands very feeble, the discal spot being absent altogether. According to 2 ♂♂ from Curitiba, type in the Senckenberg Museum, Frankfurt o. M. In the co-type the median band is scarcely dentate.

jorgenseni. **D. jorgenseni** Schs. The black body is scantily intermixed with yellow hairs; antennae yellow. The light ochreous ground of the wings is strewn with brown; forewing at the base narrowly black, the fine black transverse lines are feebly denticulate, the antemedian line is excurved at the costal margin, then vertical, the posterior line excurved at the costal margin then somewhat incurved; at the cross-vein a small black spot; marginal area somewhat lighter, at the apex narrow, between 4 and 6 broad. Hindwing with a short black discal line and a blackish-brown postmedian shadow. Expanse of wings: 90 mm. Argentina (La Junta).

baroma. **D. baroma** Schs. was not before me. ♂ forewing reddish-brown, dusted with blackish as far as the subterminal line projecting in roundish bows between the veins of the marginal area; at the cell-end a round black, grey-encircled dot; base red-brown, bordered by an oblique white line. Hindwing in the basal half reddish, at

the margin more brownish, at the base with brighter red hair; discal dot and a curved median line dark brown, behind it a rosy-reddish area and a broad dark brown distal band. The ♀ shows 2 distinct dark brown transverse lines, the anterior one subcostally angled, inside bordered with whitish, between them a feeble brown discal dot. Hindwing lighter red than in the ♂, the bands faded and nearer to the margin. Abdomen ochreous brown with black abdominal belts and long white hairs. Expanse of wings: ♂ 90, ♀ 115 mm. Patria unknown.

D. ursina Wkr. (117 B b). Forewing on the yellowish-brown ground densely and finely strewn with a darker brown, the small oblique basal area dark brown, 2 transverse lines somewhat convergent towards the inner margin are fine dark brown, very feebly denticulate, in the narrow median area at the upper cell-angle a small white spot, at the lower one a small black spot in a whitish ring; marginal area somewhat lighter towards the subterminal area, receding between 4 and 6, below it once more in 2 short bows. Hindwing generally towards the base darker, with 2 nebulous bands in the lighter marginal area and a small faint discal spot. Abdomen above black with narrow reddish-brown rings. Brazil.

D. avicula sp. n. (117 B b) is somewhat allied to *ursina*. Ground-colour varying between light brownish-grey and light red-brown, very finely strewn darker, the median band prominently darker, still darker than the broad subterminal shadow behind it; the anterior transverse line is flawed in an obtuse angle, the exterior line almost straight, very slightly curved S-like, in the upper half convex towards the margin, in the lower half towards the base, both on the averted sides more or less bordered with whitish; in the upper cell-angle a small white spot which may also be absent, in the lower one a black spot; subterminal shadow as in *ursina* in contrast with the likewise somewhat similar *curitiba*. Hindwing more scantily scaled greyish-brown, at the base with reddish flesh-coloured hairs; discal spot quite indistinct, the two anteterminal lines as in *ursina*, marginal area like the forewing slightly strewn. Thorax blackish-brown, abdomen above quite black, beneath brown, anus bright brownish-red. Described from 3 ♂♂, 1 ♀. ♂ type from Paraguay bred from a not described larva on *Rapanea laetevirens*; ♀ type from Sao Paulo, both in the Berlin Museum; co-type 1 very large contrasting ♂ from the Rio Songo, Bolivia, a third more red-brown ♂ from Brazil, the exact habitat not being mentioned.

D. parallela Schs. (118 e) is ochreous grey on the forewing, darkest in the marginal third, with blackish-brown thick parallel transverse lines; the posterior line very indistinct, feebly bent at the costal margin; discal dot black; the subterminal line is an irregular narrow brownish-grey shadow. Hindwing greyish-brown, dusted darker with a broad black postmedian line and an indistinct subterminal shadow, at the base with some ochreous hairs. The brownish-grey forewing exhibits beneath a feeble dark shadow from the apex obliquely to $\frac{2}{3}$ inner margin. Anterior body brownish-grey, abdomen black with orange segmental lines. Expanse of wings: 105 mm. South-Eastern Brazil (Joinville). The species in my opinion is much more allied to *hircia*, especially its form *arcaeii*; I have left it here merely on account of the neurulation (6 and 7 of forewing from the same place) of the only specimen at hand.

D. quaesita sp. n. (118 e) is more like the *hircia*-group, but according to the neurulation it belongs also to this group here. Anterior body blackish-brown, abdomen orange with black rings; forewing blackish-brown, scantily strewn with bluish-white hair-scales which are somewhat condensed on the proximal sides of both the thick black transverse lines; on the lower discocellular a thick black spot; subterminal line likewise marked by more densely strewn bluish-white scales, behind it clouded darker blackish-brown. Hindwing more scantily scaled, not strewn, with a thick black discal spot and a black subterminal line; fringe white. Type: 1 ♀ from the Rio Jacula near Rio Patia (Colombia) in the Coll. HOPP, Charlottenburg.

IX. *somniculosa*-group (*Plateia* Hbn.).

D. somniculosa Cr. (117 B b, c). A very large and unmistakable species. ♂ red-brown with 2 lilac white transverse lines which are slightly convergent towards the inner margin, the anterior one subcostally interrupted, and obtusely angled on the median vein; in the marginal area besides with 2 broad indistinct light nebulous bands; hindwing scarcely lighter, with or without a discal spot, with a light subterminal band. Thorax dark red-brown, metathorax and base of abdomen red-haired, abdomen black with orange rings. ♀ usually darker and very large, expanse of wings as wide as 140 mm. Guiana; Venezuela; Colombia.

D. theobromana sp. n. (117 B c) is a transition to the following species; anterior body dark red-brown, abdomen orange, above with black belts. Forewing chocolate brown, basally and subterminally strewn with white, the short oblique basal area is coloured like the thorax and outside bordered with whitish; both the transverse lines are indistinctly darker, on the averted sides bordered with lilac whitish, the anterior line subcostally and on 1 angled in a basally open angle, the posterior line feebly dentate inwards on the veins, towards the costal margin indistinctly widened; subterminal line of the same shape as in *panamensis*. Hindwing scarcely marked except 2 very indistinct anteterminal shadows between which the ground is somewhat lighter lilac whitish. Type: 1 ♀ from Villavicencio (Eastern Colombia) in the Coll. BANG-HAAS. A similar, somewhat smaller ♀ from Southern Colombia, Mocoa, e Coll. NIEPELT.

panamensis. **D. panamensis** Schs. Head and base of abdomen reddish-brown, thorax lilac grey; abdomen above orange with black bands. Forewing purple grey with a curved lilac whitish antemedian shadow and a similar feebly curved postmedian shadow; at the oblique cross-vein a fine black line; marginal area lilac white, at the apex and anal angle very narrow. Hindwing lilac whitish, at the base with light reddish hair, with a broad purple grey subterminal shadow. Expanse of wings: 98 mm. Described from a ♀ from Panama.

fassli. **D. fassli** Dogn. (117 B d) is very similar to *panamensis*; thorax red-brown, head and collar lighter reddish; abdomen above black, base, ventrum and anus rusty brown. Forewing lilac whitish, a small oblique basal area and the median area brownish with an oval brownish small discal spot; postmedian line feebly S-curved, inwards broadly dusted with lilac white like the marginal area behind the feebly curved broad brownish subterminal shadow. Abdomen whitish, feebly dusted with brownish, with an extinct discal spot and 2 very indistinct anteterminal shadows. Colombia, Bolivia.

X. arpi-group.

arpi. **D. arpi** Schs. (= *satanas* Jones) (119 a). A beautiful large, quite isolated species, most peculiarly marked. Forewing blackish-brown, cell-end filled with black; antemedian line irregular, projecting far in the cell, below it interrupted and continued to the base. Postmedian line receding almost to the cell in a long bow below 4 and 6, projecting towards the margin in 2 bows between 2 and 4, outside light, filled with almost white. Hindwing with a broad brownish ochreous median band which is generally very dark, in — *seitzi* f. n. *zikani*. (119 a) bright orange, in — *zikani* f. n. greyish-white. The larger ♀ is more monotonous, behind the postmedian line fawn-coloured, the band of the hindwing much narrower, nearer to the margin, between 2 and 3 notched. Hindwing beneath covered with long stiff vertical hair as in the genus *Megathymus*. The larva is opal-white or cinnamon-red with a black X-shaped dorsal marking and white spines, with black tips. It lives on *Rapanea flocculosa* and *Eucalyptus*; in the day-time it hides on the trunk and pupates in a web between leaves. Southern Brazil.

(?) *Dirphia lauta* Berg has remained unknown to me. According to the description it is a small insect the forewing of which is only 27 mm long. Body covered with long ochreous hair, intermixed with greyish-white hair, head and thorax more rusty red, abdominal segments with somewhat darker rings. Wings very scantily scaled, dingy white without markings, costal margin beneath as well as the legs yellow. Rio Negro (Argentina). I doubt whether it is a Saturnid at all. Mr KÖHLER had the kindness to search for the type, but it could not be discovered.

Nothing could be found out about the „*Dirphia*“ *nubila*, *satellitica*, *purpurascens*, *undulosa* described by WALKER, from the Coll. FRY: the types seem to have been lost and the descriptions are quite insufficient. Part of them may be *Syssphinxidae*.

16. Genus: **Catocephala** Blch.

This genus comprises a small group of rather closely allied species, mostly from the southernmost parts of America, distinguished by the veins 6 and 7 of both wings arising from one and the same place or on a short stalk; the variability, however, is here also rather great in individual specimens. Shape of wings generally somewhat narrower, especially in the ♀♀. Thorax loosely haired, intermixed with long, partly oar-shaped hairs. Abdomen of the ♂♂ projecting but little beyond the hindwing, in the ♀♀ more so. Antennae of the ♂♂ with long pectinations, in the ♀♀ shortly serrate-dentate with short spiny bristles. All of the species are very variable; BOUVIER has written a short monography on them which, however, does not state all the differences which occur in large series.

Type: *amphinome* F.

I. Group: abdomen above with spatulate hairs (*Catocephala*).

amphinome. **C. amphinome** F. (= *humeralis* Wkr., *hyadesi* Mab.). Forewing cinnamon red-brown with 2 notched transverse lines inwards edged with a very faint whitish colour, between them a large yellow discal spot which is outside thrice notched; subterminal line indistinct. Hindwing with 2 blackish transverse lines, feebly notched and bent on 5. Abdomen above black with narrow yellow segmental margins, a rusty yellow base and anus. Southernmost Chile and Fuegia.

rufosignata. **C. rufosignata** Blch. is allied to the preceding species and distinguished by the dark cinnamon red colour, more sharply notched transverse lines without any white, with a white instead of yellow cellular spot. Southern Chile.

marginata. **C. marginata** Phil. (117 B d) is likewise very similar to *rufosignata*, lighter, the ♂ more greyish-red, the two transverse lines less notched, on the inverted sides broadly edged with whitish; cellular spot in the centre white, then yellow and outside edged somewhat blackish; subterminal line much stronger, blackish, strongly and irregularly notched, and outside bordered with whitish. Hindwing with 2 broad blackish transverse bands which are much less curved than in the preceding species. Abdomen in both sexes above almost entirely black, only narrowly bordered with yellow. Chile.

patagonica. **C. patagonica** Bouv., only recently described, was not before me. Size of *amphinome* and its allies. Body light brownish yellow, hairs of patagia with whitish tips, abdomen somewhat more yellow, very scantily

intermixed with yellow hairs, only the last 2 rings with black bands. Forewing yellowish-white, basally somewhat brownish, only a double yellowish feeble postmedian line is present, being regularly dentate, parallel to the margin, at the costal margin the portions are somewhat more separated; at the cell-end a chalk-white discal erecent surrounded by black; cross-vein below the rise of vein 5 introangular. Hindwing without a cellular spot and lines. Patagonia.

C. vulpina Phil. (117 C a). Ground-colour light greyish-white, feebly mixed with yellowish-brown; *vulpina*. transverse lines very similar to those of the preceding species; discal spot white surrounded by blackish; subterminal band black, strongly notched, towards the costal margin ending into the apex, the margin behind it, especially at the apex and tornus almost white. Hindwing light yellowish-white with 2 faint transverse bands, particularly the interior one almost extinct, the exterior one often broader and darker. Thorax grey, in the centre fox-coloured, abdomen above black, with narrow yellow rings; anus fox-coloured. Chile.

C. nigrolutea Bouv. is another smaller species distinguished by the yellow ground-colour of the forewing. *nigrolutea*. Forewing relatively narrow, in some places of the yellow ground strewn with a blackish grey; veins scarcely darker; transverse lines as in *vulpina*, the discal spot somewhat oval, yellowish-white; submarginal line less irregular, less sharply defined than in the other species, distally to it between the veins large black marginal spots; fringes in both wings yellow. Body quite black, also the ventral side, only the anus and lateral segmental lines yellow like the head; the spatulate hairs on the thorax have yellow tips. Expanse of wings: 55 mm. Described according to 4 ♂♂ from Patagonia.

C. lupina sp. n. (117 C a) is very similar to the preceding species, forewing more intensely dusted with *lupina*. black, in the whole marginal area somewhat more ochreous; transverse lines more separated, the anterior one on the median vein and vein 1 with very long and pointed distal notches, the posterior one straight, near the margin, in *vulpina* more curved and at the costal margin bent inwards. Hindwing at the margin broadly smoked, enclosing a white undulate subterminal line which is especially distinct in the ♀. Abdomen above quite black, laterally, beneath and at the anus rusty yellow. According to a couple from Chile, from the Coll. BANG-HAAS.

C. murina sp. n. (117 C a) has narrower wings than the species hitherto known, scantily scaled and of a *murina*. monotonous sooty black colour; both the flatly notched transverse stripes are similar as in the following *nigrosignata*, especially the antemedian one at the costal margin expanded into a small grey spots; the small crescentiform cellular spot in a darker longitudinal patch; subterminal line scarcely recognizable. Hindwing more scantily scaled, semidiaphanous grey, without markings, fringe darker. Body greyish-black, abdomen with few yellowish-grey hairs. Chile (Valdivia); type 1 ♀ e Coll. STGR. in the Berlin Museum.

C. nigrosignata Phil. (= *luperina* Pack. ? i. l.) (117 C a). Forewing on the greyish-white ground strewn *nigrosignata*. with black, basally and in the marginal area mostly brownish-ochreous; the notched transverse lines are expanded into spots at the costal margin, on the inverted sides bordered with white; the whitish subterminal line close before the margin which is crossed by black vein-triangles. Hindwing pale yellowish-grey, in the marginal half more brownish, with 2 postmedian transverse bands, the interior one mostly narrower, between 4 and 5 far produced towards the margin; margin and fringe crossed by black vein-triangles. Abdomen above almost black, base, ventrum and anus rusty brown. Chile (Valdivia). In the Senckenberg Museum, Frankfurt on the Main, a couple labeled: "*luperina*", which name presumably refers to the note and sketch of the neuration in PACKARD'S Monography 1914.

II. Group: abdomen above without spatulate hairs: (*Thauma* H.-Edw.).

C. joiceyi Bouv. ined. (117 B d) and the following species form a special group: cinnamon-brown; *joiceyi*. thorax intermixed with whitish-grey hairs, abdomen more yellowish-brown. Forewing with 2 very deeply notched black transverse lines, on the inverted sides, especially at the costal margin, bordered with white, and between them a large yolk-coloured, outside and inside tridentate discal spot; median area often somewhat blackish; subterminal line hardly discernible. Hindwing less scaled, greyer with traces of a yellow discal spot, and a feeble black postmedian line and a very indistinct or absent subterminal line. Chile. In the Berlin Museum 3 ♀♀ and 1 ♂ from Valdivia and Puerto Montt, in the Hill Museum according to the kind information by BOUVIER 2 ♀♀, 1 ♂. We gladly avail ourselves of the opportunity of keeping up the name proposed by the latter author, so as to express our gratitude to the owner of the Hill Museum who provided us, by Mr. TALBOT, with many valuable explanations and many figures of types.

C. socialis Feisth. (= *angulifera* Wkr., *ribesii* H.-Edw., *ribis* Ky.) (117 C b). For this species the genus *socialis*. *Thauma* was established. Separated from *joiceyi* by the antennae being pectinated also in the ♀; the colour is cinnamon-brown, more or less hued with ash-grey; antemedian transverse line oblique, the posterior one near the costal margin bent towards the apex, both on the inverted sides bordered with white; at the cell-end a white triangular spot, on the median vein more or less produced towards the base. Hindwing with a white discal streak and behind it a grey transverse line or band. Abdomen reddish-yellow, in the redder ♂ with black rings. Chile; Peru, and most peculiarly reported (presumably imported) from North America (Brit. Columbia). Larva above light green, beneath light red or green, with a white lateral line edged with red-brown; on each

ring stellarily arranged tufts of nettling spines, being longest on the 2nd and 3rd rings. On *Cryptoearya peumus*. Often in great numbers though not gregariously. Pupa in a loose cocoon beneath shrubs or in the ground.

16. Genus: **Ormiscodes** *Blch.*

Only 2 species, of the same structure as the preceding ones, but much larger, and the distal margin of the forewing usually feebly concave, especially in the ♂♂.

Type: *O. cinnamomea* *Feisth.*

cinnamomea.

O. cinnamomea *Feisth.* (= *crinita* *Blch.*, *plana* *Wkr.*) (117 C b). Forewing cinnamon-brown, intensely strewn with greyish-white, with 2 almost straight dark brown transverse lines, the anterior one somewhat excurved below the costal margin, both on the inverted sides bordered with white; between them a broad cinnamon-red median shadow which is connected with the antemedian line at the inner margin and contains, at the cell-end, a large white, centrally somewhat strangulated or bipartite spot. Hindwing light brown with a whitish discal streak and a grey nebulous line behind it. Abdomen black with bare ochreous ring-indentations and brownish-pink basal hair. Larva black with interrupted yellow transverse bands and long tufts of brown spines with a severely burning effect. On *Mühlenbeckia*, poplars, pepper-tree, roses, and many other trees and shrubs. Pupa in a loose cocoon between leaves on the ground. Chile.

cognata.

O. cognata *Phil.* (= *alanus* *Pack. & Ckll.*) (117 C b, c) is allied to *cinnamomea*, of a purer brown without the greyish-white strewing, the ♂♂ sometimes deep blackish-brown, also yellowish-brown; more variable than *cinnamomea*; the transverse lines not bordered with white, the anterior line much less distinct; the white discal spot is much smaller, mostly only punctiform. Hindwing with more intense postmedian bands, often also the submarginal line very broad and black, whilst in *cinnamomea* it is almost absent. Abdomen blacker, basally not brownish-pink, but rusty yellow like the ventrum and anus. It is probably a distinct species; in the ♂ the ventrally reverted, deep black chitinized tip of the uncus is more deeply and pointedly bidentate, the harps are broader and divided into 2 more unequal lobes than in *cinnamomea*.

17. Genus: **Hidripa** *gen. nov.*

The few species belonging to this genus are chiefly distinguished by the peculiar hairiness of the ♀ abdomen forming at the end an anal tuft which is predominantly developed laterally and beneath and extends laterally in long woolly locks, like a coat, to the base of the abdomen. Neuration not quite constant, but on the hindwing 5 and 6 almost invariably arise from the same place or at least very close together. Moreover, the species hitherto known are distinguished by a narrow yellow ring around the eye-like discal spot of the hindwing.

Type: *H. ruscheweyhi* *Berg.*

ruscheweyhi.

H. ruscheweyhi *Berg* (117 C c) is on both wings sooty brownish or blackish; forewing with a darkened basal area, the antemedian line on each side bordered with whitish and twice distally sinuate, the similar postmedian line being undulately dentate, between them a large jet-black angular spot at the cross-vein and median vein, scaled white and finely bordered with yellow; subterminal line feeble and interrupted. Hindwing without an antemedian line, with 2 irregularly notched postmedian bands, the subterminal line broader and less distinct, the thick black discal spot with a whitish central streak and a yellow ring. Abdomen sooty black. The ♀ with silvery grey ventral lateral wool. Paraguay and Argentina.

gschwandneri.

H. gschwandneri *sp. n.* (117 C c) is more than twice as large; ground-colour lighter brownish, basal area very dark, antemedian line almost straight, not arched, and in an oblique distal direction to the costal margin, outside bordered with yellowish; the V at the cell-end is more slanting and more acute-angled; postmedian line less dentate. Hindwing almost as in *ruscheweyhi*. Abdomen brown, anus brownish-pink. Type: 1 ♂ from the Chaco (La Paz), Bolivia, in the Berlin Museum. A similar specimen in the Coll. GSCHWANDNER.

weymeri.

H. weymeri *sp. n.* (117 C c). Forewing greyish-brown, with a feeble reddish tint, basal area like the thorax dark brown, the former subcostally projecting pointedly towards the margin, behind it a broad area of lilac grey dusting, distally gradually passing into the median area, without an antemedian line; the angular streak at the cell-end finer than in the two preceding species; the feebly notched postmedian line is outside narrowly bordered with whitish lilac; the narrow dark subterminal line is distally round-arched between 2 and 4. Discal eye of hindwing small and narrow, with a hardly noticeable yellowish border, the two anteterminal lines outside intensely bordered with lilac white. Patagia with long lilac white hair. Abdomen basally and at the anus copper pink. Type: 1 ♂ from Joinville e Coll. WEYMER in the Berlin Museum, co-type from Passa Quatro (Minas) in the Coll. HOPP-Charlottenburg.

H. taglia Schs. (117 C c). Forewing marked almost exactly like *gschwandneri*, the antemedian line *taglia*. likewise oblique, the discal spot in its upper portion thicker, with a yellow central streak, the lower portion very short and narrow. Hindwing as in *ruscheweyhi*, the eye much larger and with a broader yellow border. Abdomen red, beneath brown, in the ♀ with lateral white hair. South-Eastern Brazil (S. Paulo).

H. perdix Maass. (117 C d) is marked like the preceding ones, but lighter brown, the strongly notched *perdix*. transverse lines on both sides broadly bordered with whitish or pinkish-white; subterminal area darker brown in contrast with the marginal area which is mixed with whitish; discal streak in the upper portion intensely edged with white; adjoining to the median vein and vein 2 an intense, horizontal black V-mark. Eye of hindwing smaller, subterminal shadow very broad. Fringe speckled yellowish-white and blackish-brown. Brazil (Novo Friburgo; Joinville).

H. albipellis sp. n. (117 C d) is still larger than *gschwandneri* and very different. Forewing sooty blackish; *albipellis*. both the transverse lines of the forewing whitish-grey, feebly bent, the posterior line distally angled on 7, dentate between 2 and the inner margin, subterminal line defined towards the somewhat lighter marginal area; veins of marginal area fine black. Hindwing somewhat more scantily scaled, the discal eye oval, small, black with a white central streak in a yellow ring, behind it a dark undulate postmedian line, then a white notched subterminal line. Abdomen black, centre of ventrum sooty grey, sides in the ♀ with a long and dense cover of yellowish-white hair. Type: 1 ♀ from the upper Madre de Dio, South Peru, in the Coll. BANG-HAAS.

18. Genus: **Dihirpa** gen. nov.

Only 1 species with broad wings; forewing with a characteristic course of vein 7 arising far off from 6 and far before the cell-end from the upper cell-margin. On the hindwing 5 and 6 arise nearly or quite from the same place; thorax with very long hair. Palpi well developed. Anterior tibiae with a well developed epiphysis attaining almost the length of the tibia.

D. litura Wkr. (= *marginella* Wkr.) (117 C e). Forewing olive brown, in some places, especially in the *litura*. costal posterior portion of the median area with ochreous hair; in the base of the cell a thick white longitudinal streak and at the cell-end a white discal streak, the upper end of which turns back a little; between the cell-end and the margin a deeply notched line distally bordered somewhat whitish; cell generally darkened, behind its end a very faint median shadow. Base of hindwing with light ochreous hair, the postmedian line less strongly notched; the white fringe on the ends of the veins mottled black. Abdomen black, on the posterior segments with ochreous rings of increasing width. The ♀ is less scaled and lighter, greyer. Colombia.

19. Genus: **Phricodia** Hb.

Very similar to *Dirphia* and of a scarcely different habitus, but separated by the remote origin of 6 and 7 on the forewing and of 5, 6 and 7 on the hindwing. Most of the species are characterized by the presence of 2 small discal spots of the forewing, one being white, the other one below it black. The type was considered to be *avia* Stoll, but as this species is by no means separable from *Dirphia*, we choose as type CRAMER's species *hircia*.

Type: *Ph. hircia* Cr.

I. *hircia*-group.

Ph. hircia Cr. (117 C e). Most variable, lighter or darker brown, or pinkish-brown with 2 strong transverse *hircia*. stripes bordered with white on the averted sides, the posterior stripe also proximally white, the anterior one bent, mostly subcostally angled, the posterior one almost straight; in the median area, which is sometimes feebly darkened, in the upper cell-angle a white discal spot, below it a black one; the darker subterminal line projects in a strong bow towards the margin, the farthest between 2 and 4. Hindwing with a hazy black discal spot and 2 blackish arcuate lines behind it. Fringe white. Abdomen ochreous with black rings. Mexico to Surinam and Colombia. — **rosacea** f. n. (117 C e) are distinctly pink specimens from Mexico. — Very similar *rosacea*. is **arcae** f. n. (117 C f) of which Mr. TALBOT of the Hill Museum kindly gave me a photo of the type, which most *arcae*. accurately corresponds with some specimens from Panama (Lino), and to some extent also with Colombian specimens from Muzo. The colour is a yellowish brown, the transverse lines are straighter, scarcely or not bent below the costal margin, the subterminal markings being so very distinct in the nomenclatural type are almost extinct, only marked by a somewhat darker marginal area. The type in which, moreover, 6 and 7 of the forewing are stalked, is very similar to *Dirphia parallela* (118 e), so that it seems to me to be almost the same species. — **obtusa** Wkr. (117 D a). Dr. JORDAN kindly sent me a sketch of the type of this almost unknown *obtusa*. species; a ♀ which we figure, from the Berlin Museum, seems to me to belong to it. Accordingly, it is so closely

allied to *arcae* that it can be scarcely separated; the apex of the forewing is somewhat more pointed, the transverse lines are just as little bent below the costal margin. Ground-colour browner, more irregularly mixed with ochreous, of the latter colour are spots especially before and behind the subterminal line; discal spots diminutive. Hindwing without a discal spot, more yellowish than the forewing, with 2 distantly separated postmedian and submarginal transverse lines. Abdomen brownish orange with black rings. Pará; before me from Surinam.

- amalia*. **Ph. amalia** Stoll. (117 C f) is very similar to *hircia*, but easily discernible by the undulate-dentate course of the posterior transverse line. According to the figure, the type is a small species, with a feebly dentate postmedian line. A very similar specimen from Pará, likewise named *amalia*, is before me from the Berlin Museum. Ground-colour light brownish ochreous, in the marginal area more violettish-grey; scheme of markings otherwise as in *hircia*, the median area scarcely darker, the subterminal line intensely marked as a notched line, with 2 double-pointed projections between 2 and 4, where it is outside distinctly bordered with whitish, before it spotted yellowish ochreous; upper marginal half darkened reddish-brown. Hindwing towards the margin feebly pinkish-brown with 2 separated grey postmedian nebulous bands and a faint discal spot. —
- afflata*. **afflata** Strd. (117 D a) certainly belongs as a subspecies to this place. It is larger, the postmedian line is stronger and more regularly notched, the median area broader, the upper white and lower black discal dot distinct. STRAND's type from Sarayacu (Ecuador) is somewhat lighter and more variegated than the figured specimens, from Mocoa (South Colombia), which I owe to the kindness of Mr. NIEPELT.

II. rosacordis-group.

- rosacordis*. **Ph. rosacordis** Wkr. (117 C f). Forewing reddish cinnamon brown with 2 broad straight blackish-grey antemedian and postmedian transverse stripes which are broadly bordered with light lilae pink on the inverted sides; behind the exterior stripe follows a straight brightening of the ground-colour, then the almost straight darker subterminal band which turns to the apex only above vein 7 and is outside broadly bordered with whitish pink again; a whitish strangulated discal streak is insignificant or absent. Hindwing at the base with somewhat more reddish ochreous hair, with or without a narrow blackish discal streak edged with yellowish-white, and 2 lilae pink subterminal bands enclosing a darker band. Abdomen black with narrow white rings, at the base pink, anus pinkish brown. Brazil.
- opis*. **Ph. opis** Schs. (117 D a) is very similar to *rosacordis*, but the colour is a darker brown on an average, the transverse stripes are not straight, but both at the costal margin bent to the base, the anterior one also at the inner margin, whereas the posterior one turns here towards the margin; the lilae pink border may be very broad, or also absent altogether; the yellowish-white discal streak has almost the shape of a sand-glass, it may also be absent; the subterminal band inclusive of its lilac pink marginal border is likewise more curved and extends from the apex to vein 4 obliquely inward and projects towards the margin between 4 and 2. Brazil, common (Sa. Catharina; Joinville; Parana).
- colax*. **Ph. colax** sp. n. (117 D b). Forewing of ♂ light coffee brown, transverse lines less curved than in *opis*, scarcely bent below the costal margin, much narrower and more distinct, but scarcely darker than the ground and on both sides narrowly and distinctly bordered with greyish-white, not quite straight, but unnoticeably undulate-dentate, the interior light border-line broader than the exterior one; discal streak black, bordered with yellowish-white. Subterminal line similar as in *opis*, but more irregularly notched, between 4 and 5 more or less interrupted. Hindwing in the basal half pink, behind it like the forewing, slightly hued with red, the interior band of the hindwing inwardly bordered with greyish white, behind it at the apex a whitish spot. Body as in *opis*. The ♀ is of a somewhat more red-brown ground-colour. According to a couple from Rio Grande do Sul in the Coll. BANG-HAAS.
- arpi*. **Ph. arpi** sp. n. (117 D b) is likewise similar; forewing broader olive brown, of the transverse lines only narrow violet reddish-grey lines are left, the anterior line somewhat undulate, the posterior one quite straight as in *rosacordis*; the very narrow discal streak is black, narrowly bordered with yellowish. Of the subterminal line only a light lilae apical spot distally bordering on it is present, the rest quite indistinct. Hindwing at the base bright pink, costal margin and distal half olive brown. Abdomen as in *opis*. Type: 1 ♂ from Rio de Janeiro, e Coll. ARP in the Senckenberg Museum, Frankfurt-on-Main.
- rubripes*. **Ph. rubripes** (Weym. i. l.) n. sp. (117 D b). ♂ quite dark, chocolate-brown with but one broad faded posterior transverse line of a blackish-grey colour, inwards hardly noticeably bordered with whitish and quite straight; discal spot as in *opis*. Hindwing at the base with a pink hue, likewise with a broad blackish-grey postmedian line and a very indistinct subterminal band. The ♀ is similarly marked, but the anterior body and wings are light ochreous, almost as in *Agria tau*-♀. Abdomen as in the other species of the group black with narrow white rings, at the base pink, in the ♀ with ochreous hair. Type: ♂ from Joinville, ♀ from Parana, both in the Berlin Museum.
- vagans*. **Ph. vagans** Wkr. (117 D c) is much smaller than the preceding ones, with more pointed and narrower wings. Ground-colour greyish-brown, with a slight ochreous hue subterminally, slightly darker transverse lines, the posterior one straight and rather oblique, passing close at the yellowish-white, mostly bipartite discal

spot; subterminal line of the same shape as in *opis*. Hindwing very feebly marked, fringe whitish. Abdomen black, with narrow white rings, at the base with pink hair, at the anus likewise yellowish-white, only at the extreme end rusty brownish. Brazil, widely distributed.

Ph. simplex *Dogn.* is similar to *vagans*, still smaller; anterior body brown, collar and metathorax pink, *simplex*. abdomen above darker brown. Wings light pinkish-brown, with a hardly darker posterior transverse line parallel to the margin; the cross-vein neither much darker. Described according to a ♂ from Novo Friburgo with an expanse of 57 mm.

III. plana-group.

Ph. plana *Wkr.* I cannot tell whether this species really belongs to this place; according to a sketch *plana*. of the type kindly sent by Dr. JORDAN, it is best ranged here judging from the neurulation. From WALKER's insufficient description which places the species to the *Lasiocampa* it could be scarcely identified. WALKER states the ground-colour to be reddish fawn on both wings, whilst according to JORDAN the forewing of the type is dingy yellow with dark veins, the hindwing pink, both wings with a white stigma on the cross-vein; forewing with a thin brownish shadowy band parallel to the margin, about 1 cm distant from it; hindwing likewise with a darker submarginal line. Expanse of wings: 32 lines. Haiti.

IV. lasiocampina-group.

Ph. lasiocampina *Fldr.* (117 D c). Wings coloured pale cinnamon-reddish, fringes and veins ochreous; *lasiocampina*. the white antemedian line, often reduced to 3 small vein-spots, is almost rectangularly flawed on the upper cell-margin, the posterior line parallel to the distal margin, slightly incurved between 2 and 4, feebly undulate-dentate between 5 and the costal margin. Hindwing paler. Abdomen black with ochreous rings. Mexico.

Ph. hoegei *Drc.* (117 D c) is very similar, larger, browner, especially the ♂♂ basally and subterminally *hoegei*. shaded with blackish grey, the white transverse lines broader, at the costal margin expanded into white spots, the posterior line more intensely undulate-dentate and outside bordered with very dark; veins not so yellow, more brownish-black like the fringe. Hindwing lighter with a distinct postmedian shadowy band being often bordered with white inside at the costal margin; the basal portion of the inner margin with yellowish ochreous hair. Mexico.

V. semirosea-group.

Ph. semirosea *Wkr.* (117 D d) to a certain degree resembles the preceding group by the same design *semirosea*. of markings, but the colours are different. The blackish-brown thoracal hair are intermixed with stiff grey hairs, abdomen black with pinkish carmine rings. Forewing blackish-brown, more or less hued with pinkish violet or carmine, with blackish-brown veins and internerval lines, with white transverse lines extending similarly as in *hoegei*, but more reduced to vein-dots, also the posterior line angled at 5, between the small white vein-spots orange, on both sides finely bordered with black, at the costal margin both the lines are widened into thick white dentate spots; median area especially in the costal-marginal half and at the inner margin darkened like the distally strongly notched subterminal line which recedes between 6 and 4 in an oblique line; marginal area especially subapically very light. Hindwing with 2 blackish postmedian shadowy bands, the interior one at the costal margin mostly with 2 small white vein-spots. Extreme purple-pink forms may be named — **roseana** *ab. nov.* (117 D d). The nomenclatural type flies from Mexico to Costa Rica. — In f. **gemeli** *roskana. gemeli.* *Bouv.* (117 D d), from Ecuador (Quito), Peru (Chanchamayo), Colombia, the black and smoky grey forewing is without any violettish-pink, the antennae are not light yellow, but more yellowish-grey; on the forewing the transverse lines end at the inner margin without distinct white spots. Abdomen very bright black and red. — f. **geneforti** *Bouv.* (117 D d), likewise from Ecuador, shows more yellowish-grey forewings, the transverse *geneforti*. lines well marked at the costal margin, badly marked at the inner margin. Body, legs, palpi, and base of hindwing pink, the ventrum greyish-black in the ♂, yellowish in the ♀. Another form from Guatemala is named — **angrandi** *Bouv.*; here the wings are smoky yellowish-brown, rarely feebly pink, the male antennae dark smoky *angrandi*. grey; I find that these forms evidently established on single specimens are more or less transitions, if we look at large series, and that they are not bound to localities.

Ph. coprea *sp. n.* (117 D e), however, although its exterior differs but little from *semirosea*, is a distinct *coprea*. species according to the different structure of the copulation organs. Larger and more slender, not variable, apex of forewing more obtusely rounded. Antennae somewhat lighter whitish yellow. Ground-colour monotonously dull yellowish-grey, thinly scaled, with hardly darker veins; it almost entirely lacks the conspicuous darker contrasting shades in the median area and the costal margin of *semirosea*, only the scarcely darker smoke-brown subterminal shadowy band is visible, but almost everywhere equally broad, between 4 and 6 scarcely narrower and without the strong notched distal border of *semirosea*. The white-spotted transverse lines are likewise the same, at the costal and inner margins widened into strong spots of a more creamy white colour, both between the veins distinctly orange-spotted. Hindwing dull like the forewing, 2 shadowy bands

little visible and without any notches. Body as in *semitrosea*, but the anus more rusty red, not carmine. According to 3 couples from Cuernavaca (Mexico). Types in the Coll. DRAUDT. On removing the anal hair the two ventrally bent black chitinized uncus-clasps are visible, at their base dorsally 2 feebly rounded transverse swellings, in *semitrosea* 2 distally extended coniform points.

fumosa. **Ph. fumosa** Fldr. (117 D e) is similar to *semitrosea*, but deep sooty black, the subterminal area on both wings usually brightened, the subterminal shadowy band often very feeble, before the olive yellow fringe a thick black marginal line; the two transverse lines also shaped as in *semitrosea*, but much nearer together and mostly reduced to tiny vein-dots excepting the large yellowish-white costal-marginal and inner-marginal spots; the portions situate between the veins are reddish olive-yellow. A very variable species; a much blacker form *inornata*. without the transverse lines, only with 2 white costal-marginal spots is named: — **inornata** Bouv. (117 D d), but also here all kinds of transitions occur. Mexico.

citrina. **Ph. citrina** Drc. (117 D e) entirely resembles the preceding species on the smoky yellowish-grey forewing in the marking of the transverse lines being composed of white costal-marginal spots and vein-dots, but the hindwing is unicoloured yellowish orange in the ♂, yellowish smoky grey like the forewing in the ♀. Thorax also more yellowish, abdomen with pink rings. The ♂ antennae are very dark brown. Venezuela and Guatemala.

orva. **Ph. orva** Weym. was not before me. Abdominal rings not red but chrome-coloured, only the anus rosy red. Wings olive brown, at the costal margin with 2 chrome-coloured spots at $\frac{1}{3}$ and $\frac{2}{3}$ of its length, below them rows of yellow vein-dots; subterminal line indicated by whitish dusting distally to it, traversed by dark brown veins and internerval lines; fringe yellow. Hindwing with a whitish submarginal band, only traversed by dark veins. Described from a ♂ from Colombia.

antonia. **Ph. antonia** Dogn. (117 D e). Above black, subterminally and at the margin lighter greyish, with 2 lines of dots being yellow in the ♂, white in the ♀, the antemedian line composed of 3 dots, the postmedian line of a row of vein-dots, somewhat distally angled on 5 and 6, and ending on 1 near the interior line. On the hindwing the 2nd line consists in the ♂ of but 2 dots, in the ♀ of several. Body black, metathorax, anus, tarsi, and base of hindwing beneath with pink hair. Colombia.

nigra. **Ph. nigra** Dogn. was not before me. Size and shape of *fumosa*. Upper surface of the 4 wings smoky black, forewing with 2 straight transverse lines little contrasting with the ground-colour and somewhat convergent towards the inner margin; between them a cellular dot. Hindwing with a discal dot and a likewise inconspicuous rounded postmedian line. Body black, the abdomen above with yellow rings. Antennae dark yellow. Expanse of wings: 65 mm. Paramba (Ecuador), described from a ♂.

flavilinea. **Ph. flavilinea** sp. n. (118 a) is very different. Wings brownish-pink with fine darker veins, basal area dusted with smoke-brown; both the transverse lines almost straight, broad, dull yellow, the anterior one distally shaded with a faded brown, the posterior one inside bordered by a distinct narrow line, outside by a brown broad faded shade; discal dot absent, subterminal line very feebly marked, in the upper half more conspicuous by a brownish subapical marginal shade. Head, collar, abdomen and legs brownish-pink, palpi and thorax brown. Type: 1 ♂ from Muzo (Colombia; Fassl leg.) e Coll. BANG-HAAS.

manes. **Ph. manes** Drc. (130 A b). According to the kind information by Mr. TALBOT 6 and 7 of the forewing are stalked in the type, nevertheless I range the species here owing to the exterior resembling the *semitrosea*-type, because it fits nowhere else, the least beside *araucaria* where it would have to be ranged. Anterior body blackish-brown, abdomen bluish-black, anus rusty red. Forewing brown, basally blackened, with a longish black discal spot, an almost straight black postmedian line before which there is a white triangle at the costal margin and a notched subterminal line behind it; between 4 and 5, and 6 and 7 subterminal blackish shading. Hindwing the same, but basally pinkish-red; the space between the two lines darkened black, before it at the costal margin likewise a white triangle. Mexico (Orizaba).

20. Genus: **Phidira** gen. nov.

Very closely allied to the preceding genus and only separated by the stalked veins 6 and 7 of the forewing. Only 1 species characterized by an entirely different scheme of markings, which has evidently developed from that of the *triangulum*-group, the costal base of the triangular spot extending almost from the base to the apex.

araucariae. **Ph. araucariae** Jones (= *divisa* Jord.) (118 a). Thorax blackish-brown, abdomen orange-brown, with black bands. Forewing coffee-brown with a white line beginning about 6 mm before the apex, extending obliquely inwards to about the first third of vein 2 and from here in a slightly costal bow to the base of the costal margin; this line is bordered with black towards the costal margin, which colour gradually warms upwards into the brown colour and is united with a thick black discal streak; from the base of the inner margin

another white line extends in a slight S-curve and upwards convex bow to 1 cm before the anal angle; subterminal band blackish-brown, with 2 bows towards the margin between 2 and 4. Hindwing lighter, at the base with somewhat brownish ochreous hair, with a large very indistinct discal spot and a light submarginal line which is bordered with dark on both sides. Brazil (Parana; Minas Geraes).

21. Genus: **Mesoleuca** Pack.

Some few evidently closely allied species at once discernible by the long-stalked course and mostly also contrasting colour of veins 5 and 6 of the hindwing; on the forewing 6 and 7 are also distinctly stalked. Mostly thinly scaled, rather small insects of a characteristic exterior. The ♀♀ seem to be without wings.

Type: *M. venosa* Wkr.

M. venosa Wkr. (118 a). Wings whitish, with fine black veins and fringes, and a smoky brownish narrow *venosa*. subterminal line parallel to the margin on both wings. — Body black, collar yellowish-grey, ventrum and sides with orange rings, anus copper-red or black. — **nigra** Dogn. (118 a) is scaled smoky blackish excepting the *nigra*. light cell-end. DOGNIN describes a ♀ belonging to it to be quite black and without wings. Colombia (Bogota; Sabatoga).

D. famula Maass. (118 a) is smaller scaled blackish on the olive-yellow ground, at the costal and distal *famula*. margins and on the hindwing more densely scaled, with black veins, a yellow angular spot at the cell-end and a yellow submarginal line; the yellow fringe is speckled with black. Abdomen with yellow and black rings, anus red. Ecuador.

D. nata Maass. is very similar to *famula*, browner, more densely scaled and less transparent, the yellow *nata*. postmedian line more remote from the margin and inwards bordered with a darker brown, only the forewing with black veins, hindwing brown with ochreous fringe. Ecuador.

22. Genus: **Kentroleuca** gen. n.

Only 1 species originally described as *Heliconisa*, with broad wings, an almost Geometrid-like habitus and a slim body. On both wings veins 6 and 7 most characteristically stalked; lower cell-angle far produced especially on the hindwing. Palpi short with a very small terminal joint. Anterior tibiae at the end inside with a very strong slightly bent horny sting of $\frac{1}{3}$ the length of the tarsus, and outside a short one; hind tibiae with a pair of short terminal spurs.

O. lineosa Wkr. (118 b). Front body yellowish grey, abdomen above ochreous, beneath white. Antennae *lineosa*. brown. Forewing smoky blackish, with fine yellowish ochreous veins on both sides bordered with whitish, and a creamy white discal and submedian fold, the base of the wing between the light veins distally obliquely cut off black; a white slightly oblique subterminal line which projects distally somewhat arcuately between the veins and is darker edged towards the inner margin. Hindwing the same, the line less distinct and bent parallel to the margin. Fringe white. Brazil, apparently very rare.

23. Genus: **Hirpida** gen. n.

Like the preceding genus of a somewhat Geometrid-like habitus, apex of forewing slightly falciform. Palpi shorter than in *Kentroleuca*, antennae of ♂ with short pectinations. Neuration quite the same as in *Kentroleuca*; the horny sting of the anterior tibia is absent.

Type: *H. gaujoni* Dogn.

H. gaujoni Dogn. (= choba Drc., ♀-nigrolinea Drc.) (118 b). Body and forewing light red-brown, base *gaujoni*. and marginal area with a cinnamon pink hue and dusted with lilac white, with 2 transverse lines, the posterior one distinctly and regularly notched, between them a black discal dot and behind it a straight broad shadowy band; between the notched line and the margin some interrupted parts of a lilac grey subterminal line. Hindwing with an indistinct straight postmedian line, at the anal angle dusted with lilac grey. Beneath with 2 straight lines behind the discal dot. Ecuador; Bolivia; Peru.

H. rubella Dogn. (118 b), described as *Saturnia*, is very closely allied to *gaujoni*, distinguished by the *rubella*. more purple pink ground-colour; discal dot and median shadow as in *gaujoni*, but instead of the regularly dentate postmedian line there is here an irregular hazy double shadowy line. Ecuador.

24. Genus: **Heliconisa** Wkr.

It contains but one species very closely allied, on the whole, to the genus *Dirphia* from which it is chiefly distinguished by a very conspicuous sexual dimorphism. ♂ with a slender body, long bipectinated antennae and broad wings, whereas the ♀ is of a very clumsy structure with very feebly crenated antennae and narrow, incompletely developed wings. Neuration as in *Dirphia*, on the forewing 6 and 7 arise from the same place, or occasionally also on a short stalk. On both wings the cells are long with a strongly produced lower angle. Tibial epiphysis of $\frac{3}{4}$ the length of the tibia, thicker than the tibia itself and sacciform.

*pagen-
stecheri.*

H. pagenstecheri Geyer (= impar Wkr., castora H. S., lancea Btlr.) (118 b, c). ♂ freshly emerged scantily strewn with black hair-scales which are at once shed in flying, with ochreous veins, a horseshoe-like black marking at the cell-end and a black margin crossed by the yellow veins. Hindwing the same, but only with a small discal spot. Body yellowish-grey. ♀ with more reddish ochreous veins and between the veins more densely scaled black. Body above black, beneath deep reddish ochreous, above with similar rings and hair. Southern Brazil; Paraguay; Argentina. ZIKAN observed the ♂♂ flying between 9 a. m. and 3 p. m.: the ♀ drops her eggs in lumps into the grass forming the food of the blackish-brown, black-spined larva with a red-brown head. The metamorphosis into a chestnut-red pupa takes place in a loose web on the ground between tufts of grass.

25. Genus: **Ithomisa** Obth.

Very similar to the preceding genus, but separated by shorter cells of the wings, the lower angle of which is not so far produced. On the forewing 6 and 7 arise almost invariably separated; especially the hindwing is much broader with a rounder margin. The epiphysis on the anterior tibia is longer and attains entirely or almost the length of the tibia. Body of a stronger build, the ♀ with completely developed wings.

Type: *kinkelini* Oberth.

kinkelini.

I. kinkelini Oberth. (118 c). Variable; body varying between a whitish yellowish-grey and blackish-brown; forewing in the basal half like the body, from yellowish-grey to red-brown, without a discal spot, in the distal half hyaline; the veins are coloured like the basal half, turning black distally and ending thickened in the variably broad black marginal area. Hindwing the same. The ♀ described by BERG is very much like that of the following species, but rays of the Isabel-coloured ground-colour remain between the broadly blackened veins without reaching the black margin. Argentina.

catherina.

I. catherina Schs. (= caina Zikan nec Ky.) (118 c, 119 b). Likewise a most variable species; body from greyish-brown to blackish-brown, anus more or less rusty red. Colour of wings varying between ivory white and yellowish-brown, in the basal portion mostly more red-brown, with thick black veins terminating like broad rays into the broad black margin; black discal spots may be present in both wings, or absent; the latter form

impuncta.

mostly comprising the light specimens may be named: — **impuncta** f. n. The ♀ is very much like the ♀ of *Eudytaria venata*, but it is larger with more pointed wings and between the veins there are always narrow more reddish rays visible terminating into the darkened margin. The egg which is light blue at first and then white, is deposited on *Paepalanthus polyanthus*. The larva with a habitus exactly like that of *Automeris* is green or black with branched thorns and pupates between leaves or in the grass without a web, the pupa being clumsy and dark red-brown. Southern Brazil.

carilapha.

I. carilapha Schs., founded upon but one female with an expanse of 132 mm, is very similar to some ♂♂ of *E. venata*, and I am not sure whether it belongs to the genus *Eudytaria* or to this genus. Palpi black, body blackish-brown, with reddish-ochreous hair. Wings cinnamon-brown, in the distal half irregularly strewn with short brownish-black striae, fringes brownish-black; forewing with thick black veins, at the cross-vein an oblique white line, in the lower half proximad bordered with black. Hindwing in the cell and below it as far as the centre of the wing with reddish-brown hair, with fine black veins, a large round black discal spot. Uruguay (Montevideo). It may be related to *D. zeta* Berg (cf. p. 769).

lepta.

I. lepta Drc. was not before me, and from the insufficient description it cannot be ascertained to which genus it belongs. Forewings and hindwing unicoloured dark brown, the darkest along the costal margin and apex of the forewing; veins somewhat darker. Under surface of forewing slightly dusted with grey. Body dark brown, antennae black. Expanse of wings: 5½ inches. Paraguay.

26. Genus: **Eudytaria** Btlr.

Very similar to *Ithomisa*, merely separated by the somewhat obtuser shape of the wings and the stouter abdomen, especially in the ♀. In both wings the cross-vein is less oblique, in the forewing 5 is somewhat nearer to 6. Only 1 species:

E. venata Btlr. (= consularis Burm., tribunalis Burm.) (119 a, b). ♂: the reddish flesh-coloured ground *venata* is speckled in variable intensity with blackish-brown longitudinal striae increasing towards the margin; veins distinctly black, the median vein being thickest; lower discocellular not marked. Hindwing the same, but only speckled in the marginal area, and only here with black veins; a more or less thick round black spot at the cell-end. Abdomen deep blackish brown with reddish hair. ♀: somewhat less intensely speckled. The black larva with green branched thorns lives on Eryngium. Argentina, Paraguay.

27. Genus: **Catharisa** Jord.

Proboscis composed of 2 feeble threads; palpi short, antennal shaft compressed, with long double pectinations, also in the ♀. Anterior tibiae with short apical thorns, posterior tibiae only with terminal spurs. Cross-vein less oblique than in *Heliconisa*. Neuration of hindwing as in *Heliconisa*, but with a broader cell and less oblique cross-vein. Only 1 species.

C. cerina Jord. (118 d). Unicoloured pale lemon-yellow, scantily scaled, margins and fringes somewhat *cerina*. more reddish. Forewing with a tiny discal spot showing through from beneath. Hindwing with a black, white-centred ocellus. Paraguay.

28. Genus: **Eubergia** Bouv.

Intermediary between *Automeris* and *Dirphia*; mostly small, rather variegated species with light veins, almost nearer to *Automeris*. Antennae bipectinate, palpi rather well developed. Neuration on the whole same as that of *Dirphia*, on the forewing 6 and 7 arise from the same base, on the hindwing separately, 5 very near to 6. The species are also somewhat similar to the following *Hemileucinae* by the very feeble discocellular; it extends less obliquely than in *Heliconisa*. Epiphysis of anterior tibiae represented by a thin formation encased in a cavity of the tibia, not projecting as in *Heliconisa*.

Type: *E. caisa* Berg.

E. caisa Berg (= caina Ky., radians Dogn.) (118 d) is a small species which is often mistaken. Thorax *caisa*. blackish, abdomen reddish brick-coloured. Costal margin and disc of forewing reddish-grey; veins varying between ochreous-red and brick-red, bordered with blackish on both sides, the ground of the wing between them creamy white, interrupted by 2 broad yellowish-white rather straight transverse bands extending almost vertically to the inner margin. Between them a large roundish oval discal macula with a black centre. Veins of hindwing only in the marginal half coloured like those on the forewing, the discal macula larger. Paraguay; Argentina.

E. boetifica Drc. (= bedoci Bouv.) (118 d) is very similar, but at once discernible by the much more *boetifica*. oblique course of the white transverse bands, the anterior one of which forms a very acute angle to the lower cell-angle above which the punctiform black discal spot is situate before a yellowish-white spot. Costal margin of forewing and disc of hindwing yellowish-white, not reddish-grey; thorax above also white and not blackish. It was not easy to trace the synonymy from the very insufficient description by DRUCE who does not even mention the transverse bands. Mr. TALBOT had the kindness to substantiate the diagnose from the type. Paraguay; Argentina; Southern Brazil; Peru.

E. argyrea Weym. (118 d), described as *Automeris*, appears to me a doubtful species, since it might be *argyrea*. merely a ♀ of *caisa* with a larger ocellus in the purer pink hindwing, which, in my opinion, is the only mark of distinction from the said species. Discal spot of hindwing larger here, a black ring filled with red. All the rest corresponds to *caisa*, though the somewhat narrower transverse bands are described to be silvery white. Sergipe, Southern Brazil.

E. strigosa M. & W. (118 d) is a somewhat larger species with more elongate wings. Ground-colour *strigosa*. whitish-yellow, margins more intensely ochreous than the veins of the marginal area, which are bordered with blackish-grey on both sides; a white parallel stripe besides before the margin; the cell and 2 longitudinal stripes behind it as well as a broad submedian stripe likewise blackish, finely longitudinally parted by light. Thorax blackish, patagia outside yellowish-white. Abdomen ochreous, with black rings. Brazil, exact habitat not stated. The type from the Berlin Museum was before me.

E. berthia Schs. (116 e). This wonderful species has a black thorax with yellow-edged patagia, a red *berthia*. abdomen which is brownish in the ♀. Forewing dark grey, with orange veins bordered with light yellow and yellowish cellular and submedian folds, with a dark red spot bordered with black at the cell-end. Hindwing of ♂ red, at the base with yellow hair, with a black margin interrupted by yellow veins, with a black ocellus centred brownish at the cell-end, with a white central streak. In the ♀ the hindwing is of a duller reddish colour warming into grey towards the margin. Castro, Parana.

2. Division: vein 1 b of hindwing present (*Hemileucinae*).

29. Genus: **Euleucophaeus** Pack.

This genus contains 1 dozen of medium-sized, rather scantily scaled lepidoptera distinguished by a certain sexual dimorphism. Nearly all are brownish-grey, more or less tinted pink, with 2 white transverse bands and a small frequently unscaled discal spot, a brownish-red abdomen, some species being difficult to separate. Like all the genuine *Hemileucidae* they have a vein 1 b, though it is very feeble; the cross-vein is extremely feeble in both wings, so that the cell is practically open. On the forewing 2, 3, and 4 arise at almost equal distances, 5 and 6 from the upper cell-angle, 7 and 8 and 10 rather close together from the anterior margin of the cell shortly before the cell-angle. On the hindwing 5 and 6 likewise arise from the upper cell-angle either together or close together, 7 a little before it. Antennae of ♂ bipectinate, in the ♀ serrate, partly with rather long ciliary bristles, so that they almost look short-combed. Thorax with very long hair. The larvae are exactly like those of *Saturnia*, cylindrical, with thorns ramified fir-like on tubercles. All of them probably live on grass; Prof. COCKERELL has ascertained that they may even do much harm to pastures. PACKARD considers this genus to be merely a section of *Hemileuca*, but owing to biological and some habitual differences from the latter we keep it up.

Type: *E. tricolor* Pack.

- rubridorsa*. **E. rubridorsa** Fldr. (120 a). The ♂ is brownish-grey with broad ochreous veins and costal margin, 2 whitish transverse bands, the exterior one of which is distinctly undulated; hindwing scarcely lighter, with a basal pink tint and very feeble traces of a postmedian shadowy band. The ♀ is but little larger. Mexico (City).
- norba*. — **norba** Drc. (120 a) is somewhat lighter, the costal margin of the forewing much narrower ochreous, hindwing paler, more extensively pink at the base, with a distinct darker postmedian shadowy band which is bordered with whitish outside. The ♀ is larger than that of *rubridorsa*, the yellow veins and white transverse lines much less prominent. Zacualpan, Amecameca. — **minette** Dyar is a somewhat smaller form, described according to a single ♂ from Mexico (habitat not certain); it surely belongs to this species and is said to be distinguished by a larger white, centrally unscaled discal spot on the forewing. Hindwing with a distinct white postmedian band.
- hualapai*. **E. hualapai** Neum. is an uncertain species described from a single ♀ from South-West Arizona: it must be closely allied to *mania* and has likewise an ochreous costal margin of the forewing, being distinguished by but one feeble postmedian transverse line, the anterior one being absent altogether. From Cuernavaca (Mexico), numbers of a species in both sexes are before me, which may be allied to *hualapai*, whilst the ♂ may also be allied to *lares*. In honour of Dr. DYAR in Washington, who was the first to search into the graminivorous species: — **dyari** sp. n. (120 a). The ♂ resembles *mania* and is somewhat smaller on an average, with rather straight, narrow and quite parallel white transverse lines, the exterior line proceeding relatively near the apex; median area very broad; hindwing whitish, basally very feebly pink, with a distinct grey postmedian and marginal band. Thorax greyish-white, abdomen bright brownish-red. The larger ♀ is very pale, both the fine white transverse lines obliterated. Types in the Coll. DRAUDT.
- lares*. **E. lares** Drc. is neither certain, described from a single ♂, from Durango City; it must be allied to the preceding species, but according to the figure it has much more sinuate and broader white transverse bands, a narrower median area and a dull yellow abdomen with pink hair only at the base.
- mania*. **E. mania** Drc. (120 b) is the largest species, of a most variable colouring, from brownish-grey to a pure pink (— **macellaria** f. n.) (120 b), with a narrow ochreous costal margin, broad white transverse bands and almost purely white hindwings. Eastern coast, State of Vera Cruz. My father found the larvae on various species of grass, also on maize, in December; they were light reddish-brown with blackish knobbed tubercles with star-hairs, the green pupae between threads in the grass yielding the imagines in February.
- numa*. **E. numa** Drc. (120 b) is a smaller, much darker, greyish-black species with quite dark hindwings; the median area enclosed by the white transverse lines is variably broad as in all the other species, the whitish discal spot either very near to the antemedian line or quite separate. Base of hindwing dark pink. The larger ♀ shows a duller colouring, the base of the hindwing is much more extensively pink. Mexico (City). — **nitria** Drc., the type of which is before me from the Coll. STGR. (Berlin Museum), is said to be somewhat larger, which however I find to be incorrect on comparing it with the series of *numa* lying before me. Base of hindwing without pink; I cannot find any other essential difference. The type is only labelled: Mexico, without any habitat stated.
- oliviae*. **E. oliviae** Ckll. (120 c) is very similar to *mania*, but it has no ochreous costal margin of the forewing and the ground-colour is much paler, so that the feeble white transverse bands being especially broad in the ♂ are rather indistinct. From New Mexico, in September and October. The larva described by COCKERELL is ochreous with darker brown markings, a dark brown head and black, fir-tree-like thorns, living on grass

(*Mühlenbeckia texana*) like those of the other species. — ab. *grisea* *Ckll.* shows the median area dusted with *grisea*, a much darker grey. — ab. *suffusa* *Ckll.*, described according to a ♀, is suffused with reddish-grey above, with *suffusa*, a blackish costal-marginal area.

E. sororius *H. Edw.* is much darker, the transverse lines therefore much more distinct and broadly *sororius*, white, the antemedian line straight; forewing with a yellowish-brown discal spot. This species which has remained unknown to me was described from a single ♀ from La Paz, Lower California, and does not seem to have been found again. In my opinion it may belong to *numa*; but the fringe of the hindwing is described to be white, whereas in *numa* it is blackish-grey.

E. mexicana *Drc.* (= *marillia* *Dyar*) (120 c), originally described as *Metanastria*, is likewise very similar *mexicana*, to *mania*, but darker and at once discernible by the costal margin of the forewing above not or scarcely being yellow; the median area edged by broad white transverse bands is mostly darker. Hindwing on an average somewhat darker than in *mania*, with a rather distinct postmedian band. The ♀ is generally intensely suffused with brownish-pink. Tehuacan (Puebla). I have been able to compare the types from the Berlin Museum, which are exactly the same as *marillia*. — *packardi* *Ckll.*, described from a ♀ from Tacubaya (Mexico), may belong *packardi*, to it, since the description is very similar excepting the somewhat darker pinkish-carmine colouring.

E. lex *Drc.* (120 c) has narrower wings with a more oblique distal margin of the forewing, for which *lex*, reason the transverse lines are also somewhat more oblique, the anterior one being acute-angular below the costal margin, the costal margin broadly white especially in the median area. Hindwing in the ♂ all white, in the ♀ with a grey hue, with a whitish subterminal band. Fringe very broadly white. Mexico (City), Durango City.

E. tricolor *Pack.* (120 d) is very similar to *lex*, with somewhat broader wings, the white colour of the *tricolor*, transverse lines much more extensive, so that only a relatively narrow, grey-strewn marginal area remains in the ♂; the white discal spot is distinct, edged with dark and often with a slight yellowish tint. Hindwing of ♂ white with a fine dark discal streak or ring, in the ♀ grey, basally and postmedianly broad whitish. From Southern Arizona, common in the Sa. Catalina Mts. in February till April.

30. Genus: **Hemileuca** *Wkr.*

This genus is very similar to the species of *Euleucophaeus*. The imagines have generally somewhat more elongated wings with a more oblique distal margin; mostly still more scantily scaled, the cross-veins on both wings stronger, and distinctly angled in the centre. On the hindwing veins 5 and 6 arise on a short stalk in some species. The antennae of the ♂♂ are somewhat shorter pectinated, with thicker dents, those of the ♀♀ likewise shortly pectinated, not serrated and bristly. The larvae, as far as they are known, contrary to those of the preceding genus, live on foliage-trees, especially on willows.

Type: *H. maia* *Dru.*

H. electra *Wright* (120 d). A most variable species; forewing black with 2 whitish basal stripes, a *electra*, whitish median band enclosing a black-ringed hyaline crescent, and light subterminal markings. Hindwing reddish brick-coloured with a black discal spot enclosing a light central streak, and a black marginal band. California and Sonora. — f. *clio* *B. & McD.* exhibits, beside the light median band, quite black forewings and *clio*, deeper red hindwings which are dusted with black distally. Arizona. — ab. *rickseckeri* *Wats.* is an intensely *rickseckeri*, blackened form, only with a discal spot and traces of the transverse lines at the inner margin.

H. maia *Dru.* (= *proserpina* *F.*) (120 d) is one of the commonest species, black, scantily scaled, with a *maia*, whitish rather narrow median band on both wings, enclosing a black central spot which bears a white narrow angled central streak. — ab. *lintneri* *Ckll.* has quite blackish, scantily scaled forewings without the whitish *lintneri*, transverse band, whilst it is present on the hindwing. Larva purple black, dotted yellow, with chestnut-brown abdominal and anal legs; it bears firtree-like black burning thorns and lives gregariously in spring on oaks, willows, cherry-trees and hazel. It pupates in the soil without a cocoon. The imago flies in the daytime in the latter part of autumn. Atlantic States, Colorado.

H. lucina *H. Edw.* is very much like *maia*, but somewhat smaller and much more sparsely scaled, with *lucina*, broader whitish median bands. Thorax quite black in distinction from the following species. New England. — ab. *obsoleta* *Reiff* exhibits on the forewing more or less extinct transverse bands; — ab. *lutea* *Reiff* is more *obsoleta*, grey, the transverse bands intensely tinted yellowish; both forms described from New Hampshire (Raymond). *lutea*. — subsp. *latifascia* *B. & McD.* is the race from Manitoba, with much broader median bands especially on the *latifascia*, forewing, so that only a narrow black marginal band remains as in *nevadensis*. Discal spot of hindwing shorter and almost extinct. Larva much more glossy black with a distinct white sublateral stripe; it lives gregariously in heaps on Spiraeac. It does not pupate in the soil, but between dry leaves.

- nevadensis*. **H. nevadensis** *Stretch*. (= *californica* *Wright*, *artemis* *Pack.*) (120 c) is very similar to the preceding species, especially *latifascia*, but more densely scaled than the latter and easily discernible by the thorax being covered with yellowish-white hair; the white median area of both wings very broad, the discal spot of the hindwing of a triangular shape without a white central streak. California, Rocky Mts. to the Pacific Coast. Larva sea-green or yellowish with black thorns and red-brown head and feet. It lives on willows and poplar-trees.
- juno*. **H. juno** *Pack.* (= *yavapai* *Pack.*) (120 e) is much more densely scaled, black, with a white median band divided by the black veins on the forewing and a small white discal spot; interior margin of tegulae and anal tuft of abdomen brick-red. Arizona and North Mexico. Larva velvety black, densely dotted yellowish-white, with orange transverse bands and an undulated yellowish-white lateral stripe.
- grotei*. **H. grotei** *G. & R.* (= *diana* *Pack.*) (120 e) is very similar to *juno*, but the median band of the forewing is mostly reduced to 3 white spots inclusive of the discal spot. Hindwing mostly only with one or two small apical spots, in the ♀ more with a narrow white median band. Texas and Colorado.
- neumoegeni*. **H. neumoegei** *H. Edw.* is a rare species with silvery white forewings with 2 black dentate transverse lines and reddish-orange discal spots edged with black, a similar one in the cell at the antemedian line. Arizona, California. Abdomen above with orange-red hair, antennae orange-brown. For this species and the following *burnsi* GROTE established the subgenus *Argyranthes*.
- burnsi*. **H. burnsi** *Wats.* (120 e) is a beautiful species very closely allied to *neumoegeni*, larger, snow-white with 2 black transverse bands, the exterior one being notched, with a black discal ring, the small orange antemedian spot is always absent, hindwing with a black discal spot or ring and a black transverse line behind it, which is thickened at the costal margin. Abdomen with black rings, basally reddish; without the orange-red hair
- paradoxa*. of *neumoegeni*. Mesothorax in front, palpi and forelegs pink, antennae deep dark brown. — **paradoxa** *Wats.* exhibits a less black abdomen; the colour of the wings is light reddish-yellow, not white, at the apex smoked lilac brown, more intensely marked, the costal margin between the two black bands lighter, the margin darkened
- itmac*. also on the hindwing. — ab. **ilmae** *Wats.* is yellowish-white on the body and wings, the black transverse bands
- nigrovenosa*. are broader and connected along the costal margin; described from a ♂. — ab. **nigrovenosa** *Wats.* shows the
- conjuncta*. veins of the forewing strewn with black scales; described from a ♀. — ab. **conjuncta** *Wats.* exhibits the black transverse bands connected by a black line at the inner margin, and black veins between the postmedian band and the discal spot. California.

31. Genus: **Pseudohazis** *Gr. & R.*

Separated from the preceding genus by the more elongated wings, the more produced apex of the forewing, larger more butterfly-like hindwings, and the somewhat slimmer body. In the other structure almost the same. The ♂♂ antennae are longer pectinated, those of the ♀♀ shorter pectinated. In the scheme of markings, the species are quite similar to those of the genus *Hemileuca*, they are most variable and fly in the forenoon in the sunshine, in a very lively and swift flight similar to that of the *Argynnis*-species flying with them. In the shape and colouring of the wings they also recall the Indo-Australian Geometrid genus *Dysphania*.

Type: *P. eglanterina* *Bsdv.*

- eglanterina*. **P. eglanterina** *Bsdv.* (= *eglanteriae* *H. S.*, *normalis* *Dyar*) (120 f) is an extremely variable species always recognisable by an orange longitudinal patch between the veins 4 and 5 behind the discal spot. The nomenclatural type is bone-coloured above, warming into orange towards the margin and suffused with pink, hindwing orange, with thick black transverse bands, on the forewing 2, on the hindwing one, and with large
- shastaensis*. black discal spots, that of the hindwing with a white central streak. — **shastaensis** *Behr.* is a form more intensely marked black, from the higher mountains; the whole ground is also blackened, so that extreme specimens
- denudata*. merely show a submarginal row of yellow or pink spots, and even those may be absent. — In **denudata** *Neum.* (= *boisduvalii* *Obth.*, *harrisi* *Obth.*) (120 f) the normal marking is very feebly marked blackish-grey like a shadow,
- nuttalli*. or entirely extinct. The type originates from California. — **nuttalli** *Stkr.* (= *uniformis* *Ckll.*), described according to a ♂ from Colorado at an altitude of 11 000 ft., is light yellowish ochreous above and beneath, with somewhat darker hindwings, the same markings as *eglanterina*, though without the yellow longitudinal patch behind the
- arizonensis*. discal spot. — **arizonensis** *Stkr.* has whitish-reddish flesh-coloured wings; from Arizona. — The larva of *eglanterina* is dull black with finely branched chestnut-brown fir-tree-like thorns, it lives on *Frangula californica* and roses. The larva of *shastaensis* has black thorns and lilac subdorsal, lateral and substigmatal longitudinal lines which may also disappear. It lives on *Ceanothus*, *Arctostaphylos*, also on cherries, gregariously until the last stage. It does not pupate in the soil.
- hera*. **P. hera** *Harris* (= *pica* *Wkr.*) (120 f). Light yellow, marked almost exactly like *H. neumoegei* or
- burnsi*, but with black wedges at the margin. Likewise most variable. Colorado, Utah, Nevada, New Mexico.
- marcata*. — **marcata** *Neum.* (120 f), from Oregon, is distinguished by a pure white ground-colour, the absence of the black wedge-shaped vein-ends on the hindwing, finer black transverse lines, and the absence of the black

basal marking on the hindwing. The larva resembles that of *eglanterina*, but inclusive of the thorns it is all black with an undulating whitish substigmatal line; it lives on *Salvia*.

32. Genus: **Coloradia** Blake.

In the structure likewise very near to the 3 preceding genera; second inner-marginal vein of the hindwing present, too. Shape of wings narrower, hindwing smaller. Antennae in the ♂ bipectinated, in the ♀ serrated. Cross-vein in both wings stronger and not angled; in both wings the origin of vein 5 is a little below the upper cell-angle, 6 and 7 arise from the same place or on a short stalk in both wings. The larvae of *pandora*, according to ALDRICH *), are considered a delicacy by the Mono Lake Indians who collect the larvae coming down from the trunks for the sake of pupation in July, by cutting ditches around the trees; the insects are then roasted in earth which has been made hot by fire, passed through a sieve, spread out on bark for 2 days, whereupon they are preserved cool and dry in bags and prepared for meals like "Irish Stew". ALDRICH found the tough "delicacy" to taste insipid and saltless, somewhat like linseed oil. The Indians call this food: Pe-aggie.

Type: *C. pandora* Blake.

C. pandora Blake (= *loiperda* Dyar) (120 g). Forewing strewn with black and white, hair-shaped *pandora* scales, with 2 notched black transverse lines which are more intensely bordered with white on the inverted sides especially at the costal margin; at the cross-vein a small black spot; the irregularly notched subterminal line is distally bordered with whitish; fringes speckled white on the ends of the veins. Hindwing whitish with a very feeble flesh-coloured tint, somewhat more distinct at the inner margin, with a black median spot, a notched postmedian line and a marginal band in which we notice a feebly lighter indistinct subterminal line. Larva on *Pinus jeffreyi*, at Lake Mono in altitudes of 7000 ft., biennial and pupating without a web in the soil; evolution in spring. Rocky Mts., from Montana to Mexico.

C. davisii B. & Benj. (120 g) is closely allied to *pandora* and similarly marked, smaller, more variegated, *davisii*. blacker, without any brownish tint, the subterminal line more conspicuous white. Hindwing and the under surface intensely tinted pink. White Mts., Arizona.

C. doris Barnes (= *lois* Dyar) (120 g) is much smaller than *pandora*, the wings are much less scaled, *doris*. more monotonously grey, particularly the ♀ dull brownish sooty grey; the subterminal line is scarcely scaled white distally. Hindwing in the ♂ almost hyaline whitish, only at the inner margin very feebly haired reddish, in the ♀ quite sooty grey. Colorado.

C. luski B. & Benj. bears the same relationship to *doris*, as *davisii* to *pandora*, blackish-grey, scantily *luski*. strewn white, with faded markings; hindwing intensely tinted pink like the whole under surface. Sexually dimorphous, in the ♀ the hindwing is much darker and more densely scaled than in the ♂. White Mts., Arizona. Expanse of wings: ♂ 57 mm, ♀ 60 mm.

C. lindseyi B. & Benj. is allied to *pandora* and may be regarded as its northern race; somewhat darker *lindseyi*. than *pandora*, the hindwing more pinkish; in the ♀ the forewing is much duller and more brownish, hindwing and under surface more suffused with reddish than in *pandora*. California, Oregon. Expanse of wings: ♂ 78—80 mm, ♀ 82—87 mm.

C. bonniwelli B. & Benj. is similarly marked as *pandora*, smaller, in the ♂ darker, more variegated, *bonniwelli*. rather like *davisii*, in the ♀ more softly scaled, more as in *doris*, but with more contrasting markings; hindwing and wings beneath as in *pandora*. New Mexico. Expanse: ♂ 64—70 mm, ♀ 75 mm. *

C. chiricahua B. & Benj. is still smaller, the ground of the wings more intensely strewn with white, *chiricahua*. the black transverse lines therefore more prominent, the subterminal line very distinctly white outside. Hindwing almost white, with a slight pink hue; without any brownish tinge. Under surface lighter than in *pandora* and without its brownish dingy colour. Expanse of wings: 60 mm. According to a ♂ from Arizona.

C. duffneri B. & Benj. is similar to *chiricahua*, larger, intensely strewn with white, particularly the *duffneri*. median area contrastingly white; transverse lines strong, subterminal line only marked by the distal white dusting; discal spot very small. Hindwing and under surface more intensely red. Expanse of wings: 67 mm. Cochise County, Arizona.

C. euphrosyne Dyar (120 g) is more brownish, the median area somewhat more prominently white, the *euphrosyne*. transverse lines broad, faded, scarcely notched, discal spot small. Hindwing variable, in the inner-marginal half dark pinkish earmine, marginal area more or less broadly blackish-grey, with a black discal spot which may be either isolated or also contained in the more or less broad brownish-grey median band. Mexico City.

*) Ann. Ent. Soc. Amer. XIV, No. 1, p. 36, 1921.

Appendix.

2. Genus: **Neopreptos** *n. gen.*

It was unfortunately only after the completion of the *Eupterotidae* that I had the occasion of examining the type of *clazomenia* having been described as "*Coloradia*", from the Berlin Museum e Coll. STAUDINGER, as well as a ♂ belonging to it from the Coll. BANG-HAAS. Both are genuine *Eupterotidae* and must be appended on p. 629 of this volume after *Preptos* to which genus they are closely allied. Palpi somewhat longer, drooping, antennae in the ♀ slightly longer combed than in *oropus*-♀, whilst the only ♂ that exists is without the antennae; the figure of *marathusa* in the Biologia shows them pectinated. Margin of forewing somewhat less oblique than in *Preptos*, neurulation of forewing almost the same, vein 5 removed down to the centre of the cross-vein, 6, 7 + 8, and 9 arise from the upper cell-angle. On the hindwing 5 arises far below the upper cell-angle, 6 + 7 on a very short stalk from the upper cell-angle; the bar between the first third of the anterior margin of the cell and the costal vein is very strong and distinct.

Type: *N. clazomenia* Drc.

clazomenia. **N. clazomenia** Drc. (86 f). Dark red-brown, sparsely intermixed with white hair-scales, with a subterminal transverse line of white hair-scales, bordered somewhat darker distally, behind it with spots of a feeble leaden gloss. Hindwing unicoloured. The larger ♀ is somewhat more sparsely scaled, the subterminal line much less distinct, the spots with the leaden gloss behind it somewhat more whitish especially at the costal margin, notchedly bordered outside. Panama (Chiriqui).

marathusa. **N. marathusa** Drc. I only know from the description in the Biologia. The ♂ e Coll. BANG-HAAS mentioned above corresponds well with the figure in the Biologia, but on the other hand I take it to be rather the ♂ of the species described as *clazomenia* as which we figure it. DRUCE describes *marathusa* from Costa Rica, the present specimen originates from the Chiriqui (Panama) like *clazomenia*, too. The ♀ of *marathusa* is described to be uniformly light brown, sparsely scaled, head and thorax dark brown, abdomen light yellowish-brown. It may be that DRUCE has confounded the two species, and his *marathusa*-♂ belongs as the other sex to *clazomenia* and not to *marathusa*-♀.

2. Subfamily: **Syssphingidae**.

This subfamily, also called *Ceratocampidae*, shows the following characters: a larger head than that of the *Saturnidae*, large globular eyes; proboscis absent or without function. Antennae bipectinated as far as half their length or to the ends. Body robust, more Sphingid-like than in the foregoing. Larvae mostly smooth in their last stage, without thorns, in the earlier stages with 2—6 thoracal horns and a double median abdominal horn.

1. Subordinate group: **Arsenurinae** Jord.

This group, the greatest part of which belongs to PACKARD'S *Agliinae*, differs from the genuine *Syssphingidae* in the broader shape of the wings and a less strong and shorter, sometimes almost slim abdomen. The forewing often exhibits a rounded falcate shape at the apex, now and then with notches and angles at the distal margin, the hindwing is frequently extended into a projection below the centre of the margin or a long tail. Palpi rather well developed, the ♂ antennae mostly shorter or longer pectinated to the ends, sometimes only serrated and ciliated. The larvae (see above) mostly pupate smoothly in the soil without a cocoon.

1. Genus: **Machaerosema** Rothsch.

It contains 6 large forms with a broad and remarkably high shape of the wings, the forewings with a falcate though well rounded apex. Abdomen, compared with the large wings, slim and small, not reaching to the centre of the inner margin in the ♂♂. Cell in both wings short and broad; in the forewing 3 arises shortly before the lower cell-angle, 5 above the centre of the cross-vein, 6 from the upper cell-angle. Antennae in both sexes pectinated. Formerly known as *Rhescyntis* Hbn.

Type: *M. hippodamia* Cr.

hippodamia. **M. hippodamia** Cr. (123 a) is the largest species with the broadest wings, of a more red-brown ground-colour, with a light median and marginal area; postmedian line mostly only double, sometimes treble; subterminal line reddish-yellow, behind it brown ornaments finely scaled bluish-grey, pierced by black fine vein-arrows.

pomposa. Guiana to Brazil. — **pomposa** f. n. (134 a) is a wonderful quite dark, deep olive brownish-black form without

any red-brown tints; the distal margin of the forewing being distally convex in the type is quite straight here, the distal margin of the hindwing being rounded in *hippodamia* is also rectilinear here and somewhat angled on 3 and 4; subterminal line olive, crossed by white on the veins of the hindwing, the ornaments behind it slate-coloured black, not brown. West Colombia (type in the Coll. NIEPELT).

M. mortii *Perty* (123 a, as "*martii*") is very near to *hippodamia*, smaller and more slender in general, *mortii*. not red-brown, but olive brown, the antemedian line more rounded, without the submedian dent, the postmedian line very distinctly fourfold, the median area often dusted with light grey. Brazil.

M. norax *Drc.* (123 b) is still more slender, with a more produced apex, distal margin more oblique, *norax*. apex of the wings not rounded between 6 and 8, but straightly cut off; ground-colour light fawn, median and basal areas darkened by dull olive brown; antemedian and postmedian lines confluent close below the cell. Distal margin of hindwing straight between 4 and 8, subterminal line correspondingly rectilinear obtusely angled, not bent, the ornaments behind it marked deep black in the upper section, below it only dull brown. Central America (Panama). Beside the type in the Berlin Museum figured by us I only know a second quite similar specimen from the Chiriqui e Coll. BANG-HAAS. — **guianensis** *Bouv.* (123 b) is smaller, wings shaped more *guianensis*. like those of *mortii*, subterminal line of hindwing also rounded as in *mortii*, the ornaments behind it quite absent, instead of them only the black vein-arrows are marked. Guiana, according to Mr. SCHAUSS also from Central America. The ♀ is smaller and more squatty, the fusion of the antemedian and postmedian lines already takes place in the cell, below it one has almost the impression as if the two lines were crossed; ground-colour olive brown, the subterminal lines broad and bright yellow, on the hindwing rounded.

M. hermes *Rothsch.* (123 b) has much narrower wings; above greyish-olive, the markings almost as in *hermes*. *hippodamia*, the antemedian double line and the postmedian line olive, feeble, the latter not accompanied by other lines; subterminal line greyish-olive, inside bordered with a deep olive brown, behind it large olive brown spots strewn with white. Hindwing round with a short inner margin, the ornaments behind the subterminal line light greenish-brown. British Guiana.

2. Genus: **Grammopelta** *Rothsch.*

Allied to the preceding genus, though its exterior appears to be very different and almost recalling a *Copaxa*. According to JORDAN, however, it is no *Agliina*, but a genuine *Arsenurina* with a large parasternum. Antennae dentate; forewing with a 4-branched subcostal vein, the 1st branch from the 2nd near the apex; 7 and 8 arise stalked with 6 from the upper cell-angle; the cell in both wings shows the lower angle extended in an acute angle. Hindwing rounded, the costal margin longer than the inner margin. Only 1 species is known hitherto:

G. lineata *Schs.* (= *cervina* *Rothsch.*, *convergens* *Bouv.*). Forewing light reddish-brown with darker *lineata*. veins, sparsely streaked darker, cross-vein and submedian vein likewise dark brown as well as 3 transverse lines: the first from the base of the costal margin to the centre of the inner margin, the 2nd right behind the middle, and a finer subterminal line being acute-angular subapically; apex dusted with white. Hindwing with but 2 transverse lines. French Guiana and South-Eastern Peru. — **nिएpeliti** *f. n.* (128 c) I call a larger and darker, *nिएpeliti*. more pinkish-brown form from Western Colombia, which is very intensely marked and in which the whole dark subterminal area prominently contrasts with the rest of the ground-colour. Type in the Coll. NIEPELT from which a magnificent couple was before me.

3. Genus: **Arsenura** *Dunc.*

It has the same neuration as the preceding genus, but the wings are narrower, the body is more robust, the abdomen projects beyond the centre of the inner margin and often the anal angle. The shape of the wings is variable; there are species with entirely rounded wings, with an extended apex, with a gnawed margin, with angles or tails on the hindwings etc. The main difference is exhibited in the antennae which are combed shorter or serrate-dentate with ciliary tufts in the ♂♂, and finely serrate-dentate or plainly ciliated in the ♀♀. A great number of species have been described, the separation of which is partly difficult. In addition, the exterior of the species often varies considerably at different habitats. The greatest uncertainties are offered by the *armida*-group which ought to be thoroughly examined. We must confine ourselves here to enumerating what is hitherto known and inserting some conspicuous forms for the present as subordinate forms; only by careful examinations of the genital organs it will be possible to ascertain to which species they really belong.

Type: *A. syllia* *Cr.*

A. hercules *Wkr.* (124 a) is one of the largest and most beautiful species, light brown with a broad *hercules*. blackish-brown postmedian band extending at the inner margin to the base and not being distinctly defined inwards, outside by the light, then finely darker subterminal line, behind which there are large slate-blue or

violettish-blue spots; apical spot bilobate. Guiana to Brazil. The specimen figured e Coll. NIEPELT, from Western Colombia, is remarkably dark and variegated.

sylla. **A. sylla** Cr. is extraordinarily near to *hercules*; the shape of the wings is rounder, the apex less produced, the hindwing more rounded, without the concave indenture below the apex; darker brown, the discal ring finer, absent altogether on the hindwing; subterminal line broader, more creamy, the slate-blue spots behind it narrower; the black spot below the red-edged apical spot is much smaller. From Guiana (Surinam). — f.

pelias. **pelias** Jord. is lighter, the ♀ coloured almost like *meander*; the reddish-yellow subterminal line is still broader, the brown marginal area likewise broader, as broad as in *hercules*, the black spot below the apex as large as in *hercules*. Matto Grosso (Cuyaba).

alcemene. **A. alcemene** sp. n. (124 a) is smaller, darker chocolate brown, the postmedian band bordered inside in the lower half by the antemedian line which is rectangularly flawed on the median; subterminal line scarcely lighter than the brown ground, forming a uniform bow in the middle, projecting rectangularly on the inner-marginal vein. Hindwing rounded, costal margin much longer than the inner margin. Also very similar to *xanthopus*. According to 2 ♀♀ from Novo Friburgo, type in the Berlin Museum.

xanthopus. **A. xanthopus** Wkr. (124 b) is smaller than the preceding species, the ground of the wings lighter, the subterminal line forming a hardly noticeable angle in the large bow on 3 is very contrastingly brownish-white, whilst in *alcemene* it is not or scarcely lighter than the ground; behind it, on the hindwing, follows a lilac grey band of spots, behind it a band of red-brown spots, both separated by finely strewn bluish-white scales. Distributed in Brazil and Argentina. In the Berlin Museum there is a very light bone-white specimen intensely strewn with brown, from Parana. — **d'orbignyana** Bouv. is a transition-form to the following species. Forewing as in *xanthopus*, hindwing coloured like that of *angulatus*. Bolivia. Larva dark grey speckled with brown, with a yellow lateral line and a black and yellow neck-shield and anal end; young larva with 2 filiform horns on the 2nd ring and a similar one on the penultimate ring of half the length of the body, adult larva without horns. It lives on "racapicho": *Urena sinuata*, a shrub with burry fruits.

angulatus. **A. angulatus** Bouv. (124 b) is still smaller, more delicate and variegated, the ♂ antennae decidedly longer combed; the lilac apical spot is one-pointed, not bilobate as in the preceding species, the subterminal line on the hindwing much more notched, especially angular on 3 and 4. Brazil; apparently a common species.

meander. **A. meander** Wkr. (124 b) is a large reddish loam-coloured species, the ♀ being almost reddish brick-coloured, the wings not strewn at all; behind the yellowish-white subterminal which is especially broad on the hindwing there are red-brown, black-centred ornaments bordered by thick high black bows; below the apical spot which is suffused with pinkish-red there are 2 thick black spots. An apparently very rare species from Brazil. In the Berlin Museum there is a beautiful couple.

pandora. **A. pandora** Klug (124 c) is allied to *meander*, smaller, lighter, without the reddish brick-tinge, very intensely strewn with blackish-brown, otherwise very similarly marked, though the antemedian line of the forewing is only present in the lower half. Brazil (Minas Geraes).

cymonia. **A. cymonia** Roths. (125 c) differs from the *armida*-group in the darker coffee-brown ground-colour and a thick oval discal ring; the postmedian band is narrow, the subterminal line whiter, the black ornamental bows or sagittate spots distally scaled bluish-white. ♂ with a feeble tail as in *armida*. Peru.

polyodonta. **A. polyodonta** Jord. (124 c, 125 a) to a certain degree forms the transition from *pandora* to the following *armida*-group. Somewhat smaller than *pandora*, relatively sparsely scaled, the apex of the forewing slightly produced; the antemedian line is removed near to the discal spot and connected with it by a dent on the median vein, often forming an entire ring; postmedian band very dark, the subterminal line behind it very broad, purely white, with very strong, long black notches behind it. Only known from Mexico (Cuernavaca, Jalisco, Guerrero, Zacualpan). West-Mexican specimens are strewn with a darker greyish-black.

cassandra. **A. cassandra** Cr. (134 b) is a questionable species; judging from a ♀ kindly handed by Mr. BANG-HAAS and corresponding well with CRAMER'S figure, it is to be separated from *armida*. Of a yellowish tinge, sparsely scaled, like *polyodonta*; base, cell and the part of the median area as far as the postmedian line and below as far as vein 2 intensely strewn white; the marginal area is remarkably darker than the preceding subterminal band which ends taperingly at the inner margin in both wings. Larva, according to CRAMER, yellow with many black streak-markings and spots with an orange head, ventral and anal feet, the young larva in front with 4 horns, behind with one black thin horn. Guiana and Colombia (Muzo).

armida. **A. armida** Cr. (124 c, 125 a) is very similar, greyer; more densely scaled, the broad subterminal band darker brown than the somewhat more reddish marginal area, the subterminal line situate behind it is purely white only above the inner margin, in *cassandra* uniformly white almost in its whole extent. The ♂♂ are mostly

more monotonous and greyer than the lighter and more contrasting ♀♀. The larva is quite black, or with dark grey and black rings, the head and feet are reddish-yellow. It lives on Anona, Bombax, and other trees, often in great numbers. It pupates without a cocoon 6 inches deep in the soil. Widely distributed from Mexico to Southern Brazil. — **erythrinae** Fabr. (134 b) apparently refers to a tiny form showing a somewhat more produced apex of the forewing, of a much more monotonous and greyer colouring, the whitish subterminal line being quite absent except a whitish brightening above the interior angle. Chiefly from Eastern Colombia (Medina) and North-West Brazil. — **ciocolatina** f. n. (134 b) I denominate an interesting form or probably distinct species from Villavicencio (Eastern Colombia), of which 2 ♀♀ and 1 ♂ are before me from the Coll. BANG-HAAS. The light brown ground shows a very slight claret-coloured tint, with an indistinct broad antemedian line, the postmedian band brightly contrasting, of a very deep chocolate brown, inwardly not distinctly defined by a dark line as in the other forms, but indistinct; the subterminal line behind it is neither lighter, only its exterior edge is darker blackish-brown, but likewise indistinct, broad and faded, with a triangular white spot above the interior angle. On the under surface hazily defined dark brown postmedian bands, behind them very hazy brownish-white very broad subterminal lines. Another ♂ from the Rio Songo, in the Berlin Museum, is quite similar. — **archianassa** f. n. (125 b) is another, particularly large form from Western Colombia (e Coll. NIEPELT) in which, as in the following *rebeli*, the postmedian portion of the costal margin increases in brightness so that the deep chestnut brown postmedian band is particularly distinct; subterminal line in its whole extent intermixed with blue-white scales; marginal area likewise very dark.

A. albopicta Jord. The postmedian band of the forewing contrasts very little with the proximal portion of the wing and is but little darker than the umber-brown marginal band which does not exhibit the light tan-coloured tint of *armida*; in both wings a conspicuous white spot before the posterior angle, being triangular in the forewing; distal margin more oblique than in *armida*, posterior angle obtuser, the wing narrower for this reason. The white anal spot on the forewing beneath is large, distally produced on the submedian fold. Fonteboa (Upper Amazons).

A. rebeli Gschw. (= *oweni* Schs.) (125 c) has more elongated wings than *armida*, with an intensely whitish costal-marginal portion, below it the wing is of a soft grey colour, the costal-marginal portion of the hindwing is broadly whitish. Neuration different from *armida*, since vein 3 of forewing arises almost midway between 2 and 4, whilst in *armida* much nearer to 4. The ♀♀ often attain an extraordinary size, with an expanse of more than 20 cm. Ecuador.

A. mossi Jord. (125 a) is a similar species with extraordinarily elongated wings, the apex of the forewing being strongly produced, the hindwing forming a long tail. The ground-colour is a monotonous warm brownish grey, the equally coloured subterminal line is expanded into large white spots above the interior angle in both wings. Para. Two fine couples from Itaituba, e Coll. STGR., in the Berlin Museum.

A. aspasia H.-Sch. (126 a) is a very large species, almost intermediary between *rebeli* and *sylla*. Dark brown, base and median costal portion light grey; postmedian area inside indistinctly outlined, outside strongly excurved, projecting distally again above the interior angle, with an extensive yellowish-white brightening behind it. Apex suffused with rosy red. Brazil. Larva grey, marked brown with 4 thoracal and one conical caudal horn; it lives on Melastomaceae.

A. biundulata Schs. (126 a) is very similar to *aspasia*, lighter, the postmedian area inwardly more distinctly outlined, outside with 2 dents projecting in the middle. On the hindwing the submarginal ornaments are more intensely scaled light blue.

A. thomsoni Schs. (127 a) differs considerably in the postmedian line being almost quite straight, bordered with white outside above the centre and above the interior angle, with large steel-grey spots behind it. Ground-colour light reddish-brown, base and costal-marginal half scaled grey. Hindwing shaped like that of *hercules*. British Guiana.

A. arcae Drc. (125 b). Greyish-brown, postmedian band especially in the ♀♀ more red-brown, subterminal line behind it spotted white on the veins; from the lower end of the discal streak a faded darker stripe extends obliquely to the base of the inner margin. Hindwing with a short caudal lobe, margin almost entire. Under surface brownish white, finely speckled with brown, with small darker median spots, a feebly darker more yellowish postmedian band and small blackish spots on either side of the veins in the submarginal area. Panama to Colombia.

A. drucei Schs. (125 c) is very similar to *arcae* above, darker, with somewhat narrower wings and a narrower chestnut-brown postmedian band; in *arcae* there is one small white spot each on veins 4 and 5, in *drucei* a larger white spot between these two veins; in *arcae* the subterminal line is followed by a double arcuate line of light blue scales, whilst *drucei* only shows a hazy blackish-brown arcuate line divided by a series of whitish scales. Hindwing very different, marked as in *armida*. There is only a flatly concave curve at the margin between the veins 5 and 7, whereas in *arcae* all the ends of the veins are slightly notched. Under surface

quite different, dark reddish-brown with black median spots, behind them a thick red-brown postmedian line being introangular on the submedian fold in both wings; before the darker red-brown margin there is a light indistinct undulate line bordered with dark proximally. From the Volcano of Chiriqui, Panama.

crenulata. **A. crenulata** Schs. (134 c) is likewise very similar to *arcaeii*, but the hindwings more notched and with longer tails, as in the following *batesii*. Ground-colour dull greyish-brown, lighter whitish towards the costal margin in the median area; postmedian line scarcely darker than the ground; at the cross-vein a light spot bordered with dark; subterminal line undulated with small white vein-spots and a larger triangular spot above the interior angle. Ecuador.

batesii. **A. batesii** Fldr. is very similar to the ♀ of *arcaeii*, with a deeper chestnut-red postmedian band, behind which there are white vein-spots and the subterminal line composed of double light blue arcuate lines. Forewing and hindwing more intensely notched, the tail bicuspid, above it between 2 notches a deep indenture between 6 and 7. Guiana.

ponderosa. **A. ponderosa** Rothsch. (127 a) likewise approaches *arcaeii* and is the largest species known, with a light yellowish-brown colouring, a very distinct submedian oblique line to the base of the inner margin, a conspicuous quadrangular Isabel-coloured spot between veins 4 and 5 behind the subterminal line which is only indistinctly double. Eastern Peru (Chuchuras). — **guyanensis** Rothsch., from British Guiana, exhibits finer lines in the basal half of the forewing, a distinctly double subterminal line, the postmedian band being situate before it is broader than the marginal area.

championi. **A. championi** Drc. initiates another group with a more produced apex of the forewing, with a deep indenture at the distal margin below it. Forewing lighter or darker reddish-brown, coarsely strewn with black; antemedian line double, interior line straight, exterior line almost rectangularly broken on the submedian fold, both united at the inner margin; the black discal spot oblong bean-shaped, rusty yellow in the middle; the darker brown postmedian band is strongly curved, outside bordered by a black undulate line; below the apex a dark marginal spot enclosing 3 still darker sagittal streaks. Hindwing with a short tail on vein 5. Central America, especially in Honduras and Panama. — **columbiana** Rothsch. (126 c) is of a more violettish-black ground-colour, less strewn, the distal third beneath more grey. West and East Colombia.

undilinea. **A. undilinea** Schs. is allied with *championi*, light grey strewn with brownish; the incurved antemedian line extends to the centre of the inner margin, with a straight light brown nebulous stripe behind it; a long curved yellowish-brown streak at the cell-end, finely bordered with brown, postmedian band light greyish-brown, otherwise as in *championi*; the subterminal line shows white vein-dots in both wings. Expanse of wings: 120 mm. Costa Rica.

richardsoni. **A. richardsoni** Drc. (126 b) is smaller than the preceding species, the ground of the wings very light, brownish white, strewn with coarse blackish-brown spots, the interior antemedian line not straight, but distally notched on the median, the shadow behind it more distinct and thicker only at the inner-marginal half; the brown postmedian band is undulately dentate on both sides and traversed by lighter veins; marginal area very light, the subapical dark spot narrow; hindwing the same, but darker. Mexico (Guerrero). — **mestiza** f. n. (126 b) which may be a distinct species is much larger and more robust, darker, much less strewn, the interior antemedian line quite straight, the discal spot very broadly margined with black, with a distal appendage; postmedian band very broad and dark, still more excurved in both wings; subapical spot much broader, the extreme marginal half contrasting very dark with the inner half. Mexico (Zacualpan) several couples; type in the Coll. DRAUDT. The shape of the freshly emerged larva is like that of an *Adelocephala*, the thorns on the 2nd ring bicuspid at the ends, on the third of more than half the length of the body; the food-plant being unknown, the larva could not be bred.

romulus. **A. romulus** M. & W. (126 c) has still longer wings with very strongly extended apices. Ground-colour light greyish brown, finely strewn darker. Scheme of markings similar to that of *championi*, antemedian line only single, postmedian band very convex, lighter towards the costal margin, subapical spot very broad, deep red-brown. Hindwing with a very large discal spot and a very dark blackish-brown postmedian band and a rounded margin. Brazil.

4. Genus: **Titaea** Hbn.

This genus based upon but one extremely rare species connects the *armida*-group of the preceding genus with *Dysdaemonia*. Structurally scarcely different, vein 5 of forewing arises from the centre of the cross-vein. Hindwing with a short tail.

orsinome. **T. orsinome** Hbn. (= *latifascia* Wkr.) (127 c). Forewing light cinnamon brown with a dark fine antemedian line (distally shaded dark), discal streak and postmedian band, the latter may be of the ground-colour or darker. Hindwing with a slaty blue basal spot and postmedian band which is likewise bordered with slaty blue distally especially towards the costal margin. By the kindness of the Berlin Museum we were enabled to figure a fine couple.

5. Genus: **Dysdaemonia** Hbn.

Easily recognizable by the hindwing showing longer tails in the ♂, shorter ones in the ♀. Forewing with a long extended apex below which a long angle follows on vein 6, below it the margin of the wing is mostly undulately dentate, rarely smoothly margined. In the ♂♂, veins 3 and 4 terminate into the tail which is spatulately widened at the end, whilst the ♀♀ mostly show only a short angle here. The genus is divided into 2 well separated groups, for the second of which the name *Paradaemonia* was proposed by BOUVIER. Here the hyaline spot being present in the first group is absent and the tail ends more pointedly, not spatulately widened. ♂ antennae serrately ciliated.

Sectio I: with hyaline spots and a spatulate tail (*Dysdaemonia* Hbn.).

Type: *boreas* Cr.

D. boreas Cr. (= *auster* Fldr., *aristor* Rothsch.) (128 b). A common species distributed from Mexico *boreas*. to Paraguay. Forewing brownish or bluish ash-grey with 3 blackish-brown transverse lines and 2 vitreous spots at the cell-end, which are spotted blackish-brown inwards. Hindwing with but one small round vitreous spot, behind it 3 transverse lines, the outermost being bluish-black and arcuately extending from the anal angle into the tail. Colouring and size most variable. From the Berlin Museum there are 2 ♀♀ before me with an ivory white ground-colour, from Novo Friburgo; other specimens exhibit a band-like, mostly reddish-brown darkening between the 2nd and 3rd transverse lines, and a distinct or indistinct, twice notched shadow may occur between the 1st and 2nd transverse lines. — **brasiliensis** Rothsch. differs — though not invariably — in the *brasiliensis* curved submarginal line being extinct towards the tail. Rio de Janeiro and more to the south. The full-grown larva with a strongly inflated 3rd ring has no thorns, it is green, often marked violet. It lives on *Bombax ceiba*.

D. fosteri Rothsch. (128 b) is very similarly marked, easily discernible by a large round, dark-edged *fosteri*. hyaline spot on the hindwing. In the nomenclatural type the ground-colour is reddish-yellow, with olive green lines and bands. An extremely variable species, particularly the ground-colour may vary from a silvery or ashy grey (— **jordani** Giac.) through all kinds of brownish tints (— **cortesi** Giac.) to a pure green (— **viridis** *jordani*. *corlesi*. *viridis*. *fasciata*. K. John) (128 b); darkenings may occur between the two antemedian lines and between the postmedian and subterminal lines, so that sometimes very dark bands may be present (— forms of **fasciata** K. John) (128 c). The vitreous spots on the forewing may be very large, and there may be three of them. Larva green, in its youth with red-brown, white-curved thorns, adult with a white lateral stripe above which, on the 6th and 9th rings, there are white, red-spotted spots; the 4th ring is strongly raised, as in the larva of *Agria tau*. It lives on *Sama* and *Chorisia speciosa*.

D. tamerlan M. & W. (128 a) is a large species, light reddish-brown with indistinct transverse lines and *tamerlan*. bands, similar to *boreas*; the two exterior transverse lines close together at the inner margin, behind them greenish spots, bordered with whitish, in the lower half; a large greenish brown trapezoid spot before the apex at the costal margin, 2 small hyaline spots at the cell-end, inside connected by a dark strigiform spot. The ♀ is mostly more distinctly marked. Guiana to Southern Brazil. A very distinctly marked form, from Western Colombia (Bella Vista), e Coll. NIEBELT, exhibits exactly the same ashy grey colouring as *boreas*, with green-tinted lines and bands: — **columbiana** f. n. *columbiana*.

D. lemoulti Schs. shows a more notched margin than *tamerlan*. Ground-colour greyish-brown with a *lemoulti*. green tint, the markings as in *tamerlan* except the distal transverse lines which are more undulated and mostly show but one small hyaline spot at the cell-end, behind which there is a large irregular velvety brown spot; the dark subapical spot at the costal margin is triangular. French Guiana; Western Colombia.

D. nobilis Schs. (128 a) is likewise very similar, very large, with a very much produced apex, and the *nobilis*. distal margin still more notched, greenish-grey, the transverse lines and shadows darker grey, a large round hyaline spot at the cell-end and a very small one above it, with deep brown spots behind it. Postmedian shadow green; submarginal spots deep green bordered by white strewing. Costa Rica.

D. timur Weym. is easily separated from all the preceding species by the brightly contrasting dark *timur*. submarginal band in both wings; antemedian band of forewing shaped as in *tamerlan*; at the cell-end only a small hyaline spot in a long dark strigiform spot which projects distally somewhat like a tooth. Colombia (Villavicencio).

Sectio II: without hyaline spots, with a more pointed tail: *Paradaemonia* Bouv.

Type: *pluto* Westw.

D. pluto Westw. (= *kadenii* H.-Schäff., *glauescens* Wkr.) (127 b). This group has led to a considerable *pluto*. confusion of the synonymy. According to the kind information by Dr. JORDAN who compared the types, all the three names belong to one and the same species from South-Eastern Brazil, the statement of the patria

being Venezuela is due to a mistake. Forewing purple red-brown, dusted with violettish-white, the transverse bands not dusted, two each before and behind the long narrow discal streak, then follows a fine bluish-black line extending from the last third of the costal margin to the last third of the inner margin, i. e. from here from the margin parallel to about midway between veins 3 and 4 and as far as this place double and filled with bluish-white, then inwards in an obtuse angle and widened and turning brown towards the costal margin; the distal portion is still more widened and divergent almost in the original direction. Hindwing in the basal two thirds blackish-grey, separated from the red-brown marginal portion by a rectangularly flawed violet whitish band. The ♀ is mostly much brighter brown. — In **gravis** *Jordan* the bands of the forewing are straighter than in South-Brasilians; beneath without a red-brown marginal band on the forewing, the hindwing unicoloured brownish greyish-black with a small reddish-brown apical macula. French Guiana. — **andensis** *Rothsch.* has a more rounded margin of the forewing, a broader marginal area, a straighter double line; the narrower post-median band touches the cell-end. The upper portion of the white band on the hindwing is much nearer to the margin, the black band is twice as broad as in *pluto*. South-Eastern Peru.

mayi. **D. mayi** *Jord.* (= *pluto* auct. nec *Westw.*) (127 c) is a very similar species, mostly somewhat larger and darker, more blackish, easily discernible by the black double line reaching the inner margin in the middle or even before it; the darker transverse bands are narrower and straight as in *gravis*. Rio de Janeiro.

orsilochus. **D. orsilochus** (*Bsdv. i. l.*) *Maass.* (130 A b). According to the kind information by *JORDAN* this name was published by *MAASSEN* below the figure which was to represent *pluto* *Westw.* The figure, however, is not *pluto* but another species which must therefore bear the name placed below it, because this name refers to the bad figure being better reproduced by *PLÖRTZ*, the original of which we are able to figure. Ground-colour darker than in *pluto*, the double line straight as far as up to vein 6, then the interior portion vanishes, the exterior portion extends widened, shadow-like in the same direction to the costal margin, ending at the inner margin almost exactly in the middle as in *mayi*; the dark bands enclosing the median area are dark purple brown and altogether fill up the lower half of the median area, the innermost line becomes very feeble towards the costal margin and bends towards the base below vein 1. Hindwing light sandy grey in the basal half, then follows a broad purple brown transverse band separated by sandy brownish colour from the broad violettish-white transverse band which is slightly angled, then follows again a purple brown transverse band being very narrow at the costal and inner margins; two rusty yellow large spots at the apex and below it. Brazil.

platydesmia. **D. platydesmia** *Rothsch.* (= *d'espinaei* *Bouv.*) has the same shape as *pluto*, the black double line terminates at the inner margin at $\frac{2}{3}$, being also narrower and finer in the costal-marginal portion, more distinct than in the allies and less divergent; the angle of its bend being nearer to the inner margin than in *pluto*; instead of the distinct 4 transverse bands there are here but two though broader bands, the anterior one touching the inner margin almost rectangularly, the discal streak is not so isolated, but unites in front with the ante-median band. Hindwing as in *pluto*, fringe bright rusty red. Antennae more feebly pectinated than in the allies. In the nomenclatural form, from Peru and Colombia, the bands of the forewing are very dark chocolate, the white band of the hindwing very feeble towards the costa. — **castanea** *Rothsch.* (127 b) is larger, extensively suffused with chestnut brown, also beneath, the white band of the hindwing broad as far as the costal margin. Costa Rica.

nycteris. **D. nycteris** *Jord.* (127 b) has longer and narrower wings, the forewing is more produced at the apex than in all the other species with more indistinct brown bands, the spaces between them are more pale grey and darker streaked; discal spot elliptical, black, enclosing a light brown line. Hindwing with a long and narrow tail; both wings with a red-brown marginal line inwards bordered by a black line. Under surface pale grey, densely covered with purple black transverse striae, suffused with red-brown in and behind the cell. Venezuela.

thelia. **D. thelia** *Jord.* (= *wagneri* *Bouv.*). The male exhibits the more rounded wings of the ♀♀ of the other species, similar to *pluto*-♀, considerably smaller, the double line reaches the inner margin at $\frac{2}{3}$ as in *pluto*, both the lines being widened towards the costal margin, but the exterior line much narrower than in *pluto*; hindwings with shorter tails. Beneath unicoloured dingy brownish-grey, without transverse striae. From Paraguay and Argentina, also from Rio Grande do Sul.

samba. **D. samba** *Schs.* (134 c) is a smaller species, the margin of the forewing is straighter and more oblique; purple brown, dusted with violettish-white, with 2 rather straight transverse lines bordered with white inwards, the posterior one meeting on the submedian fold the double line which is filled with white and strongly bends towards the base below the costal margin, where it is broadly edged with white on both sides. Hindwing with but one quite indistinct darker straight transverse band. British Guiana.

terrena. **D. terrena** *Jord.* (= *orsilochus* *South.* nec *Maass.*) is similar to *samba*, paler, with broader hindwings. Both wings beneath with a very distinct black discal dot, the hindwing without the rusty brown apical spot which is replaced by a blackish macula. French and British Guiana.

6. Genus: **Metosamia** Drc.

Founded upon 2 Central American species which are very closely allied to the following genus *Telea* from which they merely differ in the wings being somewhat differently shaped; palpi extremely short, ♂ antennae with extraordinarily broad pectinations. In both wings 5 and 6 arise from the upper cell-angle. The apex of the ♂ forewing is very long, below it a long deep concavity; the same is the case with the hindwing, where the apex ends into a sharp point; the wing is dentate below the concavity, prolonged at 4 into a pointed angle. Both wings with hyaline spots.

Type: *M. godmani* Drc.

M. godmani Drc. (129 a). Above bright yellowish-red, costal margin ashy grey, the centre of the cell *godmani*. with a large white triangular spot bordered with pinkish carmine distally, with a straight similar line to the inner margin below the cell; a round hyaline spot bordered with yellowish-white and finely with black at the cell-end; subterminal line grey, outside narrowly white. Hindwing the same, without the antemedian line, the hyaline spot is more brightly bordered with white and exhibits another white crescent inwardly in the black border. The ♀ shows much larger hyaline spots and more broadly white-edged subterminal lines. Mexico. — **columbiana** f. n. (129 a) is much less reddish, more lemon-coloured, with more oval hyaline spots, the hindwing *columbiana*. is much less concave and dentate; apex not so far and pointedly produced; a darker median shadow of both wings being very faint in the nomenclatural form is distinct here, the white antemedian line is distally bordered with pink and also distinct on the hindwing, the subterminal line more intensely undulated, projecting on the veins. According to a fine couple from Western Colombia, c Coll. HOPP-Charlottenburg.

M. montezuma Sallé is very much like *T. polyphemus* from which it differs in its larger size, the more *montezuma*. produced apex of the forewing and much more intensely notched wings, beside the differences of neurulation: subterminal bands blacker, ocellus of hindwing smaller and surrounded by a distinct black ring, the interior light blue crescent distinctly outlined on both sides. Mexico.

7. Genus: **Telea** Hbn.

This genus contains but one well-known species; large and strong, with rather broad wings and a moderately produced, rounded apex of the forewing, below it the distal margin shows a slight concavity. Apex of hindwing rounded and only slightly produced. Structure of palpi, antennae etc. exactly the same as in the preceding genus. The stout, cylindrical larva exhibits the dorsum of each segment somewhat pyramidally raised and shows rows of small tubercles set with 2 bristles each. It pupates in a cocoon wrapped in leaves, which drops to the ground with the leaves in autumn.

T. polyphemus Cr. (= *paphia* L., *fenestra* Perry). Lighter or darker ochreous or purer light yellow *polyphemus*. (= ab. *flava* Grt.) with a blackish antemedian line bordered with white inside and interrupted on the median, *flava*. a broad grey and lilac white subterminal line and a round hyaline spot finely bordered with yellow and black at the cell-end. Hindwing similar, but the antemedian line is absent and the subterminal line is broader; ocellus very much larger, broadly surrounded by black and inside by blue. — **oculea** Neum. (= *aurelia* Drc.) *oculea*. (129 b) (the tricuspid apex of the forewing on the figure is added by the artist!) is a form extending to the south as far as Mexico, larger, with a more extended apex of the forewing and a longer produced apex of the hindwing, with a deeper concavity below it; ocelli larger, surrounded by a diffuse black ring on the forewing. — **olivacea** Ckll. is a form of a more olive brownish ground-colour. Also melanistic specimens entirely black *olivacea*, above are known, as well as albinotic specimens. The fine green larva with silvery white oblique stripes lives on nearly all kinds of foliage-trees and pupates in a dense cocoon. Occurring in the Northern U. S. A. in one generation, in the south in two.

8. Genus: **Tropaea** Hbn.

Conspicuous by the long tails of the hindwings into which the veins 1 and 4 terminate; the feeble cross-vein is almost straight in both wings. Apex of hindwing almost rectangular. Antennae of ♂ bipectinate, the pectinations much shorter in the ♀. Palpi extremely short; eyes relatively large. Chest peculiarly clad with fine woolly hair. Abdomen of ♂ rather slim. The cylindrical pupa shows very deep articular incisions and is set with rows of knobbed tubercles, as in *Telea*. Probably only one species occurs in America, though it is very variable locally.

Type: *T. luna* L.

T. luna L. This common species which is everywhere well-known and frequently bred is light green *luna*. with a purple brown costal margin with which a hyaline, red-edged discal spot is coherent; distal margin

dictynna. narrowly red-brown. In *dictynna* Wkr. a brownish discal band appears, the distal margin is not red-brown, less oblique, and the tails of the hindwings are shorter. A more southern form which seems to occur down as far as Mexico. — f. *mariae* Benj. is the spring-form from the Mississippi and Florida, showing a purple red margin beside the discal band; tails somewhat longer. — *rubromarginata* Davis, a spring-form from New York, shows a much broader red distal margin, in contrast with *dictynna*. — ab. *rossi* Ross. is a northern form in which the ♂ is of a pure white, the ♀ with a slight yellowish tinge (Toronto, Canada). — ab. *rubrosuffusa* Ckll. resembles *rubromarginata*, but the red colour of the distal margins, particularly on the hindwings, is still broader and proximally diffuse, 5 mm broad at the base of the tail, inwards suffused with light bluish, ocelli especially large. — *truncatipennis* Sonth. (130 b), from Mexico, is larger, the apex of the forewing more produced and somewhat truncate, the tails are longer and relatively somewhat broader, the red distal margin is narrow but much more distinct. — *azteca* Pack., from Nicaragua, has still shorter tails and a rounder apex of the forewing. Larva green with red tubercles, living on walnut, hickory, Liquidambar, and Diospyros. It pupates in a thin paper-like cocoon dropping to the ground with the leaves in autumn, as in *Telea*. In southernmore districts the species has two generations. A race bred in Europe (Switzerland) described as *bolli* Wagner is said to be smaller with shorter tails and smaller ocelli.

9. Genus: **Copiopteryx** Dunc.

This peculiarly beautiful genus resembles the preceding one by the formation of the tail of the hindwing, which however is different since also vein 5 participates in it, whilst the inner-marginal portion of the hindwing is extremely narrow, so that the lower cell-wall is almost contiguous to it and the inner-marginal veins, excepting the stronger vein 4, are almost entirely stunted; 3 arises on a long stalk from 4. Cell of forewing very broad, cross-vein very long, straight in its upper half, feebly concave in its lower half towards the margin; 5 arises almost from the centre of the cross-vein. The insects nearly all of which are very rare inhabit Tropical America, partly the highest mountains. Biologically little known.

Type: *C. semiramis* Cr.

semiramis. **C. semiramis** Cr. The nomenclatural type of this species originates from Surinam, the specimens before me from French Guiana (St. Laurent) probably correspond with it. Ground-colour very light reddish-brown, with a red-brown basal area, a pointedly triangular hyaline spot surrounded by brown at the lower discocellular; behind it with a light reddish dove-coloured narrow postmedian band, bordered with red-brown inwardly, notched between 6 and 8; apical area partly almost white, the apex itself red-brown at the distal margin; on the outside of the postmedian band between 3 and 4 a large triangular hyaline spot, below which there is a smaller one centred with a dark brown triangle; the lower two thirds of the marginal area red-brown. Hindwing similarly coloured and marked; tail very long and thin, more extensively brownish purple grey, bone-white at the end. — *steindachneri* Fassl (130 a), from the Bolivian Andes (Rio Songo), 1200 m, is larger, more variegated, the dark areas deeper blackish-brown, the light ones almost white especially at the apex of the forewing. Tails of hindwings somewhat shorter and broader. — *phoenix* M. & W. (*Deyrolle i. l.*), according to the figure of a ♀ e Coll. POGGE, from Central Brazil, has broader wings and is more uniformly coloured darker brown, the bands and apical area of the forewing are greyer, not so white. — *banghaasi* f. n. (130 A b), the northernmost form from Guatemala and Honduras, on the contrary is much more slender, the forewing much higher and narrower with a more oblique distal margin, of a more brownish-yellow ground-colour, the discal hyaline spot very narrow, not at all triangular, the broad subterminal band lilac grey, apical area reddish white, subterminal area only between 3 and 4 with a triangular hyaline spot; tail very long and narrow, deep brown and blackish-violet, only the last quarter light brownish yellow. Type: 1 ♂ e Coll. BANG-HAAS.

jehovah. **C. jehovah** Stkr. seems still to be an extremely rare species described according to a ♂ from Brazil and excellently figured. Ground-colour greyish-brown, slightly tinted reddish at the costal margin, the marking not dissimilar and intermediary between *semiramis* and the following *sonthonnaxi*; apical area of forewing scarcely lighter, the postmedian line very fine, distally very narrowly edged with white, strongly notched below the costal margin, with an almost trapezoid white hyaline spot between 3 and 4, a very small triangular spot above 5 and a pointed blackish-brown triangular spot below 3; basal area narrow, blackish-brown; the hyaline discal spot is pointedly produced outward at its lower end. Hindwing with a somewhat darker base, a slightly arcuate postmedian line behind the small discal spot; tails very long and thin. — By the kindness of Mr. O. *adaheli*. BANG-HAAS a different form is before me from French Guiana (St. Laurent): — *adaheli* *) f. n. (130 A c), in which the blackish-brown basal area is twice as broad, whilst the discal spot is strigiform and lacks the distal tooth beneath; the postmedian line is still more pointedly notched below the costal margin, the white hyaline

*) This name is about the same as Jehovah in the language of the Guiana Indians.

spot between 3 and 4 is obtuser, quadrangular, and near the anal angle there is another larger brownish-black triangle finely edged with white and bordered by two small ones. Hindwing basally not darker, without the postmedian line, and the antimarginal brown band is considerably broader.

C. virgo Zikan (= *biedermanni* Kotzsch) which was only recently described is about intermediary *virgo* between *jehovah* and *sonthonnaxi*, much neater and smaller than *semiramis*, the forewings shorter and less extended, olive brown as in *sonthonnaxi*, the lighter parts with a delicate pink hue; the dark olive brown postdiscal band is narrower than in *semiramis*, the distal band bordering on it contrastingly black; the very large hyaline spot, like a reverse y, is situate in a large reniform dark brown macula which is distinctly surrounded by black; the arch of the postdiscal band is flatter and more regular, the dark marginal area much narrower; the subterminal hyaline spots are larger and more coherent than in *sonthonnaxi*. Tails of hindwings as in *semiramis* but shorter. Expanse of wings: 90—100 mm, the hindwing from the base to the apex of the tail 97—116 mm. From Argentina, Paraguay, and Campo Bello (Rio de Janeiro).

C. sonthonnaxi André (130 a, d) is very similar, smaller and stouter, with much broader and shorter tails; *sonthonnaxi* more intensely marked dark blackish-brown, the postmedian line not notched below the costal margin, the hyaline spots behind it only distinct in the ♀. South Brazil, apparently a more common species.

C. derceto M. & W. (130 c) is the most bizarre of the species, yellowish-white, marked not unlike the *derceto* preceding ones, apex of forewing much more produced, the discal hyaline spot distally extended into a very long point. Hindwing much narrower, with much broader tails, discal spots tricuspid. From Brazil.

10. Genus: **Loxolomia** M. & W.

Only one rather isolated species peculiarly marked and structurally very closely allied to *Arsenura*. Palpi rather well developed, projecting a little beyond the frons; proboscis represented by a stunted thread. Antennae serrate with ciliary bristles. Wings rather elongated, costal margin slightly concave, with a convexity before the apex, distal margin slightly undulated. Hindwing with a produced apex, concave below it, with a broad lobe between 2 and 4. Upper half of discocellular of forewing straight, oblique, angled in the lower half, 3 shortly before the lower angle, 4 from this angle, 5 from the centre of the cross-vein, 6 from the upper angle, 7 and 8 stalked likewise from it; cell of hindwing exceedingly short, 2, 3 and 4 on a stalk from the lower angle, 5 from the angle of the discocellular which is shaped as on the forewing, 6 from the upper angle, 7 close before it. Nothing is known of its life.

L. serpentina M. & W. (128 c) is white; excepting the broad costal margin, a triangular spot edged with *serpentina* blackish-brown at the inner margin, and the disc of the hindwing it is dusted with olive brown in a variable intensity and transversely striated in a darker colour, with a double strongly undulated blackish-brown submarginal line; the large roundish apical area partly of a lilac brownish colour contains 3 red-brown longitudinal stripes edged with yellowish-white. Hindwing coloured like the forewing with a purer white median band edged with blackish-brown dentate lines on both sides. Brazil (Rio de Janeiro in January), a rare species.

2. Subordinate group: **Syssphinginae**.

Chiefly separated from the preceding genera by the more slender and pointed shape of the wings and the stronger abdomen, without any notches, angles and tails excepting the only *Syssphinx molina* which exhibits a slight angle on the forewing. Palpi mostly much feebler; the last third of the ♂ antenna is bare or feebly serrate and ciliated, the 2 basal thirds are pectinated, mostly also in the ♀♀; proboscis mostly rather distinctly present, though feebly developed. Posterior tibiae more or less spurred. Biologically, as far as is known, exactly like the species of the preceding subordinate group, the larvae with thorns and horns on the first and last rings which are often shed after the last moults. Pupation without a cocoon in the earth.

1. Genus: **Citheronia** Hbn.

This genus contains more than 2 dozens of described forms many of which are still doubtfully ranged. They are large, beautiful species mostly very sexually dimorphous, of a strong structure. The ♂♂ mostly with longer, narrower wings, the ♀♀ partly extraordinarily large, with broader wings. The short palpi do not project, the short last joint is almost globular; the proboscis is merely a short thread. The ♂ antennae, as far as $\frac{2}{3}$ or $\frac{3}{4}$ of their length, exhibit double short pinnae uniformly decreasing in length towards the ends and set with ciliary tufts. Tibiae with short terminal spurs. On the forewing vein 2 arises from the centre of the lower cell-margin, 3 a little before the lower cell-angle from which 4 proceeds; vein 5 arises shortly before the upper

cell-angle; the cross-vein is very strong in its short upper portion, very feeble in its long lower one and slightly angular shortly before the lower end. Vein 6 proceeds only a little behind the cell, 10 shortly before the upper cell-angle. On the hindwing 3 and 4 arise from the lower cell-angle, 5, 6 and 7 close together from the upper cell-angle. The abdomen in both sexes projects beyond the hindwing. The very strange larvae with their long horns, called "horn-devils" by the Americans, pupate without a cocoon in the earth, like the palaearctic *Brahmaeidae*.

Type: *C. regalis* F.

regalis. **C. regalis** F. (= *regia* A. & Sm.) (131 a) is one of the largest species, brownish-grey above, with red-brown veins and characteristic yellow spots. Hindwing without a distinct discal macula. The larva, the well-known "hickory-devil", is green with large oblique white lateral spots edged with black above; ring-indentations of the thoracic rings above black; head and thoracic feet yellowish-red like the spines the tips of which are black. It lives on many kinds of nut-trees and fruit-trees, also on Sumac. — *infernalis* Stkr. has slate-coloured forewings with brick-red veins, a large subapical spot and a smaller one in the centre of the distal margin; body brick-red. Maryland and North Carolina. — ab. *saengeri* Neum. has purple grey forewings with yellow veins and particularly large basal and discal spots and a bright sulphur-coloured apical portion of the costal and inner margins. Hindwing sulphur-coloured, with a basal orange tint, and traces of purple grey spots at the anal angle. New York. Widely distributed in the Atlantic States of North America.

azteca. **C. azteca** Schs. (131 a, b) is very similar, of a darker grey ground-colour, the spots more whitish yellow, the hindwing with a postmedian band of a most variable extent, mostly reaching to the marginal area in the ♀, always with a distinct red-brown central spot. This species represents *regalis* in Mexico, where it is very common.

splendens. **C. splendens** Drc. (132 a), likewise from Mexico, is easily distinguished by the expansion of creamy-white colour in and behind the cell-end at the costal margin. Hindwing extensively darkened towards the margin. Larva black, head, sublateral oblique stripes, and the base of the relatively short thoracic horns reddish, the other thorns black.

hamifera. *C. hamifera* Roths. is near to *azteca* and *brissoti* and may be considered as the representative of the latter species outside Brazil, but the genital organ is very different, the ♂ harpes are very large, almost semicircular. Veins of forewing only feebly reddish; hindwing above always with a reddish-brown submarginal band; the discal line feeble or extinct beneath, costal margin more or less reddish-brown or brownish-black.

hamifera. 2 forms have been described: — **hamifera** Roths., from British Guiana and Trinidad, shows the ground-colour of the forewing reddish-brown in the ♂, more blackish-brown in the ♀; the yellow band of the hindwing is only indicated, at least narrower than the reddish-brown marginal band; hindwings sometimes quite red-brown. — *fuscalis* Roths. has blackish-brown forewings also in the ♂, and the yellow submarginal band of the hindwing above is broader than the red-brown marginal band. From South-Eastern Peru, 2000 ft.

mogya. **C. mogya** Schs. (135 a) resembles *fuscalis* in general, but the wings are longer and narrower, and the colour of the forewing is a darker steel-grey; the postmedian row of spots straightly extends in an oblique line to the centre of the inner margin. São Paulo.

brissoti. **C. brissoti** Bsdv. (133 a), a Brazilian species, with somewhat broader wings, otherwise very much like the preceding ones. It differs in the more extensively yellow tegulae being only edged with red-brown, sharply outlined small discal spots in a yellow ground and larger apical spots which are more produced apically; hindwing often with a very distinct central spot. The species is variable; typically from Paraná, the Petropolis form shows the hindwings almost entirely dusted with red-brown. A strikingly different form with lighter grey forewings and quite light yellow hindwings, with separated red discal and inner-marginal spots, a broad postmedian and narrower marginal band is before me from Sa. Catharina: — **catharinae** f. nov. (135 a); type in the Berlin Museum (♂, ♀). — **argentina** f. n. I call the form from Buenos Ayres; it is much lighter dust-grey, all the spots yellowish-white, the postmedian ones not edged with red-brown distally, as in the Brazilians, but with greyish-black; hindwing with a large red-brown, triangular discal spot ending in a grey spot at the anal angle; costal-marginal area and distal margin extensively purely light yellow. Type in the Berlin Museum. The larva is greyish-green, strewn with black dots, the small thorns and fleshy cones are orange, the latter with black, knob-shaped ends, from the 4th ring with a lateral stripe. It lives on *Excoecaria biglandulosa*, an Euphorbiacea.

mexicana. **C. mexicana** G. & R. (132 a) is likewise similar, with Pompeyan red veins, yellow spots mostly strewn with red-brown except those between the veins 2 and 4, which remain purer yellow like the basal spots; thorax quite rusty brown, with hardly any yellow. Distributed in Mexico, also reported from Arizona. — **aroa** Schs. is probably the Venezuelan form; forewing lighter, mouse-coloured, all the spots orange, the submarginal undulate line broader. — **bellavista** f. n. (135 a) is a wonderful West-Colombian form, thorax lighter, rusty yellow, the spots on the forewing larger and very distinctly outlined; hindwing dark yellow with a red-brown

quadrangular discal spot and, separated from it, a basal inner-marginal spot, as well as a fine, rather indistinct postmedian line terminating in a large steel-grey spot at the anal angle. Type in the Coll. NIEPELT.

C. consobrina *Rothsch.* shows the same colour as *mexicana aroa*; hindwing more produced at the anal angle, with a discal band terminating in a blackish-brown spot at the anal angle. Under surface: the light markings are sulphur-coloured, hindwing dusted with rusty red and yellow below the cell. Genital organs very different, harpes much longer etc. South-Eastern Peru. *consobrina.*

C. beledonon *Dyar* (131 b) differs from *mexicana* in the lighter drab ground-colour, broader reddish-yellow veins and, above all, in the much larger creamy apical spots; all the spots and the submarginal line of a purer yellow without any red strewing. Thorax much more extensively yellow. Hindwing also in the ♂ much rounder. Mexico (Cuernavaca). — **colimae** *f. n.* (131 c) is smaller, with broader wings, inner margin shorter than distal margin, just as long in *beledonon*. The ground-colour is much darker, lead-coloured black, the veins finer orange, the spots more creamy white, not yellow. Submarginal band of hindwing more intensely and regularly notched, much blacker. Evidently the West-Mexican form from Colima and Guerrero. According to several specimens; type in the Coll. DRAUDT. *beledonon.* *colimae.*

C. collaris *Rothsch.* (133 a) is a very beautiful and easily recognizable species. Head and collar lemon-coloured; thorax and forewing purple brown, forewing dusted with violet especially at the costal and distal margins; postmedian macular band yellow, the other spots and the submarginal notched line orange, the uppermost spot produced into the apex. Hindwing with a large lemon-coloured spot in the centre of the inner margin, enclosing a round dark cellular spot; costal-marginal half and submarginal notched line orange brown. ROTHSCILD described the species according to a ♀ from Western Ecuador; a very fine ♂ which we figure is before me from Western Colombia, e Coll. NIEPELT. *collaris.*

C. guayaquila *Schs.* is evidently allied to the following species; head and thorax creamy white, shaded somewhat grey, abdomen reddish ochreous with yellow ring-indentations. Forewing brownish sand-coloured, the spots yellowish-white, arranged as in *claveryi*. Hindwing yellow in the costal-marginal portion, brownish claret-coloured in the basal half of the inner margin, dark greyish-brown in the terminal half with a dentate orange subterminal line. Ecuador (Guayaquil). *guayaquila.*

C. claveryi *Bouv.* (133 a) resembles *guayaquila*, but the body is more mixed with red-brown, the ground-colour of the forewing is brownish-red; hindwing yellow with indistinct subterminal lines and marginal band of a red-brown colour, the former widened in the inner-marginal part almost to the base. Ecuador (Rio Pastazza). *claveryi.*

C. phoronea *Cr.* (= *laocoon Dru.*) (133 a) approaches the *claveryi*-type. Forewing dark red-brown with a violet reflection, small orange postmedian spots, a large cell-end spot, 3 small spots of the ground-colour before the whitish cross-vein, 2 larger ones behind it; submarginal line feeble and irregular. Hindwing almost quite red-brown, yellow only at the costal and inner margins and in the faint subterminal line. Brazil. Larva blackish olive green, ventrally almost black, strewn with white, with a broad pinkish-white, slightly undulate lateral stripe, and lilac red thorns and fleshy cones. It lives on a parasitic plant. *phoronea.*

C. laocoon *Cr.* (= *anassa Hbn.*, *princeps Wkr.*) (132 b, c) is not to be mistaken for any other species by the shape of the broad yellow median area which is very narrow at the inner margin. Surinam. — **ixion** *Bsdv.* (133 b) is the stronger Brazilian form, especially from Novo Friburgo, separated by the somewhat duller colour especially in the females. — subsp. **lobesis** *Rothsch.* is a more northern form described from Costa Rica, in which the red-brown colour of the forewing is so extensive that the yellow is confined to a large cellular spot, some indistinct yellowish spots below it, and a very large subapical spot which is continued to the inner margin by a series of small yellowish spots. — Very similar is a form found in Mexico, which I denominate: — **jordani** *subsp. n.* (131 a as "*lobesis*"); forewing more pointed, distal margin more concave; forewing light grey; with fine yellowish-brown veins, the uppermost of the much larger apical spots extends into the apex as in *collaris*. Hindwing with a very broad macular band being almost black analwards. According to the kind information by Dr. JORDAN, the genitals are similar to those of *lobesis*, though they are somewhat different. According to several ♂♂ from Colima (West Mexico): type in the Coll. DRAUDT. — **marion** *Dyar*, from Panama (Trinidad R.), on the contrary is more extensively yellow, dusted with purple on the yellow ground in the basal area, as well as subterminally, deeper purple brown behind it at the margin. The yellow ground-colour of the hindwing exhibits a red discal spot and postmedian line, a red spot is near the inner margin below the cell. Larva light brownish sand-coloured, clouded darker in some places, with 4 or 5 fine, torn, black transverse lines composed of dots on each ring and a white sublateral stripe; thorns orange, the fleshy cones black, at the end orange with a black terminal knob. *laocoon.* *ixion.* *lobesis.* *jordani.* *marion.*

C. johnsoni *Schs.* belongs to the *laocoon*-group, but it is very different. Thorax reddish-yellow, collar bordered with red. Forewing dark greyish claret-coloured, veins red in the basal and marginal areas, in the median area only veins 1 and 2; two basal spots maize-coloured, the median area with larger partly confluent yellow spots separated from the subterminal row of spots by faded brownish shadows; small yellow and red internerval spots before the margin. Hindwing yellow with a large quadrangular red discal spot and a large round basal inner-marginal spot; the red dentate distal line terminates at the anal angle with a triangular spot. Rio Grande do Sul. *johnsoni.*

- armata*. **C. armata** *Rothsch.* (135 c) is separated from the other species by a long apical thorn on the anterior tibiae in both sexes. Forewing creamy, the chestnut-red veins finely striped black on both sides, the antemedian area, 4 small spots at the cell-end and a narrow subterminal row of sagittate spots are red-brown. Hindwing creamy with a red cellular spot, subterminal line and behind it with red, black-edged vein-streaks. Minas Geraes; Paraguay.
- vogleri*. **C. vogleri** *Weyenberg* (= *leona* *Drc.*) (131 d) differs much from all the other species in the black forewing with numerous small creamy white spots. Hindwing with a red cellular spot. Paraguay; Uruguay; Argentina.
- principalis*. **C. principalis** *Wkr.* (132 b) introduces an entirely different group; forewing reddish orange, strewn with brownish-grey, costal margin and marginal area with a light violet reflection, with 2 blackish-brown transverse lines, before the exterior one with 3, sometimes 4 hyaline spots which, however, may also disappear altogether: — **afenestrata** *f. n.*; type in the Berlin Museum. There are also specimens with a deep dark purple brown ground-colour dusted with light violet: — **purpurea** *f. n.*; type from Sa. Catharina in the Berlin Museum.
- afenestrata*.
purpurea. Larva dark green, strewn with white, warming into pinkish lilac on the dorsum of the 4th to 11th rings, from the 4th ring on both sides with large oblique lines edged with black above and extending across 2 rings each from in front above to behind below, with red branched thorns.
- fenestrata*. **C. fenestrata** *Rothsch.* (132 b) is similar, smaller, much darker, the subterminal arches therefore more prominently yellow; easily separable by a large white vitreous spot on the hindwing. Brazil.
- sepulchralis*. **C. sepulchralis** *G. & R.* (135 c) is a branch developed from the *mexicana*-type; almost uniformly chocolate-brown with fine dark veins and dark cell-end spots bordered with light just like a subterminal row of dark spots, the latter especially so towards the base in the ♀; a pinkish-red spot at the base of the forewing, a similar hue on the base of the hindwing. In the Atlantic States from Carolina to Massachusetts. Larva mostly from yellowish to purple brown with long yellow horns on the 2nd, 3rd and 11th rings and subdorsal, sublateral and substigmatal rows of thorns. It lives on Pitchpine: *Pinus nigra* and *mitis*.

2. Genus: **Eacles** *Hbn.*

Separated from the preceding genus by considerably broader wings with a less oblique distal margin, especially in the ♂, and correspondingly shorter abdomen. The lower portion of the cross-vein on the forewing is stronger, the origin of vein 5 removed somewhat deeper and, therefore, 6 arising nearer to the cell. Hindwing likewise broader, the cell considerably longer and the origins of 5—7 more separated from each other. Larvae, as far as they are described, similar to those of *Citheronia*, but much thicker and shorter with shorter fleshy cones and more scantily covered with longer hair.

Type: *imperialis* *Dru.*

- penelope*. **E. penelope** *Cr.* (= *cybele* *Oliv.*, *ducalis* *Wkr.*) (133 b). Orange, more or less densely speckled brown, dusted with red-brown in the disc, with two brown transverse lines bordered with lilac white on the averted sides, the interior line notched, the exterior line flatly undulate-dentate in its upper half; in the lower cell-angle a white ring centrally hyaline and bordered with brown, a smaller one above it, which may also be absent; distal margin excepting a subapical and anal triangle grey dusted with white; hindwing mostly purer yellow in the basal area, with the same ring-spot at the cell-end and red-brown dusting behind the exterior straight, undulate-dentate transverse line. Brazil. — **columbiana** *f. n.* is smaller, lighter yellow, the red-brown discal colouring is paler, but more extensive, the exterior transverse line quite straight, removed nearer to the discal spot on the hindwing. West Colombia. Type in the Coll. NIEPELT. Larva light green with a carmine dorsal line bordered with white, carmine thorns and fleshy cones, the spiracles surrounded with white and black.
- columbiana*.
majestalis. **E. majestalis** *sp. n.* (133 b) is much larger than *penelope* with somewhat narrower and longer wings, of a much brighter yellowish-red, in the basal area with a white round spot in a violettish-grey ring, just as large as the discal spots the centre of which is much more extensively hyaline; exterior transverse line violettish-black, inwards slightly convex and ending at the inner margin farther basad; here follows the transverse line of the hindwing in a straight direction, whereas in *penelope* it ends much nearer at the anterior angle at a great distance from that of the forewing. The grey marginal band of the forewing is much broader, particularly in the upper parts more intensely dusted with white; fringe at the ends of the veins only feebly traversed by light, broadly speckled in *penelope*. On the hindwing the transverse line is close at the discal spot. West Colombia; it cannot be a form of *penelope*, because it occurs together with its form *columbiana*. Type in the Coll. NIEPELT.
- barnesi*. **E. barnesi** *Schs.* is likewise closely allied with *penelope* from which it differs in 2 violettish-red discal spots with tiny white centres, and in the less straight, interrupted violettish-red transverse band of the hindwing, touching the discal spot which is coloured as on the forewing, behind it with a violettish-red marginal shadow between the veins. Beneath yellow, scarcely speckled black. Abdomen above violettish-red. At the base of the forewing 2 yellow spots, in *penelope* a small whitish spot. British and French Guiana.

E. niepelti *sp. n.* (133 c, d). A magnificent species; almost the whole forewing like the body fiery rusty *niepelti*. brown except 2 yellow basal spots, a slight yellow brightening around the latter, very large slate-black contiguous discal spots, a small apical triangle and the marginal area behind the exterior transverse line which contains some red clouds; the whole surface of the wings is speckled with blackish slate-colour; the upper exterior marginal half as far as up to the apex violettish-grey dusted with white. Hindwing yellow, a rusty brown longitudinal band below the cell is fused with a very broad exterior transverse band; discal spot as on forewing, above it another smaller one; margin narrowly red-brown. Under surface: disc in both wings suffused with salmon-colour and densely white-haired, so that the violettish-grey transverse bands look as if milk had been poured on them. The ♀ is quite cinnamon-red. ♀ from Guatemala c Coll. BANG-HAAS. According to 2 ♂♂ from West Colombia (Bella Vista). Type in the Coll. NIEPELT.

E. tyrannus *sp. n.* (133 c) is allied to *niepelti*, but the forewing with a sharper apex is of a deeper brown *tyrannus*. cinnamon-colour, not speckled at all, with an ochreous basal spot, a broad yellow brightening before the smaller and distinctly white-centred discal spots; transverse lines darker brown, not slaty black, interior line broad, indistinct, exterior line quite straight, only the lower half outside narrowly edged with yolk-colour; marginal area cinnamon-brown except a subapical triangular and an anal area, between them violettish-grey. Hindwing purely yellow only in the costal-marginal third, as well as in a narrow inner-marginal stripe and behind the narrow transverse line extending similarly as in *penelope*; marginal area broad cinnamon-brown, warming into purple grey distally; discal spot as on forewing. Abdomen with yellow bands. West Colombia (Bella Vista); type in the Coll. NIEPELT.

E. aglia *Fldr.* (133 c). For this species the genus *Bathyphebia* was established, but it is a genuine *aglia*. *Eacles*, which may be considered as an extreme branch of *tyrannus*. Forewing rusty brown, yellow in some places, as in *tyrannus*; transverse lines thick black, the large discal spot black, with a white centre and yellow ring, a large yellow triangle before the apex. Hindwing yellow in the costal-marginal half, otherwise red-brown with a large black white-ringed ocellus as on the forewing, behind it a black transverse stripe which is incurved towards the interior angle. Colombia (Bogota).

E. gschwandneri *Schaw.* may be a form of *aglia*, though it looks rather different. It is larger, deeper *gschwandneri*. chestnut-brown, yellow are only the head and collar, the 1st abdominal segment and a small basal spot; the anterior black transverse line is absent altogether, the posterior one is scarcely visible and separates the brown ground-colour from a snow-white band extending from the apex to the 3rd quarter of the inner margin; the small punctiform discal spot is white without the black border; hindwing yellow in the costal-marginal portion, the white ocellus very large and with a deep black ring; the transverse stripe is broadly edged with white also here, and extends straight into the inner margin. According to 1 ♂ from the Volcano of Tolima (Colombia).

E. mayi *Schs.* (= *lombardi* *Bouv.*) (133 d) is closely allied to *barnesi* and *niepelti*, but much smaller, *mayi*. the apex of the forewing more produced; forewing yellow, speckled blackish, suffused with red-brown basally, in the disc and behind the cell, with 2 smaller slaty grey round spots scarcely lighter centred at the cell-end; the anterior transverse stripe is quite extinct, the posterior one straight from the apex to $\frac{2}{3}$ inner margin, broad, brownish-red, the margin behind it suffused with violettish-grey. Hindwing purer yellow in the basal half, a basal spot and the margin broad red-brown, discal spot more intensely centred white. Brazil, but apparently more widely distributed, for a ♂ is before me from Guatemala, c Coll. BANG-HAAS, which we figure and which only differs from the type in the discal spot of the hindwing being quite red-brown.

E. eminens *Dogn.* (133 d) has much broader wings than the preceding species, much more extensively *eminens*. yellow, so in a large apical triangle and in the lower half of the forewing also before the exterior transverse stripe; both the discal spots of the forewing and that of the hindwing brightly centred with white; the broad red-brown band of the hindwing, which is shaped similarly as in *niepelti*, is broadly confluent with the margin in the upper half; the ♀ is quite yellow, little and finely speckled. Ecuador.

E. adoxa *Jord.* is allied to *eminens*; smaller, distal margin of forewing slightly concave, posterior angle *adoxa*. less rounded; marginal area except a small anal spot quite dark reddish-brown, more extensively dusted with grey than in *eminens*. Hindwing oval, the whole distal half deep tan-coloured brown with an interrupted yellow anal spot; discal line outside narrowly bordered with yellow. Expanse of wings: 42 mm. According to 1 ♂ from British Guiana.

E. masoni *Schs.* (131 c) recalls *tyrannus*, but the apex of the wing is much sharper, more sickle-shaped; *masoni*. the bright red-brown colour is covered by a duller violettish-grey; yellow remains an area before the interior transverse line, a large apical triangle and a narrow anal area behind the exterior transverse line, also a narrow area behind that of the hindwing; discal spots of the forewing very insignificant. Mexico to Panama. — **fulvaster** *Rothsch.*, from South-Eastern Peru, has a deeper yellow ground-colour, the reddish dusting is more *fulvaster*. extensive and prominent, with a larger yellow spot at the apex of the cell, whilst the anterior cellular spot is entirely absent. Ventrums and faces reddish; genitals very different.

E. acuta *Schs.* (= *callopterus* *Rothsch.*) is very similar to *masoni*, but somewhat smaller, the forewing *acuta*. still narrower and more pointed, the postdiscal line is nearer at the margin and, like the marginal band, suffused with reddish-violet, like the basal and discal portions, too; a broad yellow band before the posterior transverse

line from the costal margin almost to the inner margin; the round cellular spot is transparent, bordered with violettish-grey. Hindwing narrower than in *masoni*, inner margin longer than the costal margin, the margin less rounded, a subbasal spot, the posterior transverse line and a marginal band violettish-grey with a reddish hue. British Guiana; South-Eastern Peru.

ormondei.

E. ormondei Schs. (131 c) is again more similar to the *niepelti*-group, but much more abundantly yellow, forming the transition to the following *imperialis*. The ♀ is almost quite yolk-coloured, feebly tinted red-brown, intensely speckled blackish-brown, all the transverse lines except the exterior one of the forewing very undulate-dentate. All the discal spots with black rings and greyish-white centres. Mexico.

guianensis.

E. guianensis Schs. resembles *imperialis*, but the lines and spots are different. The yellow forewings are almost entirely suffused with dark violet except a large apical spot and at the inner margin on each side of the exterior transverse line which is very broad, as well as the interior one; marginal area not striated at all; a hyaline spot with a violet ring at the cell-end. On the hindwing the broad distal line is interrupted by the discal spot, the margin is speckled violet, with violet marginal spots between the veins; the violet irregular basal band is expanded towards the inner margin and extends upwards only into the cell. British and French Guiana.

imperialis.

E. imperialis (= *imperatoria* Abb. & Sm.) has an enormously wide range extending from the United States down to Argentina. — **imperialis** Dru., the nomenclatural form from North America, is yellow in the ♂, more or less intensely speckled dark in the larger basal half, and brownish-violet before the margin, as well as in the inner-marginal area of the hindwing, the anterior transverse lines are invisible, the posterior ones undulate-dentate, the discal spots centred light violettish-grey. The ♀ is quite yellow, the basal transverse

oslari.

lines of both wings distinct and broad. This is the form of the Atlantic States. — **oslari** Roths., from Arizona, has as broad wings as those of the Atlantic specimens, both sides of the hindwing show a broad discal line

magnifica.

widening in front. — **magnifica** Wkr. (= *cacicus* Bsdv.) is larger, stronger, and much more brightly coloured, likewise with rather broad wings, but with a more pointed and almost sickle-shaped apex. On the ♂ antennae

decoris.

fewer segments are pectinated than in *imperialis*. Mexico to Paraguay. — **decoris** Roths. (132 c as "imperialis") is intermediary between the two preceding ones, the antennae as in *imperialis*, i. e. more segments are pectinated than in *magnifica*. Forewing somewhat narrower, but less pointed and sickle-shaped than in the latter form; discal line as broad as in *imperialis*, broader than in *magnifica*; basal area yellow, the anterior transverse line as broad as in *imperialis*. This is the Central-American form from Mexico and Guatemala, but almost typical

approximans.

magnifica-forms occur already in Mexico. — **approximans** Bouv., described from Venezuela, resembles *magnifica* in general, but it is smaller and shows much smaller discal spots. — **opaca** Burm., from Southern Brazil, is very

opaca.

light yellow, the violettish-brown colour turns more blackish-brown and does not extend to the discal spots in the ♂, but it may also cover almost the whole forewing. The specimens are small, with narrow forewings,

tucumana.

but the apex only little pointed sickle-shaped. — **tucumana** Roths. resembles *magnifica*, forewing very pointed, discal line broad above and beneath, continued to the inner margin. Hindwing likewise with a broad discal

punctatissima.

line on both sides. Argentina. — Aberrative forms have also been described, e. g. — **punctatissima** Neum. in which all the blackish-brown striae are so much increased and confluent at the base and inner margin that the ground-colour appears to be monotonously blackish-brown, only the costal-marginal area of the hindwing

didyma.

being yellow. — f. **didyma** Beauv., quite monotonously dull cinnamon-red, the basal portion and marginal area with a greyish-violet hue. All the yellow tints have also disappeared on the body. — **nobilis** Neum. (135 b) is

nobilis.

like *didyma*, densely strewn with black, but with a deep rusty-red triangular area in the apical half, the base of it being the costal margin, and the apex on the median. From North-Western Texas. — Larva green or brown with oval yellowish-white, dark-ringed spots above the somewhat darker lateral line; the 2nd and 3rd as well as 11th rings exhibit longer hairy yellowish fleshy cones, the other rings tubercles with tufted hair. It lives on nearly all kinds of trees and shrubs and changes into a smooth black pupa.

3. Genus: **Syssphinx** Hbn.

As there are no essential differences between *Syssphinx* and *Adelocephala*, the former name must have the priority. We combine with it also *Othorene* Hbn. and *Sphingicampa* Walsh., because they cannot be strictly separated. In general very similar to *Citheronia* from which they are at once separable by the absence of vein 9 of the forewing. Compared with the long pointed wings the body is still stronger, the prothorax is very convex, so that the small head with the very short palpi is pressed down and not visible from above. The abdomen projects far beyond the hindwings, at least in the ♂♂. Costal margin of hindwing very convex basally, cell short. Antennae of the ♂♂ pectinated in the basal halves, set with fine cilia in the distal halves. A great number of species which are often difficult to distinguish.

Type: *cadmus* H.-S.

hodeva.

S. hodeva Drc. (= *rubra* Schs.) (135 d) is one of the largest species, above brown with a dark violet reflection, with a white discal dot and 2 transverse lines, a subterminal purple brightening behind the exterior line. Hindwing brownish carmine. Guiana to Brazil.

S. cadmus *H.-S.* is very similar to *hodeva*, the median area more rust-brown, coarsely speckled with blackish brown, hindwing turning red-brown towards the margin with an indistinct median band; behind the exterior oblique line somewhat lighter lilac only towards the apex. Brazil (S. Paulo). A form found in Mexico is: — **castanea** *Pack.* lacking the discal spot, with rounder hindwings, not red in the distal third.

S. verana *Schs.* (135 d) has broader wings than the two preceding species, variably coloured, but generally lighter, fawn-coloured or tawny, the centre of the exterior transverse line slightly convex inwards, below the apex slightly outwards, lighter violet behind it, the median area between the lines somewhat darker, the white discal dot rather inconspicuous, surrounded by a somewhat darker brown, or absent. Hindwing not or but little darker than forewing. Mexico.

S. intermedia *Rothsch.* is very closely allied to the following *purpurascens* and may be a form of it; the blackish transverse lines are more distinct; the ♀ resembles *verana*-♀, the ground-colour is deeper, the lilac shading along the lines more distinct. Costa Rica. Genital organs different from those of *purpurascens*, clasper pointed, not truncate or sinuate at the end.

S. purpurascens *Schs.* is a magnificent species, dark chestnut-brown with a white discal dot in a shadowy spot; 2 blackish lines are edged with pinkish lilac on the averted sides, the most intensely so near the inner margin, lighter lilac also subapically. From Guiana to Rio de Janeiro. — **intensiva** *f. n.* (135 d). from West Colombia, is much brighter and deeper coloured, the pinkish lilac very bright; apex of forewing more pointed. Type in the Coll. NIEPELT.

S. pollens *Schs.* is similarly marked, median area olive brown, basal and marginal areas lilac, transverse lines fine, black, the exterior one from the apex to two thirds of the inner margin; discal dot white. Hindwing dark red, costal margin and distal margin tinged with pink, a large black spot at the cell-end. Costa Rica.

S. talamanca *Schs.* as well as the following *jacca* are probably merely variable forms of *pollens*, since all were taken at the same place and time in March. Body and wings more reddish-brown, scantily and finely striated black, hindwing brownish ochreous, only red in the disc and at the inner margin. — **vilderi** *Schs.* Above brownish ochreous, thorax lilac; forewing lilac, brownish-ochreous in the median area, with very prominent dark lines, the exterior one angled on vein 2 and extending outwards to the inner margin. Costa Rica.

S. jacca *Schs.* has broader wings than *pollens*, otherwise very much like it. Body light brown, with a lilac tint on the thorax and beneath, the brown forewing also at the basal and marginal areas; a fine dark line extends from the apex behind the centre of the inner margin; a silvery white spot in the lower cell-angle, above it a white streak. The red hindwing is brownish at the margin. Guatemala (Cayuga).

S. centrimacula *Strd.* is described according to 1 ♀; coloured like the median area of *cadmus*, but not quite so light as in *fallax*, the marginal and median areas very finely striated black, with a brownish blotch on the cross-vein and 2 dark transverse lines, the proximal one vertical to the inner margin, the distal one extending from before the apex to the centre of the inner margin. Hindwing with a faint reddish hue in the centre. Ecuador (Macas).

S. flavosignata *Wkr.* (= *wardi* *Bsd.*, *eugenia* *Drc.*) (136 a). Body yellow, thorax in front lilac, abdomen with a rusty brownish hue. Forewing of ♂: lilac on the yellow ground at the costal margin, in the median area and in the upper marginal half, darker yellow in the apical half, densely speckled purple; 2 or 3 oval silvery white spots at the cell-end. Hindwing only yellow in a marginal band, otherwise red-brown and dusted with violet. The ♀ is quite violettish-brown with a darker median area, the interior indistinct border concave towards the base, the exterior border strongly curved, in the centre concave towards the margin. Mesothorax yellow. Colombia, Brazil. Larva green with violet horns and silvery thorns; it lives on Papilionaceae, especially thorny Mimosae.

S. tristygma *Bsdv.* is very similarly marked, but the basal and marginal areas are reddish lilac, the median area orange, the 3 silvery spots as in *wardi*; the distal transverse line is almost straight, feebly convex inwards. Brazil (S. Paulo). — **plateada** *Schs.* (136 a) shows a lilac tinge and blackish speckles towards the inner margin in the median area, the distal oblique line is undulate-dentate. Guiana. — **amazonica** *Rothsch.* resembles *plateada*, the black markings are more distinct, the forewing beneath with a large black angular cellular spot, the other forms without it or only with a fine black discal streak. Fonte Boa (Amazons).

S. polybia *Stoll* (136 a) has relatively broad wings, orange brown, the median area with a light lilac tinge towards the costal margin; 2 black transverse lines almost meet at the inner margin, the proximal one is flawed on the submedian fold, the distal one from before the apex to the centre of the inner margin, the space between both from vein 2 to the inner margin is filled with white. Guiana. — **longispina** *Rothsch.* described as a form of it is genitally different, the dorsal appendage of the anal tergite is much longer, the ventral end of the clasper with a short obtuse lobe, hook-shaped in *polybia*. Distal line beneath removed more towards the margin. South-Eastern Peru.

S. janeira *Schs.* has orange forewings with a purple tinge along the costal margin, and darker grey veins and fringes; a dark grey line from the apex to the inner margin near to the base, a large white spot at the

base. Hindwing deep yellow, red along the inner margin, with a narrow dark transverse band. Body orange, redder above, with a large white spot on the base of the abdomen. Brazil (Rio de Janeiro).

- arpi*. **S. arpi** Schs. (136 b). Forewing deep orange, veins, inner margin and distal margin grey, a large triangular median area also grey, its upper edge occupies almost the whole costal margin, bordered by darker lines which are united at or above the inner margin and often surround here a tiny white spot; a large orange spot at the cross-vein, a white one at the base. Hindwing brownish in the larger inner-marginal half. Brazil (Rio de Janeiro).
- carabaya*. **S. carabaya** Rothsch. Colour and contours of wings as in *arpi*, wings somewhat longer than in *polybia*, margin of hindwing less round; the two transverse lines are united either at vein 2 or behind it, the small space between them may also be filled with white. Genital organs very different: anal tergite excavated at the apex, 2 small sharp hooks above the sinus as in *polybia*, but no dorsal appendage, the long harpe terminates in a black pointed hook. South-Eastern Peru.
- subochreata*. **S. subochreata** Schs. (= *bipuncta* Dogn.) is not synonymous with *polybia*, as ROTHSCILD presumed. Thorax reddish-brown, abdomen more ochreous. Forewing reddish-brown with a white spot at the base, a white dot before the centre of the inner margin, another one above it below vein 2; a triangular violetish-pink area at the costal margin; the upper distal apex in the last quarter of the costal margin, parallel to the distal margin, extending down to vein 4. Hindwing red-brown, tinged violetish-red at the inner margin. Colombia.
- klagesi*. **S. klagesi** Rothsch. (136 b) entirely resembles the preceding species, but it lacks the two white dots at and above the inner margin. Surinam and British Guiana.
- adocima*. **S. adocima** Dyar is very similar to *klagesi*, the forewing is dark greyish-brown, with a white triangular spot at the base, faint traces of a distal line extending from the distal fifth of the costal margin towards the inner margin, pronounced at the costal margin by a proximal triangular violet brightening. Abdomen brownish ochreous. Panama.
- columbia*. **S. columbia** Schs. (= *nisa* Drc.). Body yellowish-brown, head and border of collar pink. Forewing violetish-pink with a broad, dark-edged, yellowish-brown band from the apex to the centre of the inner margin, a small white spot bordered with pink at the cell-end. Hindwing pinkish-brown with pink fringe. Peru.
- ocellata*. **S. ocellata** Rothsch. (136 b). Brownish orange, tegulae, base, and margin of forewing dusted with lilac pink, with the usual 2 oblique lines, between them a white mostly double cellular spot. Hindwing more reddish, costal and distal margins lighter. In the nomenclatural form from South-Eastern Peru, the white cellular spot is transverse, at least beneath, where the species is separated from the many similar allies by the large black, white-centred cellular spot of the forewing; fewer than 20 antennal segments are pectinated, whilst in —
- bidens*. **S. bidens** Rothsch., from Venezuela, more than 20 segments are pectinated, the central spot beneath rounded, with a round white centre; the dorsal appendage of the anal tergite is longer than in *ocellata*, the clasper shorter than in the latter.
- adusta*. **S. adusta** Rothsch. (136 c). Body above reddish-orange, head and ventrum lighter, more yellowish; antemedian line straight, the posterior one almost straight, both brownish black, the median area between them orange, base and margin with a reddish-violet hue, in the margin 2 large shadowy spots. Hindwing rounder than in *jason* and *nisa*, reddish orange as far as the feeble postmedian line, reddish-brown behind it, reddish at the cell-apex. South Eastern Peru.
- curvilinea*. **S. curvilinea** Schs. ♂ above dark brownish ochreous, with a lilac hue at the margin of the forewing, a fine dark reddish-brown line from the costal margin near the apex to the centre of the inner margin, from where the line rises again almost to the costal margin; a feeble transverse streak at the cell-end. Hindwing with a feeble reddish transverse line. In the ♀ the interior portion of the line is more oblique and parallel to the exterior one; hindwing tinged with red. Expanse of wings: ♂ 68, ♀ 91 mm. Coatepec, Mexico. Allied with
- boulleti*. *jason*. — f. **boulleti** Bouv. chiefly differs from *jason* in the course of the two transverse lines which meet at the inner margin. The specimen lacks the white discal spot which is replaced by a straight streak on the cross-vein. Described after 1 ♂ from Rio de Janeiro.
- fallax*. **S. fallax** Bsdv. (136 e). Body and wings orange, marginal area and base dusted with whitish violet with 2 reddish-brown transverse lines, the interior one obliquely inwards to the inner margin, the exterior one from the apex, distally concave below the centre, with or without a white cellular spot. Hindwing with rust-brown hair at the inner margin. Brazil.
- marginata*. **S. marginata** Bouv. Allied to *jason*, the distal margin of the forewing convex. Reddish ochreous, tinged with pink behind the distal oblique line; lines blackish-brown, the anterior one straight, the posterior one from a little before the apex to the inner margin; a white spot bordered with black-red at the cell-end. Hindwing reddish-ochreous, suffused with violet; abdomen pinkish-grey. French Guiana.
- jason*. **S. jason** Bsdv. (= *montezuma* Pack.) (136 e, d). Bright orange ochreous, scantily strewn with dark, basal area slightly tinged lilac; very feebly so also the extreme margin; lines blackish-brown, the interior one

vertical to the inner margin, the exterior one from before the apex, a very small white dot in the lower cell-angle, absent in the ♀. Inner margin of hindwing with darker red hair. Mexico to Colombia and Brazil.

S. subangulata H.-S. (= *obscura* Bouv.). Thorax pinkish greyish-brown, abdomen smoke-brown; *subangulata*. forewing in the median area coloured like the thorax, basal and marginal areas darker brown, with a slight pink tinge; anterior transverse line almost straight, at the costal margin more remote from the base than at the inner margin, the exterior oblique line very obliquely from the apex to the centre of the inner margin, very slightly convex inwards; discal spot darker. Hindwing with a feeble transverse line, tinged pink. Beneath the disc of the forewing is red, the black spot not centred white. Mexico to Brazil. Larva dark green with a blue head and lateral stripe, with silvery thorns on the middle segments, the thorns on the 2nd and 3rd rings very long, dentate, black. It lives on a thorny creeper.

S. acuta Schs. (136 b) has a pinkish-brown body. Forewing very pointed, reddish-brown, dusted with *acuta*. lilac basally and at the margin, the interior line from the centre of the costal margin to the interior third of the inner margin, the exterior line from the apex to $\frac{2}{3}$ inner margin, an indistinct grey, white-centred spot at the cell-end. Hindwing reddish-brown, with red hair at the inner margin. Beneath orange with a large grey marginal triangle and a large black, white-centred spot at the cell-end. Venezuela (Aroa); West Colombia.

S. catoxantha Roths. is larger than *subangulata*, the forewing more pointed, the oblique lines more *catoxantha*. prominent, beneath yellow instead of red; lighter and smaller than *acuta*, hindwing above only with a red spot; instead of being quite red, the black cellular spot of the forewing beneath is centred white. Venezuela, South-Eastern Peru.

S. lacrimata Dogn. is somewhat smaller but otherwise very similar to *catoxantha*, at the cell-end of the *lacrimata*. hindwing above there is a very large, distinct, lachrymiform black spot the pointed end of which is directed upwards; median area of forewing above pinkish-grey, hindwing beneath quite pink without the ochreous dusting like *catoxantha*. Amazons.

S. irrorata (= *irrorata* Schs. ex err.) (135 e) is light reddish-brown in the ♂, feebly strewn with lilac, the *irrorata*. narrow basal area, the distal margin behind the line and a large round discal spot are lilac; interior line indistinct, very near to the base, the fine distal line lilac, from the apex slightly curved to $\frac{2}{3}$ inner margin. Hindwing pink, costal and distal margins with a light brown hue. Beneath basally and in the disc pink, costal margin yellowish-brown, distal margin lilac, the line red, a large black discal spot before it. In the ♀ the brown forewing is more densely striated black and lilac, the discal spot hardly visible, the fine dark distal line straighter than in the ♂. Expanse of wings: ♂ 58, ♀ 79 mm. Mexico (Jalapa, Orizaba).

S. yucatana Drc. Body and forewing yellowish-brown, forewing densely strewn with dark brown, the *yucatana*. brown oblique lines feeble, an indistinct brown spot at the cell-end. Hindwing rosy red, yellow at the distal margin. Beneath without lines, with a large black spot on the forewing. Yucatan.

S. carisma Schs. is reddish-ochreous on the front body, the tegulae inside bordered with dark grey, *carisma*. abdomen tinged lilac laterally and beneath. Forewing reddish ochreous, strewn darker, inner margin fine lilac grey; the fine dark antemedian line straight, the posterior transverse line extends from near the apex to the centre of the inner margin, distal margin tinged lilac, the white discal spot surrounded by dark, a dark dot above it; hindwing red-haired at the inner margin, apex slightly dusted with dark. The ♀ is browner, more intensely strewn with black, with 2 small black discal dots. Hindwing reddish with a dark transverse line through the centre. Expanse of wings: ♂ 63, ♀ 96 mm. British Guiana.

S. guianensis Bouv. is very closely allied to *jason* by its shape and colour, but it differs from it in 2 *guianensis*. small white discal spots and in the absence of the black discal spot on the forewing beneath; distal margin quite straight, the veins not prominent in the distal portion; the inner margin of the hindwing lacks the dark red-brown spot; distal portion of forewing dusted with pinkish-grey. A smaller species with an expanse of 57 mm. French Guiana.

S. brevis Wkr. (= *convergens* H.-S.) (135 e). Reddish-brown, with a feeble lilac tinge, black veins, *brevis*. 2 transverse lines convergent towards the inner margin, the distal one lighter inwards, a short feeble streak at the cross-vein; separated from *anthonilis* by shorter and broader wings. Brazil. Larva very similar to that of *subangulata*, yellowish-green with golden thorns, and living on Mimosa.

S. lanaris Roths. Shape and colour very similar to *brevis*, antennae with 16 pectinated segments; *lanaris*. forewing less long, margin broader, the distal oblique line thinner, proximad more distinctly bordered with grey. Hindwing rounder, particularly analwards, the reddish spot smaller. Forewing beneath loam-coloured not ochreous towards the inner margin. Genitals very different. Bahia.

S. anthonilis H.-S. is more greyish-brown, the distal oblique line very broadly bordered with greyish- *anthonilis*. white inwards. Hindwing with a slightly curved brown postdiscal line. Brazil. — **analis** Roths. (135 e) has *analis*. somewhat broader forewings, the two lines are more separated, the distal one more remote from the cell. Clasper-wool ochreous. South-Eastern Peru. Southern Colombia. The black larva with reverted thorns lives on various foliage-trees in 2 generations.

- homoca.* **S. homoea** Rothsch. (136 d) is similar to *analis*, larger, body and wings slightly tinged with claret-colour; forewing longer, the interior angle more rounded, the anterior transverse line more oblique, at the costal margin near the cell-apex. Hindwing with a less round costal margin and distal margin. Clasper-wool like the abdomen, not ochreous. South-Eastern Peru.
- pelias.* **S. pelias** Rothsch. (135 e). Thorax and base of abdomen ochreous, abdomen posteriorly tinged rosy-reddish. Wings loamy ochreous, forewing with straight blackish oblique lines, basal and marginal areas pinkish-brown, a round white cellular spot in the lower cell-angle; wings longer than in *boisduvalii*, speckled with blackish-brown, bordered with dark at the inner margin. Hindwing oval, distally rounded, yellowish ochreous, loamy brownish at the margin with an indistinct blackish median line not reaching to the inner margin. Length of forewing: 52 mm. Bolivia; Chanchamayo.
- bellardi.* **S. bellardi** Schs. ♂ salmon-coloured reddish ochreous on the anterior body, base and end of abdomen, the rest of the abdomen pink, legs more lilac pink. Forewing pinkish-brown at the base and marginal area, deep chromatic yellow in the median area with some rust-brown striae; transverse lines olive brown, anterior line excurved, and angled in the cell almost to the base of the inner margin, the exterior line from the apex to the centre of the inner margin, a brownish-pink spot at the cell-end. Hindwing reddish ochreous, somewhat red-brown at the inner margin, with a feeble brownish-red distal line. Costal margin of hindwing strongly convex basad. Expanse of wings: 43 mm. Valera, Venezuela.
- andrea.* **S. andrea** Dogn. is yellow above, rather regularly speckled with black, with a thick discal dot and a black line extending from shortly before the apex to the 2nd third of the inner margin and very slightly curved inwards. Hindwing lighter yellow, not striated, with bright red hair in the two interior thirds, and a shadowy spot behind the cell on 5 and 6. Expanse of wings: 62 mm. Described after 1 ♂ from Venezuela (Caracas).
- mexicana.* **S. mexicana** Bsdv. (= *xanthochroia* Dyar) (136 c). Deep yellow, basal and marginal areas rarely dusted with violet, oblique lines violettish-brown, a double white spot in a violet ring at the cell-end in the ♂, whilst the ♀ shows a violettish-brown round blurred spot. Hindwing with dark red hair in the inner-marginal half. Mexico.
- boisduvalii.* **S. boisduvalii** Doum. has somewhat broader, lighter yellow wings, the oblique lines are nearer together, the hindwing is less and lighter red at the inner margin. Brazil; scarcely to be separated specifically from *mexicana*.
- smithi.* **S. smithi** Drc. differs from the preceding species in the absence of oblique lines and of the cellular spot, light yellow, densely speckled brown, especially at the base. The yellow hindwing shows dark red hair at the base of the inner margin. From Colombia.
- lineata.* **S. lineata** Drc. is likewise light yellow, but much smaller, the forewing basally greyish-brown, a white dot at the cell-end, behind it a greyish-brown line from the apex to the inner margin near the base. Hindwing monotonously light chrome-coloured. Paraguay.
- quadri-lineata.* **S. quadrilineata** G. & R. Forewing reddish ochreous, base and marginal area tinged lilac, with the usual red-brown oblique lines and 2 large white spots at the cell-end. Hindwing extensively red. Missouri, Mexico, Costa Rica to Colombia. Specimens with only one white discal spot are called: — **unimacula** Dogn. (136 d), whilst those in which even this spot is absent and replaced by a shadow, are: — **occlusa** Dogn. Forewing beneath with a large black, white-centred spot at the cell-end.
- bisecta.* **S. bisecta** Lint. (136 e) has a straighter costal margin, a more oblique distal margin and shorter and rounder hindwings than *bicolor*. Body ochreous, tegulae more pale lilac than the base and marginal area of the forewing, the median area bright ochreous and finely striated dark; without a discal spot or with a feeble oval ring; postmedian line feebly curved from near the apex to the centre of the inner margin. Hindwing ochreous, pinkish carmine in the disc as far as the inner margin. The ♀ is monotonously light reddish-brown, striated darker. — **nebulosa** Neum. is hardly worth being denominated and has a more distinct posterior transverse line and blackish-brown discal spot, more yellow hindwings. Larva like that of *bicolor*, but without the silvery horns. Texas.
- nebulosa.* **S. hoegei** Drc. (137 a) is a marvellously variable species; among almost 50 specimens before me there is hardly one like the other. Orange, more or less finely speckled red-brown, or all over suffused with red-brown, with or without lilac dusting at the basal and marginal areas, transverse lines as usual, the posterior one from the apex or before it, at the cell-end one or two white spots which, if they grow larger, form two triangles with their apices upon each other like a sand-glass. ♀ without white spots. Hindwing more or less extensively carmine. Specimens with a purely yellow median area and a purple basal area and marginal area are called: —
- montana.* **montana** Pack. (= *phaedima* Dyar) (137 a), the hindwing is carmine in the disc, yellow at the margin. —
- kuschei.* **kuschei** Dyar is the northernmore form, from Sinaloa, a smaller form with a rounder apex, an entirely brownish-grey forewing and red hindwing without a yellow margin. The same form, but with yellow forewings, is called:
- sinaloana.* — **sinaloana** Schs. Distributed in Mexico, also in Arizona.
- dollii.* **S. dollii** Pack. I do not know. Larger than *hoegei*, body and wings reddish-brown, as in *Anisota stigma*, with a lilac tint, not striated; anterior transverse line very indistinct, posterior line regularly curved, to the apex; discal spot small, white. Beneath without the discal spot. Mexico.

S. colla Dyar is very similar to *colloida*, somewhat larger, less densely strewn with blackish, the forewing *colla*. with white cell-end maculae. An indistinct blackish cellular spot on the red hindwing. Described from Mexico.

S. colloida Dyar (137 a). Forewing loamy yellowish-grey, the margin feebly tinged with lilac, densely *colloida*. speckled with blackish, only the exterior transverse line indistinctly noticeable by somewhat denser speckles, somewhat more densely speckled at the cell-end, occasionally with a feeble whitish dot in the centre. Hindwing carmine in the disc with a large black central spot which is blurredly continued towards the costal margin, marginal area as on forewing. Mexico (Colima).

S. bicolor Harr. (= *distigma* Walsh.) (137 b) is ochreous, densely striated darker, or light Isabel- *bicolor*. yellow often with a faint pink tinge; antemedian line scarcely noticeable, posterior transverse line slightly curved, interrupted by the veins from before the apex to the centre of the inner margin; 2 discal spots may be quite absent, or only one present. Hindwing carmine, ochreous at the margin, lighter towards the anal angle. Body ochreous. — **suprema** Neum. is brightly coloured with 2 very large discal spots. Iowa. — **immaculata** *suprema*. Jewett, from Ohio, is not striated at all, except traces in the ♂. Larva green, the 2nd and 3rd rings each with *immaculata*. 2 pair of very long red thorns with white tips, the last ring bears one of these thorns, the 6th to 9th rings exhibit short silvery horns; a red lateral stripe is bordered with white beneath. On *Gleditschia* and *Gymnocladus*.

S. isias Bsd. (137 b) is very similar to *hoegei*, but of a dull red-brown colour, a violet tinge at the margin, *isias*. densely dusted with brownish ochreous in the median area, but likewise variable as *hoegei*; the white discal spot may be single or double, in the latter case occasionally extraordinarily enlarged. Hindwing carmine in the disc, dull red-brown in the marginal area. Mexico, also observed in the southern parts of North America. Larva very much like that of *bicolor*, but with shorter horns; on *Parkinsonia*, *Prosopis juliflora* and *Acacia flexicaulis*.

S. isara Dogn. resembles *subangulata*, but it has less pointed forewings and rounder hindwings. The *isara*. median area of the ♂ forewing is reddish-yellow, the base and margin yellow, densely dusted with lilac, all striated brown, the ♀ is more monotonously rusty yellow, but probably variable; transverse lines brown, the anterior one near the base, sinuate, the posterior one from the apex almost straight to the 2nd third of the inner margin, a thick brown discal dot between them. Body rusty yellow with a lilac tinge. Another ♂ is of a deeper rust-brown colour, more uniformly and intensely striated, the ♀ quite ochreous with a slight pink tinge. Very closely allied to *isias*, and DOGNIN presumes it to be a variety. Expanse of wings: ♂ 52, ♀ 65 mm. San Salvador.

S. luteclae Bouv. is an Argentinian species; apex pointed, margin slightly convex; forewing smoke- *luteclae*. brown, with a feeble pink tinge, anterior transverse line and discal line absent; posterior oblique line straight and very obliquely from the apex to the interior quarter of the inner margin, dark brown, bordered with light lilac inwards. Hindwing as forewing. Haute Paraná.

S. modena Dyar (137 b) is a pretty small very light yellow species, occasionally striated rust-brown, *modena*. base and marginal area sometimes with a light lilac pink tinge, transverse line as in *isias* and *hoegei*, 2 white spots in a brownish blotch in the median area. Hindwing light yellow with a red inner-marginal blotch and, separated from it, a cross-vein spot. Mexico.

S. paranensis Bouv. in general resembles *bicolor*, but the forewing is somewhat broader and the apex *paranensis*. of the hindwing rounder. The ground-colour is a darker grey, very finely striated darker, lighter and with a pinkish-red tinge in the median area; discal spot absent in both wings. Hindwing rosy red in the two basal thirds, distal third yellowish-white with a feeble pink tinge; sometimes a posterior transverse line is indicated by a somewhat deeper pink. Expanse of wings: ♂ 51, ♀ 70 mm. Paraná.

S. totoma Schs. Head and thorax of ♂ reddish-grey; abdomen above blackish, beneath grey. Forewing *totoma*. reddish-grey narrowly at the base and at the margin behind the distal line, the median area brown, striated dark brown; the dark grey distal line extends from the costal margin near the apex to the centre of the inner margin; at the cell-end a white spot. Distal and inner margins with dark grey fringe. Hindwing pink, whitish at the distal margin. ♀: forewing of a plain light greyish-brown colour, striated darker, hindwing light pink with a greyish-brown distal margin. Expanse of wings: ♂ 59, ♀ 65 mm. Castro, Paraná.

S. diluta Roths. (137 c). Body reddish yellowish-white above, abdomen with a pink hue above; *diluta*. shape of wings as in *crocata* Bsdv., but longer, with a more pointed apex; reddish light yellow, feebly shaded with greyish-brown in the marginal area, particularly along the blackish-brown distal oblique line extending from the apex to $\frac{2}{3}$ inner margin; the anterior line is quite indistinct, angled in the cell, a feeble blackish-brown cellular spot between them. Hindwing light carmine, turning paler reddish yellowish-white towards the margin. North Argentina. Length of forewing: 32 mm.

S. jucunda Wkr. (= *dimidiata* H.-S., *smithii* Ehrm.). Reddish-brown with a lilac tint, head and under *jucunda*. surface yellowish-white; the black oblique line of the forewing extends from the apex along the median to the

base, above it the finely blackened cross-vein, 3 lilac bands below it. Hindwing yellowish red-brown with white fringe. Brazil.

- jucundoides*. **S. jucundoides** *Bouv.* has somewhat broader forewings than the very similar preceding species; the colour is yellowish, the thorax of a purer yellow, abdomen brownish; hindwing light, without any violettish pink, very finely striated black; the oblique line extends down below the median and, behind the discal spot, it sends a branch to the inner margin, another branch before it to the costa; a small grey spot on the cross-vein. Hindwing with a very feeble postmedian line to the centre of the inner-margin. Venezuela (Merida).
- invalida*. **S. invalida** *Schs.* (137 b). Forewing above dark brown, with a purple tinge, lighter along the distal margin; the distal oblique line extends from the apex to the centre of the inner margin and is bordered lighter distally; discal dot white. Hindwing dark red with yellow fringe. Thorax and 1st abdominal ring orange red, abdomen purple red. Rio de Janeiro. Presumably only a variable form of *crocata*.
- crocata*. **S. crocata** *Bsdv.* (137 c) is a small species like *invalida*, reddish brownish-yellow, the very narrow brown posterior transverse line extends from the apex towards the centre of the inner margin, but it vanishes before, after having formed an obtuse angle inwards below the median. Anterior transverse line quite extinct; the white discal spot is very small, the margin with a faint light pinkish lilac tinge. Hindwing not marked. Brazil.
- pamala*. **S. pamala** *Schs.* (= *tricolor* *Bouv.*). Body yellow above, white beneath; tegulae lilac; forewing brownish lilac at the base and distal margin, median area yellow at the inner and costal margin towards the apex, otherwise lilac with a white discal area broadly bordered with lilac; distal line from the apex to the inner margin near the anal angle slightly striated yellow on the inside. Hindwing light yellow, with a slight reddish tint at the inner margin. Beneath light yellow, costal and distal margins of forewing lilac. Expanse of wings: 35—45 mm. Castro, Paraná.
- tibialis*. **S. tibialis** *Rothsch.* (137 c) has the colour of *pamala* from which it is easily separable by a thorn on the anterior and middle tibiae. Antennae with 27 pectinated and 11 plain segments. Body yellowish, collar, margins of tegulae, base of abdomen, and ventrum pink. Wings chromatic above, border and inner margin tinged with pink, distal oblique line from the apex to $\frac{3}{5}$ inner margin, distally faded. A small white spot in a pink ring at the cell-end. Hindwing quite pink. Paraguay. Length of forewing: 19 mm.
- citrina*. **S. citrina** *Schs.* Head and thorax light yellow; face and forelegs intermixed with some reddish hairs, abdomen white. Forewing light yellow, a fine darker line extends from close below the apex to the inner margin close behind the centre; anterior transverse line very indistinct; the small discal spot is whitish. Hindwing light yellow, whitish basally. Expanse of wings: 70 mm. British Guiana.
- pelota*. **S. pelota** *Schs.* Front body yellow, head, collar and tegulae violet. Abdomen red-brown above, white beneath. Forewing lilac at the base and marginal area, the latter lighter in the centre; the yellow median area striated dark with a large dark lilac shadow at the cell-end and a white cross-vein streak therein. Hindwing reddish-brown. French Guiana.
- roseilinea*. **S. roseilinea** *Schs.* is very different: body and wings white, the latter with a pink basal hue, 2 pink transverse lines, the interior one from the costal margin over the cross-vein, then bending inwards, the exterior one from near the apex behind the centre of the inner margin. Hindwing with a feeble fine pink postmedian line. Costa Rica.
- nettia*. **S. nettia** *Schs.* (137 c). Mesothorax light yellow, the rest of the front body lilac grey, abdomen light red, whitish beneath. Forewing in the basal third and at the margin purple lilac, turning lilac white towards the inner margin, also in the median area above it a large triangular yellow area with its point at the apex, enclosing a purple brown shadow with 1 or 2 white dots at the cell-end, the costal margin above it is reddish orange, and before it in the cell there is a small orange spot; the border between yellow and marginal lilac is undulated, the yellow and lilac areas striated darker. Hindwing yellow, a longitudinal spot before the inner margin, as well as the costal margin are purple red. Expanse of wings: 52 mm. South-West Brazil (Joinville); Amazons.
- wagneri*. **S. wagneri** *Bouv.* resembles *hemirhodia*, but the wings are light yellowish above and beneath, with a feeble pink hue basally and in the distal area, the veins somewhat brighter pink: discal spots and transverse lines absent except traces of a posterior line proceeding close before the apex and extending straight and in an oblique direction to the inner margin. Expanse of wings: 50 mm. Argentina.
- hypoxantha*. **S. hypoxantha** *Rothsch.* (= *flavidorsata* *Dogn.*) (137 d). Collar and abdomen ochreous, thorax and ventrum reddish-brown. Forewing narrow, with a long inner margin, reddish-brown, finely speckled black, with a very feeble interior line and a broad distinct brown exterior line, a large blackish cellular spot between them. Length of forewing: 27—30 mm. Argentina (Tucumán).
- hemirhodia*. **S. hemirhodia** *Rothsch.* (137 d). Thorax brown with a purple tinge, abdomen pinkish ochreous. Forewing dark brown with a pink tinge, more densely strewn with a darker brown, the marginal area shaded with grey, without transverse lines, a small quite indistinct blackish-brown spot at the cell-end. Hindwing yellowish-pink,

margin shaded with brown, with a deeper pink cellular spot. Length of forewing: 25 mm. Argentina (Tucuman).

C. sabulosa *Rothsch.* (137 d). Thorax dark brown, abdomen lighter, ventrum pink; forewing dark or *sabulosa*. loamy brown, densely speckled with blackish; from the apex to $\frac{2}{3}$ inner margin a blackish line, slightly incurved below the middle, the marginal area behind it greyish; anterior transverse line absent; at the cell-end a white often bipartite cellular streak. Hindwing pinkish-brown or claret-coloured, with faint traces of a blackish-brown postmedian line. Forewing 25 mm. Argentina (Tucuman).

S. corrupta *Schs.* Head, collar and tegulae purple slate-coloured, thorax pinkish-brown, abdomen *corrupta*. light reddish-brown. Forewing purple slate-coloured basally, turning pinkish-brown towards the margin, rather densely striated black, less so at the distal margin, without traces of transverse lines. Hindwing light brown, shaded darker at the costal margin, purple red along the inner margin. Expanse of wings: 72 mm. Joinville (Brazil).

S. vinacea *Rothsch.* (137 d). Anterior body reddish ochreous brown, abdomen claret-coloured; forewing *vinacea*. brownish claret-coloured basally and in the marginal area, reddish ochreous in the median area, towards the costal margin almost to the apex; no transverse lines, the whole wing feebly strewn with blackish-brown, no distinct cellular spot. Hindwing claret-coloured, the darkest between the cell-apex and inner margin. Margin almost straight. Length of forewing: 32 mm. South-Eastern Peru.

S. approximans *Schs.* is similar to *vinacea*; body purple above, thorax and base of abdomen ochreous, *approximans*. violettish-white beneath; forewing lilac, striated dark, costal-marginal portion between the apex and median vein brown; inner margin purple, a white dot bordered with purple at the cell-end. Hindwing purple red. South-Eastern Brazil (Joinville).

S. leucantha *Bsd.* has the size of *brevis*; forewing light cinnamon reddish, base and marginal third *leucantha*. whitish pinkish grey, defined by oblique, scarcely darker lines which are often absent, a brown dot at the cell-end. Hindwing the same, with red hair at the inner margin; body coloured like the wings. — Larva green with white small thorns showing black ends and being thicker and somewhat dentate on the 2nd, 3rd and penultimate segments. Brazil.

S. pacifica *Schs.* Front body ochreous, abdomen reddish-white, tinged ochreous dorsally. Forewing *pacifica*. ochreous, finely strewn with dark; basal area lilac as far as the subcostally angled anterior transverse line; a round brown spot at the cell-end; the fine brown distal oblique line from the apex slightly sinuate to the inner margin behind the centre, the marginal area behind it is darkened. Hindwing reddish ochreous, broadly red at the inner margin as far as behind the centre. The ♀ is more densely strewn, the cellular spot indistinct, hindwing darker. Expanse of wings: ♂ 56, ♀ 62 mm. Costa Rica.

S. argyrantha *Bsdl.* (137 d). Body red-brown, tegulae bordered with lilac grey; forewing red-brown, *argyrantha*. striated black, dusted with lilac towards the margin, the border between the two colours extends obliquely from before the apex to the distal third of the inner margin, very concave distally in the lower half. Hindwing copper-brown. Brazil. The yellowish-green larva exhibits thorns similar to polished silver and reverted denticulate horns. On *Gleditschia*.

S. oda *Schs.* Head white, front body reddish-brown, abdomen dark purple lilac above, white beneath. *oda*. Forewing narrow, from 5 rounded to the centre of the inner margin; hindwing long, slightly angled on 5. Forewing dark brown in the basal half with a long reddish brown cell-end spot, lighter brown distally, finely strewn with black, especially at the inner margin, dusted lilac at the distal margin. Hindwing brown, distal margin narrowly dark lilac below 5, with a white basal spot; fringe white. Expanse of wings: 41 mm. French Guiana.

S. crispula *Dogn.* resembles *crocata*, it has more elongated forewings which are marked the same *crispula*. otherwise, but the discal dot is brown and not white. Colour very variable; saffron-coloured, rusty yellow, yellowish brown or violet, always striated brown, partly unicoloured, partly lighter in the inner-marginal halves of both wings; the fine brown transverse lines are partly scarcely indicated, the anterior one distally somewhat convex, the posterior line from close before the apex to the inner margin almost at the anterior one; the discal dot has almost vanished in the ground-colour. Body like wings. Expanse of wings: ♂♂ 39 to 43, ♀♀ 45—52 mm. Argentina (Tucuman).

S. rubicunda *F.* (= *venusta* *Wkr.*) (137 c). ♂ rosy red above at the base and margin, median area and *rubicunda*. body light yellow, hindwing much paler. In the larger ♀ the pink basal and marginal portions are broadly confluent in the inner-marginal half. Hindwing almost white. — **alba** *Gr.* (= *pallida* *Bowles*) is much lighter, *alba*. almost white. The larva has a red head and a light green body granulated white, with 7 darker green longitudinal stripes and a cerise lateral stripe on the 3 last rings; the horns are shorter than in the other species, whitish, black at the ends. On maple, more rarely on oak. Atlantic States.

S. apollinairei *Dogn.* (137 e) is coloured and marked somewhat like *rubicunda* *F.*, but the colours are *apollinairei*. brighter yellow and pinkish carmine. Body yellow, tegulae, legs and ventrum pink. Forewing from the base narrowed at the costal margin to the apex, the distal margin broadly and the inner margin pinkish carmine, the rest of the disc yellow. Hindwing yellow, costal and distal margin finely pink. Described after a ♂ from Colombia (Villavicencio). A couple evidently belonging to this species, from Rio Grande do Sul, e Coll. StGR. (Berlin Museum), shows the red peach-blossom colour still more extensive, the ♀ is quite unicoloured bright

pink. We figure this couple. I presume that *walkeri* Grt. about which I could not ascertain any further particulars is the same, in which case that name would have to be preferred.

- rorerae*. **S. rorerae** Schs. ♂ orange ochreous on the body above, abdomen with small black lateral spots in the basal half, under surface purple pink. Forewing orange ochreous, basal and marginal areas suffused with light greyish pink, strewn with neutral grey behind the cell and in the marginal area; the brown transverse lines are finely undulate-dentate, the anterior one excurved, the posterior one from near the apex incurved to the centre of the inner margin; 2 small white spots at the cell-end. Hindwing orange ochreous with a dark line from the apex to the centre of the inner margin, marginal area suffused with light greyish pink. The ♀ is monotonously cinnamon reddish, more densely striated dark, light pinkish-grey only at the anal angle of the forewing and in the marginal area of the hindwing. Expanse of wings: ♂ 39, ♀ 56 mm. Macas and Guayaquil, Ecuador.
- heiligbrodti*. **S. heiligbrodti** Harvey (137 e) has light grey forewings finely strewn with dark, the posterior one of the two brownish-grey transverse lines is strongly undulate-dentate, the anterior one introangular on the median, a white dot in a grey shadow at the cell-end. Disc of hindwing pinkish carmine with a black central dot, and with a light grey border. Abdomen pinkish subdorsally. — **hubbardi** Dyar is a much darker stone-grey form. Arizona.
- albolineata*. **S. albolineata** G. & R. (= *raspa* Bsdv.) (137 f). The grey ground-colour of the forewing is densely scaled yellow in a variable intensity, with 2 white transverse lines, the interior one from close behind the first third of the costal margin, bent towards the base on the inner-marginal vein, the exterior one from the apex to the centre of the inner margin, with or without a white central dot between them, the veins more or less dusted with white, especially in the median area; the two transverse lines may intersect on vein 2, especially in the ♀. Hindwing carmine with a black central dot and a white bent postmedian line and white fringe. Mexico; also reported from Arizona.
- formosa*. **S. formosa** Dogn. (= *bilineata* Giac. nec *Burm.*) resembles the following species; front body white, the 6 first abdominal rings pinkish ochreous above. Forewing white, scantily striated brown with 2 longitudinal lines, a dark brown one with a leaden lustre along the costal margin, the costa itself reddish ochreous, the second red-brown along the median, the veins around it pink. Hindwing pinkish brown or light brown with pink veins and white fringe. The ♀ is double its size, abdomen white with a carmine transverse line. Argentina (Rio Salado). — f. **inverso-atomosa** Giac. is densely covered with greyish-black striae. La Rioja (Argentina). — **inversa** Giac. (137 f), considered a species by the author, I believe to be merely a form having developed from *inverso-atomosa*, the whole surface of the wings having turned blackish-grey except a white longitudinal band through the cell, the costal margin itself being finely carmine. Hindwing white, smoky at the margin. 1 ♂ from La Rioja. — **inverso-atomosa** Giac. (137 f) of the latter form exhibits the blackish-grey ground-colour tinged somewhat more reddish, and deeper black striae dispersed across the white and dark colour; the veins on the forewing are prominently reddish. Likewise from La Rioja.
- bilineata*. **S. bilineata** *Burm.* is white, the abdomen above with a feeble pink hue. Forewing with a fine blackish-brown line below the costa, and another somewhat broader one below the median extending to the distal margin right below the apex in a slight proximal bow. Hindwing white. Argentina.
- floresi*. **S. floresi** Giac. being unknown to me is probably also merely a form of one of the two preceding species. In the brief description it is placed beside *bilineata*. Forewing whitish-grey, feebly tinged with pink and strewn with grey; the dark longitudinal line has the same shape as in *bilineata* and extends from the base to the apex in a slight bow. Argentina.
- cinerea*. **S. cinerea** Schs. (142 d). ♂ with long and narrow forewings, with a rounded inner margin; hindwing with a produced anal angle. Forewing grey, median area more brownish-grey, the broad dark lines undulate-dentate, the interior one vertical, the exterior one from near the apex to the inner margin near the anal angle; with or without a large white spot at the cell-end. Hindwing grey at the distal margin and anal angle, the rest more brown, the inner margin almost black. Abdomen golden brown with lighter rings. Rio de Janeiro.
- lilacina*. **S. lilacina** Schs. (= *affinis* *Rothsch.*) exactly resembles the Brazilian *cinerea*, the light margin is broader, the genitals very different; the anal tergite terminates in a short sharp hook. It may be the northern representative of *cinerea* in Venezuela, the Guianas, Amazons, and Peru, but the genitals are rather too different; the nomenclatural type has a more ochreous collar and rounder hindwings, whilst the ♀ shows the marginal area in both wings only half as broad as in — **photophila** *Rothsch.* (142 d), from Surinam and the Amazons. Here the margin of the hindwing is straight or even somewhat concave, the mesothorax somewhat less yellow; ground-colour more pinkish-brown or also olive, forewing without or with a white cellular spot which may also be double, as in the specimen figured from the Berlin Museum from S. Paulo de Olivença. The ♀ is darker, the body less bright ochreous.
- surrotunda*. **S. surrotunda** Dyar (142 c) may also be merely the northernmost representative of *cinerea*, from Mexico. Wings much rounder, distinctly pinkish-brown, the lighter marginal area broad, the transverse lines bordering on the darkened median area much less distinct and scarcely dentate. Mesothorax scarcely yellow, the blackish abdomen with narrow ochreous rings. West Mexico (Colima).

S. subfumata Schs. (137 f) is quite different. Head and thorax light brown with a blackish-brown dorsal *subfumata*. line on the prothorax and mesothorax; abdomen bright pinkish earmine above, brown beneath. Forewing light brown with fine blackish-brown transverse lines, the anterior one undulate-dentate with a short transverse line in the cell behind it, and a black dot at the cell-end; the posterior line is reversely undulate-dentate, extending from a little before the apex to the submedian and from there excurved to the second third of the inner margin; above the submedian both the lines are connected by a transverse line; a feeble curved median shadow extends between the two lines from the centre of the costal margin to the centre of the inner margin; a subterminal row of irregular brown spots. The inner-marginal portion of the light brown hindwing is somewhat darker, the subterminal spots are more distinct, an undulate postmedian line is before them. The costal margin of the long narrow hindwing is very convex. South-Eastern Brazil.

S. molina Stoll (= *simulatis* Grt. & Rob., *grandis* Grt. & Rob., *agenor* Bouv., *propinqua* Bouv.) (142 c) *molina*. differs from all the other species in the notched distal margin, which is much less prominent in the ♀. Colouring variable, lighter or darker reddish yellowish-brown, more or less distinctly striated darker. Forewing with 2 dark transverse lines and a faint shadow at the cell-end; the marginal area behind the distal line is slightly darker, especially in the ♂ tinged with violettish-white below the angle on 4. Disc of hindwing pinkish earmine with a thick black central spot. Widely distributed from Mexico to Brazil. — The larva is stout, raised on the 3rd and penultimate segments, green, with a yellow lateral line bordered with red above, and short yellow, red-tipped horns; it lives on species of Inga and Cassia. — **petersii** Pack. is a questionable form or perhaps *petersii*. species unknown to me; forewing reddish-brown with numerous dark striae, an oblique postmedian line bordered with light outside, with dark inside, and extending from the apex to the centre of the inner margin; disc of hindwing darker earmine, the abdomen is said to be earmine, too. Larva different from that of *molina*: with long dorsal horns on the 2nd and 3rd segments, conical dorsal tubercles on the 4th to 10th, also on the 1st segment, and with a broader anal plate with yellow tubercles. It lives on Mimosa. From Novo Friburgo.

4. Genus: **Neorcarnegia** gen. nov.

Separated from *Syssphinx* by the peculiar habitus; ♂ small with very pointed forewings with a concave distal margin, and a caudiformly prolonged anal angle of the hindwing, the ♀ very stout, both sexes with a great number of vitreous spots on both wings. Structurally also somewhat different; the head is still more hidden and quite flatly pressed on the chest. The cross-vein of the forewing is very oblique and angular, vein 5 removed down almost to the centre of the cross-vein, and 6 from the upper cell-angle, the cell much longer in both wings than in *Syssphinx*. Only 1 species:

N. basirei Sch. (142 f). Unmistakable owing to the numerous vitreous spots on the light ochreolate *basirei*. forewing with a darkened median area. Hindwing more rust-brown at the margin; small yellow hair-tufts at the base of the antennae, above the eyes, and on the metathorax. Anterior thighs pink. Brazil. Nothing seems to be known about the development.

5. Genus: **Anisota** Hbn.

Extraordinarily similar to *Syssphinx*; head somewhat better visible. Wings in general somewhat shorter, narrowly triangular. The ♂ antennae are pectinated as far as a little behind the middle and bear 15 pairs of pinnae, 17—18 pairs in *Syssphinx*. The ♀ antennae are plain, filiform. Chiefly distributed in North America.

A. stigma Fabr. is dark reddish ochreous on the body and wings, the disc of the wings not transparent, *stigma*. base and marginal area with a lilac tinge; anterior transverse line quite indistinct, posterior line dark, sometimes slightly sinuate, the large white discal spot round or triangular. Forewing and distal margin of hindwing striated darker. Larva brown, granulated white, with reddish subdorsal and lateral stripes, cerise head, and a long thin horn on the 2nd segment. On oak and hazel. Widely distributed in the Atlantic States.

A. senatoria Abb. & Sm. exhibits distinctly triangular hindwings in the ♂, distal margin not convex *senatoria*. with a slightly produced anal angle; smaller on the whole than *stigma*, the wings less striated; posterior transverse line very strong, broad and distinct also on the hindwing. The ♀ is lighter, the discal spot smaller. Larva with a black head, blackish-brown body with 8 dark ochreous longitudinal stripes which are slightly undulate; the horns are black. On oak, birch and Rubus, often destructive to oaks. Atlantic States.

A. leucostygma Bsd. (142 f). Only the ♀ type (in Coll. PHILIPON) was hitherto known. Prof. BOUVIER had *leucostygma*. the kindness to send me detailed statements and a sketch of the type. Accordingly, I consider for the present a bred couple from Mexico, which I owe to the kindness of DAMPF and which is also reproduced in our figure, to be this species, although the ♀ is not quite the same as the type. The ♂ is rusty yellow on its body, with a somewhat more olive thorax, forewing olive brown, somewhat lighter and with a slight inclination to lilac at the

margin; the feeble smoky grey postmedian line is near the margin and almost parallel to it, with a bend towards the apex below 8; discal spot white, hindwing cinnamon-brown. The larger ♀ is of a much duller brownish colour and scantily scaled, the postmedian line broad, indistinct. Hindwing without markings. The female type of *leucostygma* lacks the bend of the postmedian line below the costal margin to the apex, it is about 3 mm distant from it, and the hindwing exhibits a distinct transverse line from below the apex straight to the first third of the inner margin. DAMPF who bred the species on oaks from larvae occurring destructively in the State of Tamaulipas will supply an exhaustive description.

consularis. **A. consularis** Dyar (142 f) is very similar to *senatoria*. Body brownish ochreous, wings dark purple brown, behind the round white discal spot a faintly diaphanous area; marginal area more violettish-grey. Hindwing rounder than in *senatoria*, not angular, posterior transverse line more indistinct. The ♀ is of a duller yellowish brown, basal and marginal areas scarcely darker, speckled darker, the white discal dot small. Larva reddish flesh-coloured or reddish brown, granulated white, with black longitudinal bands, the dorsal and stigmatal ones darker and more distinct, bordered with white beneath, horns black. On oaks. Florida.

virginiensis. **A. virginiensis** Dru. (= *astymone* Oliv., *pellucida* Abb. & Sm.) (142 g). ♂ with a large hyaline area behind the discal spot, the white spot at the cell-end very large; deep purple brown, somewhat lighter in the narrow marginal area. ♀ thinly scaled, lighter brown, base and margin with a feeble lilac tinge, scarcely speckled. Larva as in *stigma*, but the head is green, the body more greenish, the stripes more pink; on oaks. Atlantic States.

oslari. **A. oslari** Rothsch. (= *skinneri* Biederm., *neomexicana* Brehme) has the same shape as *virginiensis*, the body deep ochreous; forewing reddish-brown with a silvery white discal spot; a narrow bluish band 4 mm distant from the distal margin and parallel with it. Hindwing deep purple brown. The ♀ is larger than the ♂ and lighter. Head, prothorax, and abdomen ochreous, mesothorax and ventrum more loamy reddish-yellow. Forewing above the same, base and posterior transverse line very feebly grey; stigma white, round; wings not striated darker, margin straighter, anal angle less round than in *stigma*. Hindwing with a slight reddish hue, without distinct lines, costal margin longer than inner margin. Expanse of wings: ♂ 53, ♀ 71 mm. Larva reddish-brown, at last dull red, young larva without horns, only with dark dots where they grow later on; it lives on black oak.

dissimilis. **A. dissimilis** Bsd. (= *suprema* H. Edw.) (142 g). The ♂ forewing is red-brown, with black veins, an oblique black posterior transverse line and a large white discal spot; hindwing black. Thorax reddish-yellow, abdomen black with a reddish-yellow anus. The ♀ forewing light cinnamon reddish like the thorax, marginal area lighter, with distinct darker veins, a large round white cell-end spot, the feebly curved greyish-black postmedian line somewhat white-scaled distally. Hindwing dark reddish-grey, with black veins, a broad black antemedian shadowy band. Mexico, widely distributed.

assimilis. **A. assimilis** Drc. (142 g) is allied to *dissimilis*, but the body, forewings and hindwings monotonously reddish-brown, the hindwing somewhat darker, the white discal spot of the forewing much less distinct, the veins not darker. Only the ♂ is known, apparently very rare and hitherto only reported from Chihuahua.

Eacles tricolor Wkr. and *Eacles suffusa* Wkr. have remained unknown, nor could Mr. SCHAUS supply any information about them.

Subfamily: Oxytenidae Jord.

This subfamily and the following one are entirely unlike the usual Saturnid type and frequently resemble partly Geometrid genera, such as the extremely variable *Oxydia*, or *Urapteryx*, partly certain Uranid forms as found in the African and Indo-Australian Regions. We treat these insects as a deviating branch of the *Saturnidae*, whilst JORDAN, in his most excellent and exhaustive treatise*), prefers to raise it to the rank of a family. Anybody that is particularly interested in this group cannot do without studying this monography. As a matter of course, we cannot enter into the finer anatomical details, especially the genital differences, except in a most brief way and we therefore refer expressly to the said work the arrangement of which we observe in the following. The species which, according to JORDAN, exhibit certain antique features are chiefly separated from the other *Saturnioidae* by a mostly rather strong convolvent tongue, the antennal shaft being scaled as far as the tip, the antennal pinnae (being developed in both sexes) arising on the ventral side, and the well developed precostal branch on the hindwing; the palpi are relatively long. The larvae living on Rubiaceae are very peculiar and quite different from the other *Saturnidae*; resting contracted on leaves they resemble the droppings of birds. The 3rd segment is strongly expanded anteriorly and beneath and exhibits 2 ocelli, the penultimate segment bears a curved horn which is often bipartite at the end. The pupa spins itself with a few threads in a convolute leaf.

*) JORDAN in *Novitates Zoologicae* XXXI. p. 235 (1924).

1. Genus: **Asthenidia** Westw.

About 1 dozen of white or yellowish forms similar to *Geometridae* or *Uranidae*, with short-tailed hindwings, all of which are very similar. The genus is particularly characterized by vein 10 of the forewing only arising shortly before the apex from 8, and the hindwing being tailed between veins 4 and 5. Proboscis relatively feebly developed, the last palpal joint short. Cell of forewing very short. The larva resembles a small green *Sphingid* larva, its 3rd segment is not so strongly expanded anteriorly and beneath.

Type: *podaliriaria* Westw.

A. podaliriaria Westw. (121 a) differs from all the other species of this genus in the greyish-black apex of the forewing. Apparently only known hitherto from Brazil (Rio de Janeiro), but probably with a wider range. The ♀ has not yet been described. *podaliriaria*.

A. amphira Drc. (121 a) is one of the largest species, the transverse lines distinctly leaden grey, not brownish as in all the others, the distal band of the hindwing broader than in the very similar, though smaller *geometraria*. Known from Colombia, Ecuador, Bolivia, and Peru. *amphira*.

A. transversaria Drc. (121 a) is somewhat smaller than *amphira*, more chalky white, the transverse lines with a reddish-brown tinge, the tail shorter and without the black vein 5 of *amphira*, the black spots therein very large. JORDAN divided the collective species into 3 geographical forms which, however, are only to be separated by genital differences. In the nomenclatural form from Panama and probably West Colombia the upper appendage of the clasper is shortened with an apical projection, whilst in — **salax** Jord., from Nicaragua and Costa Rica, the upper appendage of the clasper is longer, not divided, and only with traces of a projection, and in — **columbiana** Jord. the same appendage is short and ends in 2 bent prongs, one of which bears a third plain or forked appendage on its inside. The latter form is known from Muzo and Bogota. *transversaria*.

A. terminalis Jord. is exactly like *transversaria*, but the forewing shows a fine black marginal line interrupted by the veins; the subterminal band of the hindwing, which is only indicated by grey in *transversaria*, is much more distinct and blacker, the yellow spot in the tail is reduced and more reddish-brown, the tail parted by the fine brown radial vein. Genitally very different. Ecuador and Colombia. *terminalis*.

A. geometraria Fldr. (121 a) is likewise very similar, the subterminal band of the hindwing broadly brownish-grey, the postdiscal band of the forewing is interrupted above the inner margin, forming partly zigzag-shaped points on the hindwing, where the fringe is black from the tail to the anterior angle, the upper spot on the tail being spotted red-brown distally. Widely distributed: Guiana, Colombia, Ecuador, Amazons, Peru, and Bolivia. *geometraria*.

A. celata Jord. (= *geometraria* Drc. nec Fldr.) is externally exactly like *geometraria*, the transverse bands are finer, the postdiscal one of the forewing scarcely interrupted, more regularly dentate on the hindwing, traces of a brown marginal line from the tail to the anal angle. The genitals are very different. Only known from the Amazons and Ecuador. *celata*.

A. paulina Jord. (121 a) was described after a bad specimen; as *geometraria*, with thin bands, the postdiscal one broadly interrupted on the forewing. Genital apparatus very different from all the others. South-Eastern Brazil (São Paulo); a ♀ from Sa. Catharina, in the Berlin Museum, shows a somewhat yellowish colour. *paulina*.

A. diffissa Jord. (121 a). The postdiscal band of the forewing is not interrupted, the antemedian band of the hindwing deeply forked analwards, the postdiscal one very distinctly undulate-dentate analwards, the anteterminal band mostly more remote from the margin. In distinction from all the other forms known there is on the 8th sternit on each side a very long bent pointed appendage which varies geographically. In the nomenclatural form the apex of these appendages is bent downwards ventrally. It flies in Ecuador, the Amazons, and North Peru. — In **fortis** Jord., from East Peru, it is longer, and bent sideways and upwards, in — **inca** Jord. like that of the nomenclatural form, but more bent; South-Eastern Peru, Cuzco. — In **tridens** Jord. it is still more bent and slightly twirled. South-Eastern Peru (Yahuar Mayo, Carabaya). *diffissa*, *fortis*, *inca*, *tridens*.

A. stricturaria Hbn. (= *machaonaria* Guér., *strigaria* Hbn.) (121 b) is easily distinguished by the short cellular streak of the other species being prolonged into a band extending to the inner margin; the two distal bands are nearer together, the subterminal line is absent, fringe black; the hindwing shows a fine third line between the two bands; the upper tail-spot is bordered with brown inside, not outside. Guiana, Amazons; in the Berlin Museum from São Paulo. *stricturaria*.

A. spinicauda Jord. entirely resembles *stricturaria*, but on the 8th abdominal tergite there is on each side at the margin, which is plain in *stricturaria*, a sharply pointed appendage the apex of which terminates into a fine thorn. French Guiana, Amazons. *spinicauda*.

- lactucina*. **A. lactucina** Cr. (= *lactucinaria* Hbn.) (121 b) is mostly of a yellowish or Isabel-coloured tinge, rarely all white, at once separable from all the other species by the more or less extensive brownish speckles and by the fine undulately notched double postdiscal lines. Larva green with a small black ocellus on each side of the 3rd segment, both connected by a brown streak; anal segment and horn brown, the latter with a white line running down; it lives on *Ourouparia guianensis*, Venezuela, Guiana, Amazons, Matto Grosso, Ecuador, Bolivia, Paraguay.
- buckleyi*. **A. buckleyi** Drc. (121 b) is the largest species with creamy wings, a characteristic marking, the ante-median band of the forewing being entirely absent. The nomenclatural form from Colombia, Peru, Bolivia, Guiana, and the Central Amazons exhibits a fine submarginal line beneath, which may be entirely absent on *paraensis*. the hindwing, whereas in — **paraensis** Jord., from the lower Amazons (Pará), it is almost 3 mm broad, especially in the middle.

2. Genus: **Oxytenis** Hbn.

Anatomical structure almost the same as that of the preceding genus, but the wings are either entire (in the ♀♀ invariably so), or with dents or lobes at the distal margin, occasionally also with a short caudiform projection, but never at vein 5, but always on 6. The species, particularly the ♀♀, resemble the Geometrid genus *Oxydia* in their colouring and scheme of markings; the sexual dimorphism is mostly very distinct, both sexes exhibit a small heap of erect scales at the lower cell-end. Neuration almost the same as in *Asthenidia*, though the short cell is somewhat broader. The 3rd segment of the larva is expanded on each side into a broad lobe extending forward and downward; the flexible caudal horn is bent S-like. The numerous species are partly so very similar that they can only be distinguished by the genitals.

Type: *modestia* Cr.

- modestia*. **O. modestia** Cr. (= *honesta* Cr., *bimaculatus* Doum., *attacina* Wkr., *lonomica* Drc.) (121 c) is the most common and widely distributed species. Wings entire, only the apex of the forewing slightly falciform. Colouring and marking extremely variable, reddish or more yellowish brown, especially the ♂♂ with a more or less intense lilac grey tinge, more distinctly marked or also not marked at all, mostly with a line extending from the apex of the forewing to the centre of the inner margin on the hindwing, behind it especially on the hindwing a series of lighter crescents; blackish clouds of variable intensity behind and before the line. The larva is green, with yellow and white rings around the black ocelli; a large white, brown-spotted saddle-spot in the centre of the dorsum, and a purple brown spot before the blackish-brown horn. Hitherto observed from Guatemala to Bolivia and South-Eastern Brazil.
- albilunulata*. **O. albilunulata** Schs. (121 c). Ochreous or chestnut brown, the ♀ darker cinnamon-brown, marked like *modestia*; a broad blackish nebulous stripe proximally to the oblique line, a series of fine white crescents behind it; a black fine crescentiform line on the hindwing is more remote from the oblique line and not filled with whitish. West Ecuador, Panama.
- mirabilis*. **O. mirabilis** Cr. (121 c). Forewing dentate, with a lobate projection above the centre; loamy brown or red-brown, with an oblique line from the apex to the inner margin of the hindwing, but always remaining near the margin on the forewing; more or less covered with blackish clouds; a fine blackish line distally bordered with whitish is behind the oblique line. Disc of hindwing more or less tinged whitish, in the centre with a fine darker line forming high arches analwards, which are distally bordered with whitish; small black spots behind it. Guiana.
- sobrina*. **O. sobrina** Jord. is externally almost exactly like *mirabilis*, but below the apex of the hindwing there is a slight concavity; the disc of the forewing exhibits still larger blackish clouds. The species can only be discriminated by the genital apparatus: the lobes of the 8th sternit are narrower than in *mirabilis*, still narrower towards the apex. It may be a geographical form of *mirabilis* from Peru.
- naemia*. **O. naemia** Drc. (121 d) is likewise difficult to separate from *mirabilis*, but there are 2 low incisions below the apex of the hindwing. By the genital apparatus it is to be distinguished: the lobes of the anal tergite are shorter than in *mirabilis*. The commonest and most widely distributed species from Costa Rica to Paraguay. Several geographical forms: the nomenclatural type from Peru, Ecuador, and the Amazons; the apical appendage of the penis-cover forms a frontally bent hook with a broad flat point. — In **aravaca** Jord., from Venezuela and Guiana, the apical appendage of the penis-cover is compressed, and in the northernmost form — **orecta** Jord. (121 d), from Costa Rica, Panama, and Colombia, it is bent obliquely analward and laterally, more or less twirled, with a dentate posterior end. The black oblique line is mostly very distinct and stout in the latter form.

O. leda Drc. (121 d). Wings narrower than in *naemia*, lobe of forewing broader, the two incisions below *leda*. the apex of the hindwing deeper, the distal margin below it forming a straight line. Otherwise coloured and marked as the preceding species. Genitally different: the lobes of the 8th sternit longer etc. Peru and Amazons.

O. erosa Jord. (121 d). Exterior scarcely different from *leda*, but genitally distinctly separated by the *erosa*. apically narrowed triangular lobes of the 8th sternit etc. Guiana.

O. nubila Jord. likewise shows two indentures below the apex of the hindwing, the corners between *nubila*. them are sharper than in *naemia*. More unicoloured loamy brown, marked like the other species, the lowest of the 3 black dots at the anal angle of the forewings is larger than the others. Discernible by the spoon-shaped lobe of the 8th sternit. 2 geographical forms: the nomenclatural type from Colombia is intensely marked greyish-white, the 3 anal dots on the forewing are large. The lobes of the 8th sternit are short, their interior surfaces deeply concave. — **acuta** Jord. (121 e), from Nicaragua, is more unicoloured, the 3 anal dots very *acuta*. small or extinct except the lowest. The lobes of the 8th sternit are apically narrower, the interior surface less concave.

O. bicornis Jord. is externally not separable from *leda*, but genitally quite different: the 8th sternit is *bicornis*. extended into a long bent thorn on each side etc. South-Eastern Brazil (Santos; Castro).

O. peregrina Cr. (121 e). Forewing more uniformly dentate, the lobe much less projecting in the centre; *peregrina*. hindwing with 2 deep indentures below the apex and a short tail below it; distal margin below it straight as far as the somewhat lobate anal angle. Ground-colour deep brown, mostly lighter basally and at the margin before which, in the lower half, there are oval loamy brownish spots; forewing often dusted bluish-white, like spots. The ♀ is mostly lighter, more loamy brownish, more distinctly marked. Known from Guiana, the Amazons, and Peru.

O. epiphaea Jord. (121 e). Wings shaped as in *peregrina*, but the forewing is without the small dent *epiphaea*. below the apex and that above the anal angle. Monotonously dark chocolate. The ♂ antennae are longer pectinated than in *peregrina*, the lobes of the 8th sternit truncate, its corners extended into long thin bent thorns (triangular with a rounded apex in *peregrina*). Peru.

O. plettina Jord. is somewhat smaller than *peregrina*, otherwise of the same exterior; the pointed lateral *plettina*. appendages of the 8th sternit are proximally broader than in *epiphaea* and bent backward distally. Ecuador.

O. beprea Drc. (= *mirabilis* Drc. nec Cr.) (121 e) is a smaller species; apex of forewing much sharper *beprea*. pointed, the margin very slightly dentate or quite smooth, tail of hindwing less pointed than in the preceding species. Colouring most variable, loamy yellowish, wood-brown, or dark brown, markings very similar to those of the preceding species. Antennal dents longer than in *peregrina*. The lateral appendages of the 8th sternit as in *plettina*. Panama, British Honduras.

O. angulata Cr. (= *harpago* Hbn., *zerbina* Cr.) (122 b) is also of a most variable colouring, and size. *angulata*. Loamy brown or dark sepia-brown above, the dark oblique line of the preceding species is absent in the ♂, whilst it is more distinct in the light yellowish or reddish-brown ♀. The 8th sternit with a double excision and rounded sides, the middle lobe mostly reduced to a dentiform appendage. The black larva with rusty yellowish and whitish-grey spots resembles bird's droppings, the metathoracic lobes are dingy tan-coloured; on *Randia formosa*. Guiana, Venezuela, Amazons, Para.

O. ferruginea Wkr. (= *zerbina* Wkr. nec Cr.) (122 b) is exactly like *angulata* and just as variable, but the *ferruginea*. sides of the 10th tergite are much deeper indented, scarcely so in *angulata*, etc. Larva similar to that of *angulata*. Panama to Venezuela, Bolivia and Matto Grosso.

O. gigantea Drc. Contours of wings similar as in *beprea*, but much larger; its colour varies between *gigantea*. ochreous and dark brown, dusted with greyish-white, oblique line double, filled with whitish. The 8th sternit is laterally extended into long pointed horns. Ecuador and Peru.

O. spadix Jord. is allied with *gigantea*, to be separated by longer antennal dents of the ♂. Yellowish- *spadix*. ochreous above, shaded with purple red and dusted with greyish-white, the double oblique line stronger than in *gigantea*, the interior line stronger than the exterior line. In the only specimen known hitherto, described from the Colombian Cordilleras (Alto de las Cruces), the genital organ differs from that of *gigantea*. Length of forewing: 36 mm.

3. Genus: **Homoeopteryx** Jord. (Fldr.)

Separated from the preceding genera by the uppermost subcostal branch arising from the cell and 6 being stalked with 7 on the hindwing. Margin entire, apex sickle-shaped. The small heap of scales in the lower cell-angle is absent. Antennal pectinations longer than in *Oxytenis*. 5 species are known.

Type: *malecena* Drc.

- malecena.* **H. malecena** *Drc.* (122 b). Upper surface loamy brownish or reddish-brown, the ♀ greyer with a brown oblique line from the apex of the forewing to the proximal third of the inner margin of the hindwing, behind which a crescentiform line follows, divergent towards the inner margin; darker spots are often before the margin, black dots on the hindwing. Two races: in the nomenclatural form from Panama the oblique line is fine, the lobes of the anal tergite bent towards each other apicad. — In **prona** *Jord.* the oblique line is much thicker, the lobes of the anal tergite very feebly bent. Trinidad and British Guiana.
- major.* **H. major** *Jord.* is larger than the preceding species, more brownish wood-coloured above, the oblique line bordered with greenish-yellow inwards. Lobes of the anal tergite more obtuse, broader basad, narrower apicad. The ♀ is more yellowish ochreous, with a red-brown tint. Peru.
- syssauroides.* **H. syssauroides** *Fldr.* Only the bad type without its antennae and abdomen is known. Dark red-brown above with yellowish ochreous submarginal clouds; oblique line dark brown, narrowly bordered with grey outside, and removed farther to the margin than in the preceding forms, terminating behind the centre of the inner margin of the forewing and in the centre of the inner margin of the hindwing. Brazil.
- elegans.* **H. elegans** *Jord.*, described after 1 ♂ from Peru, is shaded with yellowish red-brown above, with a dark red-brown oblique line and a large round deep brown spot at the lower cell-angle; basal area and large oval subterminal spots remain yellowish-white. Length of forewing: 39 mm.
- divisa.* **H. divisa** *Jord.* Forewing dark red-brown as far as the oblique line, distally to it reddish-yellow, dusted with reddish cinnamon colour; the line itself cinnamon red, outside a fine grey line and distally to it a dull dark brown one; lighter roundish submarginal spots rather inconspicuous, proximally defined by crescents which are nearer to the oblique line than in the other species. Length of forewing: 34 mm. Bolivia.

Subfamily: Cercophanidae *Jord.*

As in the preceding branch of the large Saturnioid family, which has evidently split off already at very early epochs and has further developed separately, this subfamily has retained an ancient characteristic separating these insects from the Saturniid type: the costal of the hindwing is connected with the cell by an oblique bar as in the *Eupterotidae* and *Bombycidae*. The family is divided into 2 subordinate groups:

A. Cercophaninae *Jord.*

Proboscis absent, last joint of palpus distinct, frons long-haired, antennae long-combed in both sexes. The very peculiar larvae are only known of two species; the 3 first rings are increasingly thickened, the strongest 4th ring is extended into a sharp point turned anteriorly and projecting hood-like, into which the light lateral streak terminates, which, on the opposite side, terminates into an equally sharp anal point. The few species of this subordinate group are confined to the southernmost extremity of South America. Chile.

1. Genus: **Cercophana** *Fldr.*

This genus and the following one are closely allied. The proximal antennal segments beneath not carinated, last palpal joint somewhat shorter than in the following genus; antennae of ♂ much longer pectinated than in the ♀. Only two species, one being most variable.

Type: *frauenfeldi* *Fldr.*

- frauenfeldi.* **C. frauenfeldi** *Fldr.* (122 c). Forewing yellowish greyish-brown, with a red-brown tint towards the margin, 3 dentate transverse lines, the antemedian line projecting quadrangulately below the cell, a dark spot behind it in the lower cell-angle, though it may also be absent; the subterminal line forms high arches, the ends of which are punctiformly thickened inwards on the veins. Hindwings tailed. The scantily scaled ♀ shows a creamy yellowish ground-colour, with very faint brownish lines, the postmedian line scarcely dentate; hindwing almost entirely rounded. Larva of the shape described above, green, the lateral stripe yellowish, roundish pink spots on the first and 5th and 6th segments above; each segment laterally with one long black, apically thickened hair. The very lazy larva lives on *Cryptocarya peumus* in November and pupates in an oval cocoon which is open at its upper end according to JORDAN, closed on both sides according to JZQUIERDO. Chile.
- venusta.* **C. venusta** *Wkr.* (= *aristoteliae* *Phil.*, *rufescens* *Phil.*, *daphnea* *M. & W.*) (122 c). An uncommonly variable species of a ground-colour varying between yellow maize-colour and chestnut-red, to which variations the numerous individual names refer, often suffused with rosy-reddish, with a round white central spot bordered with brown, and a flatly curved brown postmedian line and a notched subterminal line behind it, which is often absent, sometimes all the lines are extinct. Extremely red-brown specimens may be named: — **vulpes**.

Btlr. The larva is larger than that of *frauenfeldi*, very similar to it, but the lateral line on the thoracal segments white, light blue above, blue, black and orange on the 4th segment, yellow posteriorly, turning pink beneath; the oval pink spots on the dorsum are absent. It lives on *Maytenus chilensis* and *Aristotelia maqui*. The pear-shaped cocoon is grey. Chile.

2. Genus: **Neocercophana** *Izquierdo*.

Extremely similar to the preceding genus, separated by the antennal shaft being sharply carinated below and a longer last palpal joint. Only 1 species:

N. philippii *Izquierdo* (122 d). Dark brown above, duller in the ♀, strewn with greyish-white in the *philippii*. basal third, with 2 whitish antemedian and postmedian transverse lines. The basal two thirds of the hindwing are red-brown. Larva unknown; the spindle-shaped cocoon is open on both sides, the apical thread freely suspended on a twig. It lives on *Hydrangea scandens*. Chile.

3. Genus: **Microdulia** *Jord.*

Characterized by the tailless wings in both sexes. Likewise only 1 species:

M. mirabilis *Rothsch.* (122 d). The ♂ is dark rust-brown above with a darker discal line and a white *mirabilis*. spot at the cell-end; hindwing orange with a dark marginal band, somewhat angular. The ♀ is lighter, more yellowish, the forewing besides with an antemedian line. Fringe speckled yellowish-white in both sexes. Chile.

B. Janiodinae *Jord.*

Separated from the preceding subordinate family by the strong proboscis. Only 1 genus the species of which are very similar to *Eupterotidae*, to which they are allied in a certain way.

4. Genus: **Janiodes** *Jord.*

A few brown or grey, often very variable species with broad wings, rather long palpi, the last joint of which is porrect. Proboscis strong. Antennal shaft carinated below, with long and loose pectinations. Hitherto only known from the Bolivian and Colombian Andes.

Type: *J. laverna* *Drc.*

J. laverna *Drc.* (= *pulverosa* *Strd.*) (122 e) is the largest and most variable species, reddish loamy *laverna*. yellowish above in all shades to blackish sepia-brown, strewn with greyish-white, chiefly on the veins, with 2 small or very large black cell-end spots, 2 antemedian transverse lines and 2 postmedian ones which may be either notched or without notches, the subterminal line being the most notched. The ♀ is more orange reddish. In the form — **nigropuncta** *Drc.* (= *pauperata* *Strd.*, *desquamata* *Strd.*, *macromacula* *Strd.*, *duplinota* *Strd.*, *nigro-puncta*. *Strd.*) (122 e) the interior postmedian line is almost straight. Colombia, Ecuador, Bolivia.

J. dognini *Jord.* Greyish sand-colour above, strewn with a bluish-white of a silvery lustre, with 2 dark *dognini*. dots in the cell-angles with double antemedian and postmedian transverse lines, the interior postmedian line incurved near the lower cell-angle, the exterior antemedian line in the cell. Only 1 ♂ is known, from Colombia (Mt. Tolima).

J. ecuadorensis *Dogn.* (= *monacharia* *Maass.*) (122 d). Dark brown, with a red-brown tint in the basal *ecuadorensis*. and marginal areas, similarly marked as the preceding species, the interior antemedian line often bordered with yellowish ochre, the postmedian double line filled with grey, often a reddish-yellow spot behind it above the anal angle. — **flexuosa** *Dogn.* is somewhat larger, with a broad yellowish subbasal band, a more undulated *flexuosa*. discal line and a yellowish loam-coloured marginal area. Colombia, Ecuador, Peru.

J. russea *Dogn.* is very similar to *ecuadorensis*, more rusty brown, especially the subbasal area rusty *russea*. yellowish, at once recognizable by the very broad and straight double lines; no cell-end dots; the undulate-dentate subterminal line is very fine. Colombia.

J. virgata *Jord.* was founded upon but 1 ♀ without antennae and abdomen. Sandy brown above, *virgata*. strewn with whitish, recognizable by the very broad and straight double lines; no cell-end spots; the undulate-dentate subterminal line is very fine. Colombia.

J. bethulia *Drc.* resembles *ecuadorensis*, some places are slightly tinted cinnamon-reddish, the antemedian *bethulia*. lines are less strongly curved, 3 brown dots in the cell-end, the postmedian line very straight, passing close at the lower cell-angle, the subterminal undulate line very distinct; basal and marginal areas often of a dingy yellowish ochreous colour. Peru.

Additions.

P. 716, line 4 from above, add to the synonyms: *hesperus* auct.

P. 719, line 5 from above, add to **maurus** the synonym: (= *maurusius* *Schreit.*). SCHREITER describes the larva to be sea-green with violettish-white girdles and white hair; it lives on a tree-like Euphorbiacea (*Croton* spec.) and is very much infested by Ichneumonidae (*Eremotylus* spec.).

P. 719, line 18 from above, add to **maurusius** the synonym: (= *maurus* *Schreit.*). According to SCHREITER, the larva is black with yellow girdles, set with fine white hair. It lives polyphagously on Euphorbiaceae (*Sapium haematospersum*), Anacardiaceae (*Duvana* spec.), and Bignoninaceae (*Jacaranda acutifolia*). It is likewise decimated by the said Ichneumonid. Two generations.

P. 719, line 26 from below, add to **tucumani**: SCHREITER describes the larva to be bright green with white girdles and short black branched thorns. It lives monophagously on *Eupatorium buniifolium* and pupates in an ovoid yellowish white case and frequently receives an Ichneumonid (*Trachysphyrus* spec.).

P. 719, line 17 from below, add to **condor**: SCHREITER found the species in Tucuman (Argentina), at altitudes of 1500—2000 m in a form differing considerably from the Peruvian type: — **schreiteri** *f. n.* Somewhat smaller and much lighter, of a more pinkish-brown ground-colour, the costal-marginal area in both wings remarkably lighter violettish-white, with intensely black veins, a much narrower median area, much shorter and broader hyaline spots without the extraordinarily long ramifications that are shown in our figure of the type; the postmedian line is more pointedly notched, the subterminal area is broader, the proximal portion of the marginal area much lighter. Larva green with white girdles, on each girdle with 6 ramified thorns. It lives on *Baccharis sculpta* (Compositae) and pupates in a dingy white ovoid case. After a pupal stage of 7 or 8 months the imago emerges in November and December.

P. 725, line 26 from above, to **vitellina** add the synonym: (= *canella* *Schreit.*). Judging from the figure of *canella* supplied by SCHREITER (Univ. Nac. de Tucumán, 1925), it is undoubtedly the yellow form of *joinvillea* which he found in Argentina, quite different from *canella* with its broad and obtuse wings. The larva is green with 2 orange red dorsal hair-tufts on each segment, the central hair longer and black, with 2 rows of much shorter red-brown hair-tufts on each side, and with red stigmata. It lives on the Lauracea *Phoebe porphyria* and pupates in an exterior widely reticulated and interior narrowly reticulated web.

P. 743, line 15 from above: **A. superba** *Burm.* is to be cancelled, and on p. 767, line 19 from below, the name *superba* is to be inserted for **D. lulesa** *Schs.* According to a water-colour sketch very kindly sent by Mr. PAUL KÖHLER, the identity of *superba* is doubtless, the figure of which in BURMEISTER'S atlas is scarcely recognizable. The species is a typical *Dirphia*; *lulesa* becomes synonymous.

Alphabetical List

of the American forms of *Saturnidae* with references to the original descriptions.

* signifies that the form is also figured at the place quoted.

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13. Family: *Uraniidae*.

Regarding this chapter we refer the readers to what has been said about the *Uraniidae* in Vol. II, p. 275; Vol. X, p. 93, and Vol. XIV, p. 387. Of the different American groups which contrast strictly with each other the *Uraniidae* are represented by the typical genus *Urania* which almost exactly corresponds to the African *Chrysidia* and — though only in the stouter structure — to the Indo-Australian *Alcidis*. The nocturnal *Sematura* are distinctly separated from the diurnal *Urania*; and even to the extent that they have recently been taken out of the family of *Uraniidae*. There is no parallel case of these *Sematura* in Africa, whereas they are almost exactly represented by the *Nyctalemon* in the Indo-Australian region, so that WALKER was even induced to describe them as *Sematura*. In America another group is united with the latter, i. e. the *Coronidia*-group containing almost 30 known forms and probably several unknown forms, so that it represents the largest group of the whole family, if the more remote *Epiplemidae* are separated from it, as we have tried to do in Vol. X.

On several occasions we have treated upon the most peculiar geographical distribution of the family. The unmistakable affinity between the South-East African *Chrysidia* and the purely American *Urania* is too distinctly evinced by their exterior, habits and — as we know now — by their early stages to admit the explanation of their resemblance by the congruence of their conditions of life. Owing to their long-lasting persevering flights and the roving spirit of many *Urania* it is rendered very difficult to understand the oicological conditions of the group. It is particularly the statements about the range of the American genus *Urania* which are so contradictory that we can only come to the conclusion that some species immigrate temporarily and then disappear again. Vast tracts of the South-American continent are positively professed to lack the genus *Urania*, whereas such great numbers of them are reported from small islands situated near the coast that one cannot conceive why this excellent flier has not mastered this small stretch of water. A parallel case is met with in the closely allied lepidopteral genus *Chrysidia* in Africa, since two distinctly separated species of the genus live on the opposite coasts of South-East Africa and Madagascar, both species being apparently absent in the Europa-Island as well as the Comoro-Islands situated almost exactly midway between them. Whilst the Brazilian *Urania brasiliensis* is reported to be common in some islands, but not to reach the opposite continent, GUPPY states that the northern *Urania leilus* continually wanders from the Venezuelan continent to the I. of Trinidad situated quite near to it and that, whilst only single females deposit their eggs there, the main swarms leave the island again and return to the continent.

A very similar roving spirit is also shown by the other species of *Urania*, and this peculiarity is also often mentioned in literature regarding *U. fulgens* and the West-Indian *U. sloanus*. Members of the family are even reported to swarm together before their departure as swallows or other birds of passage are in the habit of doing. They gather together within few days and, in flying off, they sometimes form real swarms. But this is by no means the case every year; on the contrary, only single specimens are often met with during a whole decade — the same is reported by Dr. REUSS of the African *Chrysidia* —, or the species seems to be entirely missing, until all of a sudden their number increases from one hour to the other and the lepidoptera dash about in crowds, sometimes even flying from the coast out to sea.

The places where the swarms gather are generally strictly localized areas to which the lepidoptera crowd together from all the surrounding districts. They frequently rest on the leaves of hanging wigs, keeping their wings flatly spread out, the forewings somewhat lowered, so that they partly cover the hindwings. The insects settle upright, but then quickly turn round until they sit with their heads down; the same behaviour is also stated by R. MELL of the Indian *Nyctalemon*. The imagines are often seen playing together, forming bands of 6 and more specimens, but apparently they do not fight with each other, as the butterflies frequently

do; this fact is confirmed by the peaceful way they flutter side by side on their migration, as well as by the excellent preservation of their most delicate wings, which has been ascertained on the captured specimens.

To capture these lepidoptera is not easy at all. They generally fly rather high, as long as they are near trees; it is therefore necessary to wait in open spaces in the forest or in prairies, where they fly lower down and may come within reach of the net (PUPPY), though even then their zigzag flight makes it rather difficult to capture them. Single troupes sometimes gather at places where water is running through rocky gorges and moistens the stone-walls, from which the insects greedily drink water, with their heads downwards and their wings spread out, too.

The behaviour of the *Sematurinae* is quite different from that of the *Urania*. They appear to be more nocturnal; the *Sematura* often come to the light, whereas the *Coronidia* and *Homodiana* are rarely seen near the lantern. Nor are they frequently beaten out from bushes or down from treetrunks in the daytime, but they often appear just for a few moments on the tops of mountains, whereupon they generally disappear again very quickly.

As the imagines of the *Urania*, the larvae also exhibit distinct relations with the *Chrysiridia* and the *Alcidis*. The young larvae, as far as they are known, have black and white transverse stripes with red head and pectoral legs, the prolegs and claspers of *U. leilus* being whitish, the cervical shield spotted reddish. The most peculiar feature, however, is exhibited by clubbed hairs on the foremost and hindmost segments. The larva of *Coronidia* is studded with shorter fleshy thorns, so that (according to FASSL) it resembles the larva of a butterfly from the genus *Anaea*, but otherwise shows the exterior of Noctuid larvae. The larvae of *Coron. achenais* were found on a low shrub with lanceolate leaves, partly hidden on trunks or in the moss.

The pupae are rounded in front, the head is slightly set off and the cremaster pointed; those of *Urania leilus* are light greyish fawn, with blackish spots and veins, those of *Coronidia achenais* are said to be similar to those of *Ennomos alniaria*.

1. Genus: **Urania** (*Uranidia* Ww., *Cydimon* Dalm., *Thaliura* Dunc., *Dasycephalus* Swns.)

The genus is composed of 8 rather similar species all of which exhibit greenish golden sparkling metallic transverse stripes through both wings crossing the deep velvety black ground. They are distributed over the whole northern part of South America, whilst they disappear in the south, so that they apparently do not pass beyond the frontiers of Chile and Argentina. In the north they do not reach the United States, but cross a great part of Mexico and even show their most beautiful forms in the West Indies (Cuba, Jamaica). They are remarkable for the great individual variation of the number and course of the green transverse bands which are sometimes even unsymmetrically arranged to the right and left. — The forewings are mostly regularly triangular, with a pointed apex, straight inner-margin and, in the ♂, a very slightly concave distal margin. As in *Chrysiridia*, 3 subcostal branches arise from the upper wall of the very short cell which does not even attain $\frac{1}{3}$ of the length of the wing, but is broad behind. The costal system, however, differs from that of *Chrysiridia* in the 2nd and 3rd subcostal branches not anastomosing here, as they do in *Chrysiridia* where they form an enormously elongated (nearly 2 cm long) areola. The hindwing is extended on the 1st median branch into a long tail, with long fringe and an open discal cell. Type: *leilus* L.

leilus. **U. leilus** L. (= *leilaria* Hbn., *surinamensis* Swns.) (138 a). The forewing shows 4 separated green lines, a fifth being fused with the base and 1 or 2 with the upper end of the main band. On the hindwing 2 feeble bluish-green stripes are parallel to the inner margin. The distal margin is broad green in extreme specimens, with a blue gloss at the apex, but mostly indented black from the direction of the margin in a variable intensity. The anal end, the tail, and the whole fringes are white. — The distal margin of the hindwing beneath is narrowly white also in normal specimens. The name: **amphiclus** Bsd. (138 a) refers to transitory specimens in which the distal margin of the hindwing is crossed by black stripes, the vein running through the tail is more or less broad black. 70 mm. Central America to Peru, Brazil. — The larva is extremely variable. All the young larvae are light bone-coloured, striped zebra-like by dark transverse bands, but the old larva may turn so dark violettish-brown that the black transverse stripes are scarcely noticeable. Moreover, the ground-colour may also be a light or pinkish yellowish-brown; the transverse belts may be merely fine lines or also broken up into transverse rows of dots. Besides very large white, black-edged stigmatal spots may occur. But invariably the adult larva shows a red-brown head and a dark-spotted face. The clubs of the hairs on the pectoral and anal segments exhibit white tips. The larva lives on species of *Onophalea*, a creeper; it feeds for about 3 weeks and then changes into a yellowish or greyish brown pupa with an irregularly dotted and spotted dorsum and strongly black-veined wing-cases. It lies in a widely meshed thin web surrounding it like a fine tulle. After about 16 days the imago appears, developing at night. It flies briskly in the daytime, playing around the twigs of trees, and likes to come to stones sprinkled with water. It always settles on hanging leaves and on rocks

where it immediately turns so that the head is downwards. The flight is rapid, restless and zigzag-like, generally also rather high so that in spite of the myriads of lepidoptera astounding sometimes the tourists it is not easy to collect a large number of not damaged specimens in a short time. — The egg has the shape of a cake with strong, projecting radial veins. — *curvata* Pfeiffer (138 a) is characterized as a form of *leilus* by the purely *curvata*. white fringe of the hindwing. The marginal spots are very feebly developed on the hindwing, but at the anal angle and tail there are yet so many white places that the form is nearer to *leilus* than to *brasiliensis*. It is chiefly distinguished by the green lines on the forewing, which are curved in such a way that they run vertically both to the costal margin and inner margin. Bolivia. — *brasiliensis* Swms. (138 a) does not differ *brasiliensis*. from *leilus* on the forewing. Only the fringes of the hindwings are throughout white, the green marginal spots are well separated, the anal end and tail quite black, eventually with green scales. Under surface also without white places. Brazil. — *intermedia* Pfeiffer seems to be identical with it, since the description mentions *leilus* and *fulgens* but not *brasiliensis*.

U. fulgens Bsd. (= *cacica* Gn.) (138 b). Mostly smaller than *leilus*. The green bands are turning yellow *fulgens*. or even reddish. In the apical area of the forewing there are mostly only few green scales which rarely form a short narrow band. On the hindwings the fringes at the tips of the dents and at the tail are always black; only at the end of the tail white and sometimes even the tail itself. On the hindwing beneath the spots only form numerous bands at the base, whilst they are rectangularly or squarely isolated at the margin. 55–65 mm. Mexico, Central America, Colombia. — *poeyi* H.-Schäff. (138 b), from Cuba, seems to be a somewhat larger *poeyi*. race of it (70 mm). The only specimen before me shows a short green band in the apical area of the forewing.

U. sloanus Cr. (= *occidentalis* Sws.; *sloanaria* Hbn., *sloaneus* Hbst.) (138 b). This species is likewise *sloanus*. inclined to develop yellow and red tints in the stripes of the forewing. A mostly very strong band is in the apical area, and another one mostly behind it, rarely before it. The spots on the hindwing are broadly confluent towards the centre and almost invariably golden red, so that a slight resemblance to the African species of *Chrysiridia* (Vol. XIV, p. 388) is produced. Forewing beneath with a broad blue inner margin, the bluish-green colour predominates also on the hindwing over the black spots and veins. 55–70 mm. — The larva of *sloanus* is black with a blue median line on the dorsum, this line being interruptedly margined with a broad white colour and followed by irregular white transverse lines, a thin one of which extends to the stigmata. Each segment bears one (or more?) long pencil of hairs which easily come off. The larva is said to drop for a short time on a long thread from its tree down to the water. It lives on *Omphalea triandra*, like that of *boisduvalii*. The pupa has no prolonged proboscis-case as that of *Cor. orithea*.

U. boisduvalii Guér. (= *fernandinae* Mac Leay) (138 b). The main band of the forewing extending *boisduvalii*. from the anal angle upwards is only slightly stronger than the others which are broader than in the other species. The bluish-green band of the hindwing from the centre of the costal margin towards the anal angle is broad and conspicuous, whereas the other species only show hardly visible rows of scales there (except *sloanus*). From the margin obliquely proximad narrow short streaks. 60–72 mm. Cuba.

2. Genus: **Sematura** Dalm.

It has been mentioned already in the introduction, that this and the following genera differ considerably from *Urania*, for which reason they have also recently been separated as *Sematuridae*. Only in order to save space, as in similar former cases, we renounce this surely justified severance.

Antennae almost $\frac{2}{3}$ the length of the forewing, slightly spindle-shaped at the ends in the ♂ and ♀. Second joint of palpus extending to the upper edge of the eyes, long-haired, the third joint thin, porrect. Vein 5 of forewing above the centre of the cross-vein, 6 on a short stalk with 10 + 7 + 8 + 9, vein 9 being merely a short spur. Vein 2 of hindwing stalked with 3 and 4, the cross-vein and vein 5 feeble 7 before the upper cell-angle, 8 behind the base sharply flawed to the cell. Without a frenulum.

Type: *lunus* L.

All the 5 species exhibit a dark brown ground-colour in the ♀ and a yellowish-white exterior band and similar lines on all the wings. The 4 first species are besides very much alike. The ground-colour of the ♂ is deep dark reddish-brown with ochreous lines and bands. At the cross-vein a dark reniform macula. At the base of the tail on the hindwing a black ocellus centred with blue, a smaller one in the centre of the tail on the inner side, a larger one before the end on the anterior side. The differences of the species are provided by the exterior band. In

S. lunus L. (= *actaeon* Fldr., *caudilunaria* Hbn.) (138 c) the 2 interior main lines of the exterior band *lunus*. are scarcely stronger than the others and both are equally strong, slightly distally convex between the veins, the interior one in both wings extends in long points proximad on the veins. On the outside of them there

are mostly 3 somewhat feeble, slightly undulated lines on the forewing and mostly 4 hardly undulated lines on the hindwing. In the ♀ above, especially on the forewing, the exterior main line is as broadly whitish as its distance from the interior main line, both lines straight, the interior one with inward notches as in the ♂. Sometimes also both lines form one uniformly whitish band. Forewing beneath paler brown, the entirely white exterior band straight or outside somewhat irregular. 75—85 mm. Mexico, Central America, Trinidad, British Guiana, Brazil. — According to PFEIFFER, *lunus* is separable from the following species or form *empedocles* by the following marks: *lunus* is said to be more thinly scaled, which I cannot notice, and has more pointed wings, the ground-colour is never so dark as it is sometimes in *empedocles*. The anal angle of the hindwing and often the whole margin is much redder in *lunus* than in *empedocles*. This intensely red colour, however, is not to be noticed in the bad original figure of CRAMER, and PFEIFFER is also inclined to consider them as one species, since there are also doubtful specimens among greater numbers of them.

empedocles.

S. *empedocles* Cr. (= *empedoclaria* Hbn.) regarded yet as a species by HAMPSON occurs in the same district as *lunus* and besides in Venezuela and Colombia. The exterior line of the exterior band on the hindwing has sometimes also inward notches. This mark will be just as uncertain as the degree of the red colour. —

selene.

S. *selene* Gn. (139 a) is placed to *empedocles* by HAMPSON. The original description is imperfect. It may be that the specimens described below belong to this form here: the exterior line of the two main lines is distinctly stronger than the interior one, but not so strong as in *diana*. The other lines are as notched as in *lunus*. Instead of the fine lines on the veins within the main lines there are more pointed angles here. The red colour on the hindwing varies as in *lunus* and *empedocles*. The ♀♀ vary in the width of the white band, resp. the intensity of the double lines and the red colour on the hindwing to such a degree that one can hardly tell to which of the 3 forms a certain specimen is to be assigned. It would be best at any rate to cancel the name *selene* owing to its insufficient description. According to DRUCE, *selene* is the same as *lunus*.

diana.

S. *diana* Guen. (138 c) shows the exterior line of the exterior band in both wings much stronger than the interior one, and almost straight; only on the hindwing it becomes irregular near the end. In the ♀ above half or more of the exterior band is whitish-yellow, narrowly edged with dark inside, and much broader than in *lunus*. Beneath it contrasts much more intensely with the darker surroundings than in *lunus*; in the middle it shows sometimes a few dark scales and may be accompanied outside by a light line. The submarginal line is strongly undulated in the ♂ and ♀ and exhibits a light spot between veins 3 and 4. The margin behind it is mostly somewhat lighter. This spot is a good mark of distinction of the species in both sexes. 70—90 mm. Brazil.

aegistus.

S. *aegistus* F. (= *excavatus* Wkr., *lunigera* Hbn., *lunus* Cr., *phoebe* Gn.) (138 c) corresponds with the others in the colour, but it is easily discernible by the exterior line (not band) in the ♂ forming an angle in the forewing above vein 5 and then extending incurved, notched, obliquely outwards to the submedian fold. It is quite irregularly notched on the hindwing. It is inside edged with dark in both wings of the ♂, whilst in the ♀ there is a light band with less sharp notches instead of it. 70—80 mm. Jamaica, Haiti, Surinam. — According to PFEIFFER, *selene* is the same species, and WESTWOOD already considered this to be possible, too.

3. Genus: **Coronidia** Ww.

Palpi and neurulation of both wings almost the same as in *Sematura*. The hindwings only show short broad little tails. Antennae of the ♂ at the ends somewhat more fusiformly thickened than in *Sematura*, those of the ♀♀ bipectinated. This case is unparalleled. The forewing beneath of the ♂ exhibits a hair-pencil above the inner margin. Hindwing always with a blue band which is broader in the ♂. Type: *orithea* Cr.

hyphasis.

C. *hyphasis* Hpff. (139 b) is discernible from the other species by the position of the white cross-band on the forewing being well separated from the light narrow distal margin. It bears a fine white triangle inside in its centre in the ♂. The blue band on the hindwing exhibits a white spot at the costal margin in the ♂ and ♀. 42—52 mm. Mexico, Costa Rica, Panama, Ecuador.

The transverse band of the forewing ends at about the anal angle in all the following species.

erecthea.

C. *erecthea* Ww. (= *hysudrus* Hpff. pro parte) (139 b). On the forewing the transverse band is slightly dusted with rusty red, notched inside and narrower in the ♂, broader and rectilinear in the ♀. The submarginal line is very little incurved at the apex. The blue band of the hindwing is slightly reddened at its end in the ♂ and ♀. 50—55 mm. Mexico, Brazil.

difficilis.

C. *difficilis* Strd. (139 b) is very similar to the following species. The ♂ is recognizable on the forewing by the absence of the light undulate line at the margin. The transverse band is narrower and less notched, slightly inserted. The blue band of the hindwing is less broad. The forewing of the ♀ shows a purer white, somewhat narrower transverse band, whilst the band on the hindwing of the ♂♂ and ♀♀ is more light blue, without the violet gloss of *orythea*, and less red at the end. On the forewing beneath the transverse band is of

ecuadorensis.

sis.

a bluish gloss in the ♀, and the hair-pencil of the ♂ is black. 50—55 mm. Chanchamayo. — **ecuadorensis** Strd. shows a very narrow transverse band of the forewing, and besides it is brownish in its interior half. The blue

band of the hindwing is narrower. The hair-pencil beneath seems to be broader and as yellow in its basal half as in *orythea*. Ecuador.

C. orythea Cr. (= d'Urville Latr., hysudrus Hpff. pro parte). The species is already characterized by *orythea*. the differences stated in *difficilis*. The ♀ may exceptionally also have a notch inside at the transverse band, and the blue band on the hindwing may be somewhat broader. The transverse band beneath is white. — **boreada** Ww. differs somewhat in the brown basal band at the inner margin being prolonged to the place where *boreada*. it meets the main band. 46—56 mm. Mexico to Brazil, Paraguay.

4. Genus: **Homidiana** Strd.

Not different from *Coronidia* in the neuration. The ♂ lacks the scent-pencil on the forewing. Antennae of ♀ like those of ♂. Third palpal joint sometimes longer in the ♀ than in the ♂. Wings shaped as in *Coronidia*.

1. Species with a red band on the hindwing.

H. tangens Strd. (139 c). Both bands on the forewing edged outside with a somewhat lighter colour. *tangens*. The carmine spot on the hindwing extends broadly to the costal margin. Forewing dark also beneath, cross-band brownish-grey, edged with deep black inside, with reddish-white outside. Submarginal line likewise reddish-white. The red band on the hindwing beneath is darker, its interior edge straighter than in *westwoodi*. ♂ 55 mm. Ecuador.

H. westwoodi Oberth. (139 c). ♂. The two bands on the forewing are somewhat narrower than in *tangens*. *westwoodi*. The spot on the hindwing is only pinkish-red but similarly broad. The transverse band on the lighter brown forewing beneath is almost white, little bent, edged with a somewhat darker colour. The pink band on the hindwing is somewhat narrower and longer towards the inner margin than above. A pink line also behind it in the marginal area. ♂ 52 mm. Colombia.

H. traducta Strd. (139 c). ♀. The interior line on the forewing extends somewhat more obliquely than *traducta*. in *westwoodi*, the main band is broad, straight, slightly brownish. The red band on the hindwing is darker, similarly shaped as in *westwoodi* beneath, with a red line before the margin instead of the brown one of *westwoodi*. Forewing beneath with a broad white transverse band, the submarginal line also broader than in *westwoodi*. The hindwing almost entirely lacks the fine red lines in the marginal area. As HAMPSON describes the ♂ as follows: "Main band of forewing less dentate inside than in the ♀; basal and interior lines not with bluish-white scales", he has evidently had no *traducta*-♀ before him, but perhaps the otherwise unknown *westwoodi*-♀. 55 mm. Bolivia.

H. leucosticta Hmps. ♂. As there are no characteristic differences from other species mentioned, it is *leucosticta*. difficult to say anything about the species. The red band on the hindwing is as short as in *tangens*, but with undulated edges. The white transverse band on the forewing beneath is excurved.

H. rosina Fldr. is a very conspicuous species. The exterior and interior bands on the forewing above *rosina*. are broad brownish-white, almost straight, darker in the ♂. The similarly coloured submarginal line extends to vein 4, being more remote from the margin than usual in both wings. The red band on the hindwing of the ♀ almost extends to the inner margin. Forewing beneath with a longer submarginal line; large pinkish-white submarginal spots on the hindwing are situated far off from the margin. 55—60 mm. Colombia, Venezuela.

H. egina Blanch. (= nicaraguana Ww.). The basal line on the forewing is not very light. The treble *egina*. interior band forms an angle below vein 2 in ♂ and ♀. The likewise treble exterior band is slightly excurved behind the cell, distally light-edged in the ♂, the edge of the ♀ somewhat broader, the undulated median lines more prominent. The red band on the hindwing of the ♂ narrower than in the ♀, somewhat angular at its end. The forewing beneath shows the white main band also slightly excurved; the space from a little before it to the light submarginal line is dark brown, but lighter behind the latter line. The pink band of the hindwing extends to the inner margin, the distal margin is also pink outside, blackish-brown before it with pink lines. 45—60 mm. Mexico, Central America, Colombia, Ecuador, Peru.

H. anilina Bryk (139 c). Both wings very similar to *egina*, but easily separable on the forewing by the *anilina*. exterior band being only composed of 3 equally strong lines which are very strongly notched. Thus it resembles *subpicta* which, however, belongs to another group for the yellow band on the hindwing. ♂ 50 mm. Bueyes (Bolivia).

H. restincta Strd. (139 c). The treble interior line on the hindwing is similarly situated as in *egina*, *restincta*. the likewise treble exterior line is somewhat more excurved behind the cell in the ♂, with hardly any notches on the inside. Marginal area similar to that in *egina*. Forewing of ♂ only with a narrow greyish-white line instead of the usual band, and distally to it a few lighter undulated lines at the inner margin. Exterior line of ♀ intensely white outside and shaped as in *egina*. The very narrow pink band of the hindwing ends at vein 5. only the marginal lines form the usual angle there and extend further to the inner margin. 55—60 mm. Ecuador.

H. canace Hpff. (= *egina* Hpff., *cana* Hpff., *paulina*-♂ Ww., *aeolata*-♂ Ww.) (139 d). Very similar *canace*. to *egina*. Basal line of forewing as light as the innermost of the treble interior line which is straight or slightly

flawed below the cell. The exterior line is broadly edged with white outside and likewise varies somewhat in the intensity of the curve, being often quite straight in the ♀, but always behind it vein 5 distinctly white. The red band on the hindwing is more angled than in *egina*. Forewing beneath scarcely different from *egina*, the exterior band on the hindwing is mostly somewhat yellowish and undulately defined, the distal margin never pink. 50—62 mm. Panama, and northern half of South America. — In a form from the Chanchamayo and Chiriqui the light line at vein 5 of the forewing is less prominent, the reniform macula is rather conspicuous. The band on the hindwing is rather orange and perhaps somewhat less angled. Colour beneath pale yellow.

guenei. little dusted with dark at the apex. It may be the form mentioned by DRUCE: — *guenei* Drc.

ledereri. **H. ledereri** Pfeiffer. Similar to *canace*. The interior band on the forewing is somewhat excurved, the exterior band forming a long inward bow so that the distance of the two bands, at the narrowest place, is hardly as large as their width. As a specimen forming the transition to it, from the Chiriqui in the Berlin Museum, surely belongs to *canace*, it may be that *ledereri* is only an extreme aberration. Described from Ecuador.

strandi. **H. strandi** Pfeiffer also resembles *canace*. Very dark brown. Basal line of forewing moderately light, excurved at the inner margin. Interior line neither very light. Three light lines in the median area similarly notched as in *canace*, their bows towards the inner margin nearer to the exterior band which is bluish-white, parted by 2 fine brown lines, split in the middle at the costal margin; the band is sharply dentate inside. Two almost white submarginal lines. Hindwing with a short red band of 3 mm width, ending before the inner margin near the anal angle. Forewing beneath with a white main band and submarginal line, being pink on the hindwing, the distal margin paler. 50 mm. Peru?

2. Species with a yellow band on the hindwing.

subpicta. **H. subpicta** Wkr. (= *echenais* ♂ *Hpff.*, *biblina* ♀ *Ww.*, *grenadina* *Ww.*) (139 d). The ♂ with a broad median band being darker at the edges. Numerous light lines in the basal area, the reniform spot intense. The exterior edge of the median band with white inward notches, faded undulated lines behind it. Submarginal line sometimes with white spots. Hindwing with a bright yellow band, a yellow and white spot at the apex. The ♀ exhibits the median band of the forewing replaced by a sometimes double, feebly white interior line, besides a white exterior band which is slightly brownish before its interior edge. It extends almost rectilinearly to the anal angle and is slightly excurved behind the cell. 50—60 mm. Mexico to Peru, Bolivia. — The original figures of *subpicta* show the band on the hindwing more faded than in the type of *echenais*, but the difference will be due to the imperfect description.

monotona. **H. monotona** Hmps. ♂. Forewing red-brown, dusted with grey. The dark oblique lines in the basal area are distally edged with white at the costal margin. The cross-vein and exterior line are black; the latter indistinct, faded, excurved as far as vein 4, then strongly inwards. Marginal area somewhat greyer as far as below vein 4, below which an undulated black submarginal line extends to the submedian fold. Hindwing pale reddish-brown, the band orange, incurved from vein 5, ending at vein 2. Fringe white at the apex. ♂ 55 mm. Peru.

rubrivena. **H. rubrivena** Dogn. Forewing brown; dusted somewhat brownish ochreous, reddish and lilac, and traversed by undulated blackish-brown lines. Veins reddish, cross-vein black, edged with lilac in front. Some incomplete lines in the basal area. Interior line double, strongly excurved at the inner margin, then some ochreous spots at the costal margin. Exterior line double as far as vein 4, then single, obliquely outwards as far as before the anal angle. Somewhat lighter at the margin. Hindwing brown, in the middle third of veins 1—5 ochreous, with lilac scales between veins 1 and 2. Marginal line yellow, enclosing some black ocelli as in *evenus*, the tail likewise very short. ♂ 52 mm. Colombia.

3. The ♂ of the following species has no yellow band on the hindwing.

The forewing partly also without a light exterior band. ♂ and ♀ of a very different exterior.

brachyura. **H. brachyura** Hmps. Both wings deep dark reddish brown, forewing with black lines. Interior line indistinct, double, undulated, oblique. Median line edged with somewhat grey, oblique as far as the median vein, then undulated. Exterior line finely edged with grey outside, oblique at the costal margin, then undulated and vertical to the inner margin. Submarginal line undulated, double, indistinct with black oblique streaks before the margin. Hindwing with white fringe at the apex, an undulated black line below it as far as the tail which is without a white spot as in *evenus*. ♂ 40 mm. Ecuador.

evenus. **H. evenus** Blanch. (= *ducalis* *Schauf.*, *ducatrux* *Schauf.*) (139 a). On the ♂ forewing the dark median area is said not to contrast so much with the lighter basal and distal areas as in *briseis*, but nevertheless the dark shadow before the submarginal line is said to be distinct. Hindwing with many finely notched light submarginal lines, being distinct at the inner margin. The figure is that of *subevenus* *Strd.* which is presumably the same as *evenus*. The ♀ is similar to *leachi*. Forewing red-brown and grey, but the interior band whitish-brown. The whitish exterior band is brownish in its interior portion, except at the costal margin, where it is somewhat obliquely inward, otherwise vertical, somewhat notched. The orange band on the greyish-brown hindwing is sometimes a little broader than in *briseis* and extends to vein 2. 44 mm. Colombia, Venezuela, Ecuador, Bolivia, Peru.

H. hoppi Bryk (139 d). Forewing similar to *evenus*-♀ by the notched interior edge of the light exterior *hoppi* band; the dark undulate lines behind it likewise recall *evenus*. The hindwing resembles more *leachi* by the narrow yellow band. This band is narrow and bright yellow beneath in *hoppi*, somewhat broader and strewn with red scales in *leachi*. ♀ 48 mm. Pasto (Colombia).

H. briseis Ww. (= *leucothysanota*-♂ Strd.). The ♀ forewing is reddish-brown at the base, the interior *briseis* band somewhat lighter, pointed at the inner margin. Its exterior edge is uniformly convex, or undulated, reetilinear. Median area very dark red-brown, excurved behind the cell, then slightly outward and straight to the inner margin, or forming an angle in the submedian fold, above which it is inserted. The light red-brown exterior band is only bordered outside at the costal margin, otherwise broadly flown out. Light oblique spots before the distal margin. Hindwing with the orange band widened at vein 5, but sometimes much less so, whilst it is normally broad beneath. Fringe white at the apex and the tip of the tail. ♀ 45—50 mm. Venezuela, Bolivia, Peru. I cannot tell whether HAMPSON is correct in regarding *leucothysanota* Strd. as the ♂ of it; it may also be a uniformly darkened specimen of *subevenus* Strd. The only difference in the scheme of markings is on the forewing: a somewhat feebler angle of the median band outside, at vein 5. The few ♀♀ before me likewise differ a little from each other, so that *evenus* and *briseis* may be the same species.

H. leachi Latr. (= *japet* Blanch.) (139 a, d). The ♂ is above the same as *subevenus*, but separated on *leachi* the hindwing by a white apical spot, not only white fringe, and a somewhat larger tail. Yet ♂♂ occur also with a more or less continuous exterior band as in the ♀, but the band is then brownish-white. It is always white beneath. The ground-colour of the ♀ is somewhat lighter than that of the ♂. Interior band of hindwing uniform, not so notched as the corresponding lines of the ♂, narrower towards the inner margin. Exterior band also less notched, slightly bent at vein 5, filled with light brown inside, with yellowish-brown outside, sometimes also brownish-white as in the ♂. The light distal portion of the marginal area is more distinct than in the ♂ and entirely defined. Hindwing with a uniformly narrow orange band with somewhat notched edges. 50 mm. From Mexico to Brazil, Peru, Ecuador.

H. aenophlebia Hmps. Forewing deep red-brown, dusted with grey, the veins pale red-brown, similar *aenophlebia* to *rubrivena*. Interior line treble, undulated, bent. Cross-vein black. Three indistinct undulate lines behind the cell. Exterior band narrow, reddish-yellow, parted by a dark line, and edged with black; a grey and black line before it; the costal margin behind it reddish-yellow with small black spots. Then follow 2 black undulated marginal lines. Hindwing very dark, especially at the margin, where there is an undulated black line, edged with white inside, between veins 2 and 7. Fringe white at the apex and above the tail. ♂ 50—54 mm. Ecuador, Peru.

5. Genus: **Lonchotura** Hmps.

Antennae of ♂ and ♀ fusiform. Neuration as in *Coronidia*, but the wings somewhat differently shaped. But as the shape of the wings is neither constant in the following genus and all the 3 pairs of tibiae are spined in both the genera in contrast with *Coronidia*, the name *Lonchotura* is really superfluous.

L. ocyllus Bsd. (= *genevana*-♂ Ww., *dutreuxii* Deyr.) (138 d). Forewing in one specimen distally *ocyllus* angled at vein 6, otherwise straight. Olive brown, median band darker, its interior edge widely excurved in the middle, its exterior edge feebly excurved at vein 5, then almost vertical. The wing is lightest behind this band. The white submarginal line is distally angled at vein 6, broadly dark before it. The greyish-brown hindwing shows a short orange band with an indistinct prolongation to the inner margin. — **peruviana** M. Her. (138 d) *peruviana*. is as dark in the basal area as in the median area, so that their border is rather indistinct, though the border-line seems to be less excurved. The distal border of the median area and the submarginal line are light and distinct on the uniformly dark ground. The hindwing is without the brightening in the tail of *ocyllus*, but an eye-dot is present. ♂ 42—46 mm. Central America to Ecuador, Peru.

L. fassli Pfeiff. has been described as a *Homidiana*, but the shape of the wings makes me think that it is *fassli* allied with *ocyllus*, though the dark colour of the ♂ is more like that of *leachi* and *evenus*. Forewing of ♂ with many dark reddish-brown undulate lines. Interior line 1½ mm broad, indistinctly dark brown, exterior line slightly S-shaped, just as broad, outside reddish-yellow, inside darker and dentate, parted in the middle, ending near the interior angle. Distal margin 2 mm broad reddish-brown, enclosing a black undulate line which is edged with light inside. Hindwing greyish-brown, with black and brown undulate lines in the inner-marginal third. The ♀ shows the same ground-colour on the forewing. The shape of the two bands is almost the same as in *leachi*. Interior band indistinct, parted by a dark line; exterior line outside somewhat undulated, brownish-yellow, inside sharply dentate, fine dark. Margin light brown, posteriorly broader, extending to the exterior band. Hindwing greyish-brown, the brownish-yellow band 2 mm broad, only present in the posterior portion. ♂ 42 mm, ♀ 37 mm. Rio Aguaca, Western Colombia. I doubt whether the two sexes really belong to one and the same species.

6. Genus: **Anurapteryx** *Hmps.*

Separated from *Lonchotura* by the shape of the wings. The margin on the hindwing is slightly undulated in the typical species. Type: *beckeri* Drc.

beckeri. **A. beckeri** Drc. (138 d). Forewing reddish-brown with a darker median band. Its edges are undulated; the interior one extends from the costal margin obliquely outwards to the base of vein 3, then vertically to the inner margin; the exterior one below vein 6 obliquely distad, then vertically on. The brightening behind the median band at the costal margin is feebler than it is figured by DRUCE. The dark submarginal line is indistinct, the black undulated marginal line distinct. Hindwing orange; blackish-brown at the inner margin as far as the cell and the indistinct median line. The margin is narrow and indistinctly dark. 40—45 mm. Mexico, Guatemala.

gephyra. **A. gephyra** M. Her. (138 d). Forewing as in *beckeri*, but the light spot at the costal margin whiter. Submarginal and marginal lines as well as the space between them lighter. The whole basal area of the hindwing is dark, notchedly defined. A narrow notched yellow band behind it is somewhat angular in the middle. Beneath rather much like *beckeri*. ♀ 48 mm. Guatemala.

brueckneri. **A. brueckneri** M. Her. (138 d) is somewhat smaller. On the forewing similar to a darkened *beckeri*. Hindwing smoky brown at the inner margin as far as vein 3 upwards and from the costal margin to vein 7, also at the distal margin; the remaining median area orange. A narrow somewhat lighter band beneath is less distinct on the forewing. ♂ 36 mm. Guatemala.

interlineata. **A. interlineata** Wkr. (= abbreviata *Maass.*, *liriope* *Weym. i. l.*). In spite of its size and the tail on the hindwing the species belongs to this place owing to the spined tibiae as Dr. M. HERING has proved. The under surface is also very similar to *beckeri* and differs a little in the arrangement from that being usual in *Homidiana*, so that one can probably decide accordingly, even in specimens without legs, whether it is a species of *Anurapteryx* or not. The broad dark median band of the ♂ is very concave between 4 and 2 and parted by a light patch at the costal margin. The yellow band on the hindwing is broad, often split at the end. The interior line on the ♀ forewing is somewhat lighter than in the ♂. The double exterior line is shaped as the distal edge of the median band in the ♂, the interior branch stronger, lighter. The yellow marginal line on the hindwing is often anteriorly longer than in the ♂. 44—54 mm. Central America to Ecuador, Peru. — **meticulosa**-♀ *Pfeiff.* The light streak at the cross-vein on the forewing does not only despatch indistinct notched lines, but it is continued almost to the interior line on the centre of the wing incurved to the middle of the inner margin. The light interior and dark exterior portion of the exterior band is not separated by a blackish line. The yellow interior band on the hindwing beneath is also marked above. Rio Aguaca, Western Colombia.

flavidorsata. **A. flavidorsata** *Hmps.* Thorax olive, tegulae and patagia with dark brown edges. Abdomen reddish-yellow with a dark median line. The ground-colour of the ♂ is olive and reddish-brown in the median and distal areas. The basal and interior lines probably similar to *interlineata*-♀, with angles at veins 2 and 1. The light patch at the costal margin of *interlineata* is represented here by a white median line with an olive band behind it, extending along the median vein to the interior line; then obliquely outwards with a small angle at vein 1; enclosing a blackish-brown triangle at the costal margin as far as the median vein. The olive band is distally edged by a black double line which is angled inwards at vein 1. Exterior band as in the ♀ of *interlineata*, purely white inside, with inward points at veins 4—1. Submarginal line also white, undulated as far as vein 5, then as in *interlineata*, also with black oblique streaks. Hindwing greyish-brown with an orange-red band as in *interlineata*, but ending at the inner margin with 2 white streaks. Before this band another faded reddish-yellow band from behind the upper cell-angle to vein 4 near the main band and terminating at vein 2. This additional band is less distinct in the ♀, oblique, extending from 6 to 4. 50 mm. Colombia, Peru.

insolita. **A. insolita** *Strd.* (138 d) is very similar to *interlineata* by the shape of the spotted median band on the forewing. A fine light line at the margin at vein 7. Hindwing light yellow, blackish at the inner margin as far as vein 4 with an interruption in the middle. Hindwing beneath with more numerous finely dentate lines than in *interlineata*, otherwise very similar to it, although the upperside of the hindwing is rather different. ♂ 42 mm. Exact patria not stated.

ribbei. **A. ribbei** Drc. (138 d). Forewing cut out at the distal margin below the apex, in the ♂ also similar to *interlineata*, but less distinct. An exterior band is marked by a lighter colour. A narrow notched yellow band on the hindwing extends to the inner margin. A reddish-brown exterior band in the ♀ is as feebly curved as in the species of *Homidiana*. In the median band the rhombic spot at the costal margin and the narrow one at the inner margin are more prominent than in the ♂, as is also the case in *interlineata*-♀. Very dark before the strongly notched submarginal line. Hindwing beneath quite similar to *insolita* and *interlineata*. 38—42 mm. Panama.

crenulata. **A. crenulata** *Barn.* Forewing above pinkish reddish-yellow, the broad median band intensely dusted with grey, strangulated in the middle; notched outside, indistinctly edged inside. The basal area is paler, likewise dusted with grey. Lightest behind the median band and gradually turning blackish-brown towards the submarginal line which is composed of pale lunae edged with dark grey. Marginal area pale. The whole wing with dark fine notched lines. Hindwing grey at the base, defined by an irregular dark line, behind it somewhat more pink than on the forewing. ? mm. Arizona. — Judging from the patria, the species is presumably not correctly ranged here.

Alphabetical List

of the American forms of *Uraniidae* with references to the original descriptions.

* signifies that the form is also figured at the place quoted.

- aegistus* Ur. *Fabr.* Spec. Ins. 2, p. 20.
aenophlebia Hom. *Hmps.* Novit. Zool. 25, p. 374.
auilina Hom. *Bryk*, Soc. Ent. 45, p. 16. *

beekeri An. *Dre.* Ann. Mag. Nat. Hist. (6) 18, p. 353.
boisduvalii Ur. *Guér.* Icon. Ins. p. 490. *
brachyura Hom. *Hmps.* Novit. Zool. 25, p. 372.
brasiliensis Ur. *Swains.* Zool. Ill. (2) 3, t. 126.
briseis Hom. *Ww.* Trans. Zool. Soc. Lond. 10, p. 538. *
brueckneri An. *M. Hering*, Iris 42, p. 277. *

eanaee Hom. *Hpff.* Neu. Schmett. 2, p. 4. *
erenulata An. *Barnes* Ent. News 30, p. 245.
eurvata Ur. *Pfeiffer* Ent. Zeitschr. 31, p. 70 (1917).

diana Sem. *Guen.* Spec. Gen. 9, p. 18. *
difficilis Cor. *Strd.* Deutsche Ent. Z. 1911, p. 636.

ecuadorensis Cor. *Strd.* Deutsche Ent. Z. 1911, p. 638.
egina Hom. *Blanch.* Règne An. Ins. t. 145, f. 4.
empedoeles Sem. *Cr.* Pap. Exot. 3, p. 11. *
erethea Cor. *Ww.* Trans. Zool. Soc. Lond. 10, p. 530. *
evenus Hom. *Boisd.* Règne An. Ins. t. 145, f. 2.

fassli Lonch. *Pfeiff.* Ent. Ztschr. 31, p. 7. *
flavidorsata An. *Hmps.* Novit. Zool. 25, p. 373.
fulgens Ur. *Wkr.* List. Lep. Het. Br. Mus. 1, p. 5.

gephyra An. *M. Hering*, Iris 42, p. 279. *
guenei Hom. *Dre.* Biol. C. Am. 2, p. 6.

hoppi Hom. *Bryk*, Soc. Ent. 45, p. 16. *
hyphasis Cor. *Hpff.* N. Schmett. 2, t. 3, f. 2, 3.

insolita An. *Strd.* Deutsche Ent. Z. 1911, p. 638.
interlineata An. *Wkr.* List. Lep. Het. Br. Mus. 1, p. 38.

leachi Hom. *Godt.* Enc. Meth. 9, p. 803.
ledereri Hom. *Pfeiff.* Ent. Zeitschr. 39, p. 121. * (1925).
leilus Ur. *L.* Syst. Nat. ed. 10, p. 462.
leucostieta Hom. *Hmps.* Novit. Zool. 25, p. 369.
lunus Sem. *L.* Syst. Nat. ed. 10, p. 508.

meticulosa Anur. *Pfeiff.* Ent. Ztschr. 31, p. 7. *
monotona Hom. *Hmps.* Novit. Zool. 25, p. 374.

oeylus Lon. *Boisd.* Lep. Guatem. p. 76.
orythea Cor. *Cr.* Pap. Exot. 3, p. 121. *

peruviana Lon. *M. Her.*, Iris 42, p. 279.
poeyi Ur. *H.-Schäff.* Corr. Blatt Ver. Regensbg. 20, p. 135.

restineta Hom. *Strd.* Deutsche Ent. Z. 1911, p. 640.
ribbei An. *Dre.* Biol. C. Am. 2, p. 8. *
rosina Hom. *Fldr.* Reise Novara t. 121, f. 3, 4.
rubrivena Hom. *Dogn.* Het. nouv. 17, p. 11.

selene Sem. *Guen.* Spec. gen. 9, p. 18.
sloanus Ur. *Cr.* Pap. Exot. p. 134. *
strandii Hom. *Pfeiff.* Ent. Zeitschr. 30, p. 13. * (1916).
subpieta Hom. *Wkr.* List. Lep. Het. Br. Mus. 1, p. 39.

tangens Hom. *Strd.* Deutsche Ent. Z. 1911, p. 639.
tradueta Hom. *Strd.* Deutsche Ent. Z. 1911, p. 646.

westwoodi Hom. *Oberth.* Etud. Ent. 6, p. 28. *

14. Family: *Sphingidae*.

It was K. JORDAN who in Vol. II (p. 229) already pointed out the homogeneity of the exterior of all the moths belonging to this family. He described all the three stages of the *Sphingidae* in such a correct and precise way that we merely need to refer to that passage. In fact, already the earliest authors working with the most imperfect means of help have made very few mistakes in classifying the lepidoptera from this family; they especially included by mistake certain *Notodontidae* in the *Sphingidae*, mostly because they had defective or deformed specimens before them. Owing to this homogeneity it is rather easy to decide whether an insect belongs to this family or not, but on the other hand it is difficult to define the single genera and groups of genera; this task, however, has been most classically solved, in spite of this difficulty, in the excellent monography of ROTHSCILD and JORDAN, which we have already referred to in Vol. X (p. 524).

As nearly all the *Sphingidae* are most conspicuous insects, mostly also of very large or medium sizes, they have always created special interest also among the laymen. Specimens captured partly on flowers partly on the lantern were particularly often brought from abroad to European Museums and private collections, so that our knowledge of the more conspicuous forms has made more rapid progress than that of those families containing more insignificant lepidopteral forms or composed entirely of such forms. The first catalogue by KIRBY, which was fairly complete considering the time of its origin in 1892, comprised the names of 912 species; ten years later, ROTHSCILD and JORDAN enumerated 770 species, whilst the latest list (in JUNK's *Lepidopterorum Catalogus*) drafted by H. WAGNER in the years 1913—1919 records 849 species. The strange fact that the number of species has not increased but decreased within 30 or 40 years is not due to the reason that formerly described species have been lost or omitted, but that forms which were formerly regarded as species have meanwhile been recognized to be modifications of other species, or geographical representatives, local forms, condition forms, or slight deviations not worth being denominated.

It has already been stated in Vol. XIV (p. 353) that the resemblance of the shape is to be considered as the consequence of the adaptation to a highly developed air-life. The body has almost exactly the shape of a fish or gull, or of a humming-bird the flying power of which is scarcely to be excelled. It is the same, almost cigar-like shape of the body, which has been applied in aviation in the shape of the Zeppelins and in the bodies of aeroplanes, and which has thus also been acknowledged in technics to be the most serviceable for aviation.

This eminent flying power has also led to an extensive geographical distribution (cf. Vol. X) so that we meet with *Sphingidae* not only in all the continents but sometimes even in quite remote islands, as for instance *Herse convolvuli* in New Zealand, all of which we immediately recognise to have immigrated across wide oceans.

The general distribution of the Sphingid family over the whole globe is chiefly adjusted to the climatic conditions; the number of both their individuals and species decreases quickly towards the polar regions, being largest in the watery forests of tropical and subtropical countries and sometimes decreases to nought in deserts lacking every vegetation. This is the case in all the continents; the same in America as in the warm countries of the Old World. Moreover, the family also lacks all the real cold forms, i. e. we do not know of any species which, on its wanderings from warm zones to colder districts, would appreciably change its exterior: it is merely sterility that ensues, which is recently presumed to be chiefly an effect of the cold, preventing at the same time their settlement at the eccentric destination of their wanderings.

As the American Continent in Mexico is divided by a desert into a northern and a southern section, the fauna of the southern nearctic region is also separated from that of the northern neotropical region. Of

about 250 Sphingid species known from America only 20 have succeeded in traversing this desert. We have stated at another place that because of their great want of food the *Sphingidae* being otherwise provided with such an excellent flying power are unable to fly across districts void of vegetation; they will not grow exhausted in such an attempt, but they will die of starvation. There is hardly any group of lepidoptera the imagines of which exhibit such a greed after food, and hence their communication between North and South America is most strongly obstructed. The fact that the entire American Sphingid fauna contains but 2 species occurring also in the Old World is due to another cause. In Vol. X we had stated that the *Sphingidae* chiefly belong to the more modern periods of creation, and that is evidently also the reason why the modern climatic conditions have been decisive for them. Their emigration from America to Western Europe, or from Eastern Siberia to Alaska might have taken place in such northern latitudes in which the arctic cold being unbearable for *Sphingidae* makes it impossible. Thus we do not find any single American Sphingid species in Eastern Asia, and only two species — these even rather widely distributed — in Europe and North America. Even very extraordinarily distributed lepidoptera, such as the *Acherontia* occurring from Lissabon to Japan and from the Cape of Good Hope to Central Europe have not been able to advance to America. The extremely problematic "Atlantis" — if it ever existed — certainly did not exist at the time when the *Sphingidae* spread over the world.

The genera common to both the New and Old World are naturally those which are able to advance farthest to the north: i. e. the genus *Smerinthus* the Canadian form of which, *S. cerisyi*, is a continuation of the European *S. ocellata* extending to Lapland, Scotland, and England, and *Sphecodina* which extends in Eastern Asia to Siberia and which, though it does not occur any more in the nearctic west of America, is frequently met with again in the east in the winter-cold lake district.

There are also other parallel features of these very homogeneous *Sphingidae* in the New and Old World. The exterior of the palaearctic *Acherontia* is opposed in America by the *Grammodia*. The American *Protambulyx* from the *eurycles*- and *strigilis*-group we find sitting in almost the same position on the large leaves of low shrubs in the open daylight as the Indian *Oxambulyx*. The palaearctic *Macroglossa* appear in America as *Sesia* and *Eupyrrhoglossum*, the South-Asiatic *Panacra* as *Perigonia*; all these convergencies cannot be wondered at considering such homogeneous habits, and they must not be used as a proof of systematic affinity.

The differences between the various American Sphingid groups can only comprehensively serve as a key for a natural grouping; there is no organ exhibiting such thorough differences as to be able to build up a system of the *Sphingidae* on it; this also proves that the genera and species belonging to this family have been separated at a relatively late period, which assumption is substantiated by the great easiness of the copula not only between different species, but even different genera. These trials have almost become a sport, since new and often wonderful combinations are produced nearly every year. Nor do these hybrids by any means make the impression of stunted forms or unnatural deformities, but on the contrary they represent insects fully capable of living, and even the hybrids from mixed copulae of different genera bring forth prolific individuals. Such hybrid larvae yielded by mixed copulae, as DENSO already stated in Vol. II (p. 260 sq.), even prove to be of a particularly excellent appearance and to grow up very quickly. C. F. FRINGS reports that hybrid larvae of *hybr. johni* Frings were already transformed to pupae after 16 days, thus in a space of time in which neither of the parental species (*Smerinthus planus* ♂ and *Amorpha populi* ♀) use to terminate their larval stage.

As most of the other lepidopteral families the American *Sphingidae* also exhibit a great abundance in gigantic forms. The species of the genus *Cocytius* with an expanse of almost 20 cm extend through the whole neotropical region and sometimes even advance to the United States. They represent, in a certain measure, our *Acherontia* which are absent in America and seem likewise to be subject to a continuous roving spirit, at least I frequently found the dead bodies of these lepidoptera on the Brazilian Coast, which had been deposited there by the tide. The *Pachylia* also develop very bulky bodies and their larvae may become so very heavy that the twigs of young food-bushes are bent down by their weight, and this is still more remarkable in the *Pholus anchemolus* living on creeping plants. Dwarfish sizes of certain palaearctic species, such as *Sphinge naepiopsis nanum* or *obscurus*, do not occur in America.

The colouring of the American *Sphingidae* does not differ typically from the palaearctic forms. The visible parts of the body are here likewise hidden by bark-like or leaf-like colouring or shades in most of the resting lepidoptera, the bright red or yellow colours are confined to the hindwings which are covered in the resting insect and the covered dorsum of the abdomen. The flying imago exhibiting the very bright colouring seems to be well protected by its swift flight and easily to notice an approaching enemy by the aid of its very large night-eyes and a certain shyness, even when sucking from blossoms, can be noticed as long as the dawn-time which is very short in the tropical districts allows our eyes to watch the insect.

The *Sphingidae* almost invariably live on flowers and very few of the American species take up any other stuff for their principal food. The proboscis which is mostly well developed except in some *Ambulicini*, attains a monstrous length in some species such as the *Cocytius* and seems to induce the insects to visit especially blossoms with deep calyces. As we have already stated in certain palaearctic species, the American species likewise exhibit a mutual adaptation between certain blossoms and *Sphinges*. Thus for instance *Mirabilis jalapa*, the marvellous Mexican flower, keeps its blossoms closed during the day and opens them towards evening at about the same time when the *Sphingidae*, especially also the species of *Celerio*, the larvae of which live on the *Jalapa*, begin to swarm; it even seems as if most of the night-flowers (*Nyctaginaceae*) specially preserve their honey for the *Sphingidae*, shutting themselves off from all the diurnal insects, such as bees, flower-beetles etc.

The proboscis of the *Sphingidae*, however, does not only serve for taking up honey but especially also for drinking water, because the *Sphinges* of the torrid zones of America are in particular need of it. From the banks of the camp-brooks and forest-rivulets one may see, towards the hours of dawn, all sorts of species of *Sphingidae* flying across the surface of the water which they sometimes touch. In spite of the very skilled flight of nearly all the *Sphingidae*, it frequently occurs in this process of sucking up water that some individuals sink too deep into the water and cannot rise any more, especially when being snatched at by an enemy.

It is not only the light of lamps but especially the sight of certain blossoms by which the *Sphingidae* seem to be allured from great distances. American entomologists state the *Verbenaceae* to be particularly favoured, which is also the case in the tropical Indian regions. Certainly the *Sphingidae* are less frequently found sucking during the day on the blossoms of *Lantana* — which is also widely distributed in Brazil — because there are no species of *Macroglossum* in South America, whereas dozens of specimens of 3 or 4 different species are often to be seen swarming on a little shrub of *Lantana* in South Asia. The American blossoms of *Lippia*, the orange-like smell of which — as for instance *L. citriodora* — can be detected at great distances, are of course also very much frequented; but also blossoms introduced from Europe, such as woodbine, a shrub of which crept up my verandah in the Itatiaya Mts., were sometimes visited by tropical *Sphingidae*.

The variability of the attractive effect of lamps on the Moths, especially on the *Sphingidae*, is most puzzling. In numerous places of the earth it has been observed that at the time of introduction of electric light the number of *Sphingidae* is enormous at those places which had formerly been without light, but that this effect decreases rather abruptly after some months or even weeks, and does not reoccur, except on single evenings that are extraordinarily favourable for flying. A. MILES-MOSS, from Pará, states that in the year 1895, when the first arc-lamps were lit, certain *Sphingidae* came flying to the lamps in immense numbers, whilst hardly ten years later they had become very rare. Moss presumes this to be due to the decimation in the surroundings of the lamps, brought about by the moths being diverted from their natural life-habits. This explanation given with a reservation by Moss is also insufficient in my opinion, for in such cases the larvae would also be found to have reduced in numbers, which I could not ascertain in searching for them on the bushes near the lamps. The diminution of numbers of *Sphingidae* flying to the lamps, which is almost uniformly shown by all the Moths, is too sudden to be in favour of such an explanation. During the Boer War camps of prisoners were erected in Ceylon and surrounded with very powerful arc-lamps so as to prevent any attempts of escape. In the first 4 to 6 weeks the moths came flying to the lamps in such enormous numbers that the poles of the lamps were all covered with them, mostly with specimens of *Deilephila hypothous* and *nerii*, but also with species of *Oxyambulyx*, *Marumba* etc. The white Noctuids from the genus *Sphettia* swarmed around the lamps in such great numbers that one had the impression of a snow-storm. Although immense numbers of all these common lepidoptera perished, such a great number of breeds must have developed and, above all, so many of the *Sphingidae* being so very fond of a roving life must have flown near the lamps that such a rapid decrease in their attraction to the lamps, as was then observed, cannot be explained by it. The fact of their having become accustomed to the light can only be considered with respect to the relatively small number of domiciled Noctuid species — to which the *Sphingidae* by no means belong — growing up in the immediate light of these arc-lamps. And even among these species it is not very probable that the larva sitting in the dense foliage and provided with a very slight visual power has become so indifferent to the accustomed electric light that after the subterranean pupal stage the imago reacts no more upon glaring lights. Thus, if we take no account of the cases in which the erection of plentiful and very extensive and powerful lighting — partly by the permanent diversion and destruction of numerous individuals, partly also by the mutual competition of the lamps radiating everywhere — in fact impairs the attraction to certain

bright lights, we are met here with a fact that is just as curious and puzzling as the almost regular non-appearance of lepidoptera in the moonshine.

The larvae of the *Sphingidae*, nearly all of which number among the most conspicuous insects, are also better known than those of the other families of *Heterocera*. Their shape has been described at large already in the volumes 2, 10, and 14, and we may therefore confine ourselves here to our knowledge of the American forms. Numerous forms parallel to the Indian Sphingid larvae are to be found in nearly all the subfamilies or tribes connecting the west with the eastern continents. They often resemble each other to such a degree that they exhibit the close relationship to species of the eastern hemisphere more distinctly than the imagines developing from them. Thus the larvae of *Herse cingulata* differ less from some of the palaearctic *H. convolvuli* than the latter do among their own forms. *Protoparce rustica* and *florestan*, excepting the granulated caudal horn and the shape of the oblique stripes meeting on the dorsum, are exactly like the Eurasian larvae of *Acherontia*; it is easily understood that also the larvae of *Smerinthus cerisyi* resemble most exactly those of the Eurasian *Sm. ocellatus*.

The neotropical region, however, also harbours numerous *Sphingidae* showing hardly any relations to the palaearctic members of this family, and the larvae of these forms also exhibit an appearance unparalleled in the Old World. Details about this will be found in dealing with the various species on the following pages; we merely mention here a few examples being of particular interest for their biological relations. So for instance there are Sphingid larvae in America showing the Geometrid manner of sitting, such as *Leucorhampha ornatus*. The resting insect holds itself with its claspers, on the one hand, and sometimes also besides with its pectoral legs, on the other hand, whilst the abdominal legs are drawn in; only in creeping the pectoral legs, especially the hindmost pair, are brought into action. If the larva is alarmed in this position, the protective attitude changes into a frightening attitude, the larva copying a snake's head.

The way the larva accomplishes this deception is so strange that it seems to make any other explanation of its behaviour in cases of disturbance impossible. The larva of *Leuc. ornatus*, during its Geometrid-like sitting position, exhibits an absolute protective colour; greenish or bark-grey, in the grown-up stage it represents a twig of a finger's length; the entire lack of feet — these being drawn in so far that they cannot be seen — very effectively intensifies the disguise into a lifeless piece of wood. On being discovered the larva persistently remains in this condition, also when it is gently touched; but as soon as it is more energetically disturbed, the insect changes its policy by erecting the front part of its body and turning it so that its underside is uppermost. In doing so it exhibits the exact image of a snake by a dark dorsal stripe (which extends across the ventral side of the larva), a broadly inflated occiput, the larva's head becoming pointed like a snout. The smoothly appressed pectoral feet copy part of the shielded scaly skin of a snake; two large squinting eyes on the underside of the 3rd or 4th segment, supported by the darting and wriggling motions of the raised larval body may even frighten sensible beings, because the swaying to and fro of the front body resembles the biting motions of venomous snakes and looks rather dangerous. In addition to this some specimens — most distinctly so the light greyish-green individuals — display an exact image of a transverse snake's mouth, i. e. a blackish transverse streak across the larva's head and the sides of the first segment. We do not even exaggerate in saying that the larva is able to change this "countenance", so that it "makes grimaces" to a certain degree. The *Leucorhampha* are very common, and when for instance one is searching the Apocynaceae on Mt. Corcovado near Rio de Janeiro, one will soon discover full-grown specimens, and nobody should then miss the opportunity of forcing the larva to show its tricks by disquieting it. The larva of *Leucorhampha* is indeed "the real arum", as the Rev. MILES MOSS says in his excellent work on the *Sphingidae*, and "one must have studied the wonder in the live insect in order that one may fully appreciate it".

Moreover, it must be considered that the larva only develops this disguise while it is growing. The larva of *Leucorh. ornatus* in its early stage looks somewhat like a young larva of *Smerinthus*. Its colour is green; the whole insect with its long needle-shaped caudal horn resembles the stalk of a leaf. On attaining the approximate thickness of a quill it copies a broken off branchlet, turns brown, and only when it has grown to the dimensions necessary for imitating a snake it assumes the snake-marking needed for the mimicry, when it promptly loses the anal horn which would interfere with such a disguise.

A most remarkable fact is that the larvae of each of the Sphingid species choose a special kind of disguise and are independent from each other in the development of their frightening images. The most closely allied to *Leucorhampha* mentioned above is *Madoryx pluto* Cr., the imago of which differs but very little from the somewhat larger *Leucorh. triptolemus*. Its larva in its early stage likewise resembles the young larva of *Leucorhampha*, and also later on it exhibits a resemblance to a twig and loses its anal horn, yet it inflates its anterior body in a quite different way forming a round knob; on being alarmed it does not turn itself round

but like a sphinx holds up its front end which is marked with a rather queer lateral eye not exactly imitating a snake, drawing its head completely in, instead of stretching it out as *Leucorhampha* does. A larva very similar to this is that of the genus *Oryba*. The larva of this bulky lepidopteron reaches the 4 or 5 fold volume of the preceding ones and, owing to its bulkiness, it has an effect entirely different from that of the slender *Leucorhampha* and *Madoryx*. The 5 foremost segments are transformed into a large mammalian head. The 4th segment is widely thickened laterally; a kind of rat's head with a crooked bridge of the nose and a very inflated cheek exhibits — at the anterior edge of the third segment of the larva — an angry-looking eye turned downward; its look has nothing to do with the ominous look of a snake, but it recalls the eye of the "Gambá" (Didelphys), i. e. the opossum being extremely dangerous to all the small living beings in America. This opossum is dreaded and shunned by all creatures — including man — in South America, on account of its fatal bites, its repulsive, half-naked exterior, and its horrible smell. No disguise more effective against small predatory animals could be fancied in the neotropical region.

The attempts to intimidate aggressive enemies may, however, sometimes be of quite different kinds. The anal horn which the larvae of the above-quoted genera lose before their pupation has grown in some species to a sting of 7 and more cm length, which is threateningly moved, though it is entirely inoffensive. The larvae of *Isognatus* while creeping never keep this tail-appendage — which is similar to the sting of a *Sirex* — quiet, but move it constantly up and down in a threatening and evidently automatic way, by which they would betray themselves at great distances to any person in search of them, if this were not already effected by their very bright exterior with its white, black and reddish longitudinal stripes. Here we may suppose that the sting is used against parasites, which, on settling on the larva, are pushed away with the anal thread which extends across the whole dorsum. The larva of *Isognatus* living on leaves allied with strophant, oleander and other strong poisons (Apocynaceae) needs just as little protection against insectivorous vertebrate animals as the milk-weed larva of *Celerio euphorbiae*; it is even likewise interested — as the equally poisonous larva of *Cel. nicaea* — in not being overlooked or mistaken; it has no frightening or warning colour, and as the Tachinae and Ichneumonidae are known to disregard warnings, they are whisked down from the larva's body by its extremely long tail-appendage. This warning colour and its effect form an interesting parallel to those of our European species of *Celerio*. In Goyaz and Araguay (Minas) I often found the extremely variegated, longitudinally striped larva of a species of *Isognathus* from the *Is. mossi*-group running up and down small poisonous trees of Apocynaceae in the hot sunshine, whereas the quite similar though not quite so variegated larva of *Isognathus allamandae* Clark living on the less injurious (even edible) *Allamanda cathartica*, according to Moss' observations, keeps hidden in the roots of its food-plant in the daylight. Thus it acts exactly like the *Celerio* of which the glaringly coloured poison-feeders *euphorbiae* and *nicaea* are seen by day moving agilely about on the food-plant, whilst the larvae of *C. gallii* or *C. vespertilio* living on unpoisonous plants (*Galium*, *Epilobium*) hide their less variegated and inconspicuous bodies during the day, or even, as the *C. hippophaes* living on the unpoisonous *Hippophaë*, adapts itself to the food-plant in the same excellent way, not betraying itself by any movement in daytime, as we have found it in the best adapted Sphingid larvae, such as *Marumba quercus*, *Amorpha populi* etc.

Whilst the green Sphingid larvae of the other continents — but also most of them in America — copy ribs of leaves by means of lateral oblique stripes, we know American *Sphingidae* the larvae of which have so excellently adapted themselves to their food-plant that the insect has become quite unrecognizable owing to the extreme plastic transformation of its larval shape; and even to a greater extent than in the development of red dorsal protuberances copying flower-buds of *Artemisia* exhibited in the larvae of palaearctic *Cucullia*. The larva of *Erinnyis lassauxi* Bsd. has been entirely transformed into an exact reproduction of a flower-stalk of the food-plant, an Asclepidea called "Angelica doar". These flower-stalks, on the coral having fallen off, represent themselves to the eye as a greenish stalk wound like a worm, the ends of which exhibit the growing placentae with two white pads each representing the dried milk of *Asclepias*. This peculiar formation has been imitated by a strange bend of the head-end of the larva, on which, above on the 3rd segment, the place of origin of the fallen blossom is designed and the poisonous milk of *Asclepias* imitated by two white guttiform protuberances. This marking is to be regarded as a distinct morphological violence, especially since the larvae of the closely allied species of *Erinnyis*, *E. alope* etc., do not show any formation out of which such a transformation might easily develop: *alope* has an almost black, cornigerous larva of the general Sphingid shape, being in no way adapted to its food-plant; its commonest food-plant is the melon-tree, *Carica papaya*, a Caricacea allied to the poisonous passion-flowers. The fruits of this tree may be eaten, but the milky juice of the leaves contains the very poisonous Papaine which instantly curdles fresh milk and presumably also other alkaline substances of the animal organism and softens the fibrous tissue of the animal body so efficiently that the Indians wrap up raw meat in the leaves of the melon-tree to make it delicate and to loosen the fibre-bundles from each other. Another food-plant of the larva of *Erinnyis alope* is the Cassava shrub, *Jatropha manihot*, which supplies the eatable tapioca, but which itself represents a strong poison; (by a

special process the poison is eliminated from the tapioca-flour which is to be found on every Brazilian dinner-table and especially on that of the poorer colonists). Thus the larva appears to be safe here, too, and therefore sits openly on the green food-plant as a very conspicuous object.

What bright colours American Sphingid larvae may assume, if they intend to display the warning colouring at great distances, is most obviously shown by the gigantic lepidopteron *Pseudosphinx tetrio*, the enormous larva of which — the largest I have ever seen *) — is black with yellow transverse rings, and rusty or brownish-red at both its ends. The effect of this very bright colouring is still more increased by the frequent clustering together of the larvae of *Ps. tetrio*, which behaviour is quite uncommon for Sphingid larvae. If, however, isolated larvae have settled on the bark of a ficus-tree, basking in the sunshine, they try to attract attention by "nervous convulsions", as MILES MOSS writes; this is an evident proof that they expect more safety from their being recognized than from their keeping in hiding. As the leaves and stalks of the figs contain a milky sap which has an inflammatory effect upon the mucous membranes, the immunity of the larvae from enemies may be due to the after-effect of the chyles. It must, however, be mentioned here that another explanation is possible; a resemblance between the Sphingid larvae and those of other families, which is hard to explain, does not exist in the whole world; the resemblance of leaf-imitating green larvae of all groups of lepidoptera, as between certain *Sphingidae*, *Endromis*-larvae, some *Noctuae*, or the thoracic eye and hornlet between *Bombyx*, is a matter of course by way of natural convergency. A case quite unparalleled in any other fauna, however, is the double of *Pseudosphinx tetrio* occurring in another lepidopteral family, i. e. *Arsenura cassandra* which shows an exact image of the uncommonly coloured larva being likewise black with yellow rings and coloured red at both its ends.

In most of the Sphingid larvae the caudal horn has the relatively greatest length on its emerging from the egg, becoming shorter as the larva grows older and finally disappearing altogether in some larvae. In the neotropical region, however, some larvae (*Isognathus*) preserve the (above-mentioned) uncommon length of their caudal horn until the last moult. Moreover, we notice the existence of 3 caudal horns in the early stage of *Isognathus*, since beside the usual one another pair of long stings rise on the anal plate. These paired stings are sometimes preserved until the third moult.

If our presumption that the *Sphingidae* — geologically spoken — belong to the Moths having only differentiated in recent periods, is correct, we cannot wonder at most of the larvae feeding on the more recent vegetable families. In dealing with the *Sphinges* from other faunas we have mentioned the genus *Leucophlebia* the larvae of which feed on grasses, thus on Monocotyledons. I know of no similar example in the American fauna. Mostly living on trees, they exhibit a frequently extensive versatility in choosing their food-plant without denying a marked predilection for certain kinds of plants. In the same way as our *Sphinx ligustri* shows a distinct inclination for syringes, ligustrum and ash-trees and, besides, is also to be found on a great number of inland and foreign ornamental shrubs, many of the otherwise polyphagous *Sphingidae* of America are especially attracted by a favourite family; thus for instance the *Protoparce* (corresponding in some measure to the palaearctic *Acherontia*) prefer the Solaneae, the *Herse* the Convolvulaceae, the *Protambulyx* the Anacardiaceae, the *Cocytius* the Anonaceae, the *Pholus* the Ampelideae, the *Xylophanes* the Rubiaceae, etc.

It is quite obvious that poisonous substances of feeding herbs which are still effectively contained in the undigested or half digested food of the larva must protect the larva from the persecutions of many enemies. It is a different question, however, whether these substances can be preserved during the pupal stage by the process of histolysis to such an extent that their protection even extends to the imago-stage. In Vol. X, p. 354, we have expressed the opinion that such cases are not improbable, yet we are induced to presume that the complete transposition of the organs and tissues generally also destroys this protective effect of the poisons of the food-plants. In fact, this seems to be the rule, and in districts of our earth abounding in *Sphinges*, particularly in the neotropical countries, most of the *Sphingidae* are choice delicacies for all kinds of enemies. When the *Sphingidae* come to the arc-lamps, they find them already encircled by crowds of hungry bats which snatch away the approaching lepidoptera with an audible crack. On the panes of the lanterns there are large and small geckos snatching fugitive *Sphingidae* even when they swiftly glide or run across the pane. The worst enemies, however, are the gigantic toads, occurring in immense numbers in the neotropical region, which most greedily and gluttonously swallow throughout the year whatever drops to the ground around the lanterns attracting the lepidoptera. The *Sphinges* are even snatched away from flowers by birds or small mammals; cats jump after them, and the day-flying species are exposed to the persecutions of the widely distributed tyrant-birds (Tyrannidae) among which the *Saurophagus*, having become a characteristic

*) More than 15 cm long, 3 cm thick, and 6 or 7 cm in circumference.

bird on South-American plantations by its cry "Bem-ti-vi" (I saw you well!), is stated by Moss to be a particular enemy of the *Sphingidae*.

The *Sphingidae* are of course in especial danger during their pupal stage, and it is to be wondered at that not all the *Sphingidae* descend far into the ground for their metamorphosis. Many Sphingid pupae are protected against the omnivorous ants by an extremely hard epidermis which is as smooth as porcelain, but we do not find this to be so general as in the close allies of the *Sphinges*, the *Ceratocampidae*, so that it is difficult indeed to understand why not all the somewhat rough-shelled Sphingid pupae are destroyed by the ants which are distributed throughout South America in almost devastating numbers. The biting organs of the ants ineffectually glide off the lustrous, hard shells of the pupae of the *Protoparce*, *Hyloicus* etc., but some species of ants provided with forcipated jaws and saws almost as strong as steel might find a hold for their maxillae on the delicate intermediate skins of certain *Madoryx* in South America or of *Haemorrhagia* in North America, so that one might think the pupal case to be provided with a property that is poisonous or repulsive to ants. Certainly the pupae perish unavoidably, even when the cuticle of the shell has only been slightly injured, in the same way as the hard beetles from the group of Passalidae and Dynastidae are immediately eaten out by ants, as soon as they come down to the soil towards the end of their life.

The exterior of the pupae is just as conformable in the *Sphingidae* as in other families. The pupae of the trunkless *Smerinthus* and *Pachysphinx* of course do not possess any protecting trunk-sheath which is also absent in the gigantic *Pseudosphinx tetrio* belonging to the *Sesiinae* in spite of its *Protoparce*-like shape. In *Cocytius antaeus* and *Euryglottis* the sheath is thick, bent down like a nose, but not yet spirally rolled up; this process only begins in *Herse cingulata* (the representative of the palaearctic *H. convolvuli*) and reaches its most perfect degree in *Cocytius cluentius* the pupa of which shows a trunk-sheath turning three times upon itself.

The American *Sphingidae* are classified according to the same principles as the groups of the Old World. The *Sphingidae asemanophorae* contain the only *Acherontiina* in *Herse cingulata* which has undoubtedly flown over only relatively lately; the *Sphingicae* are chiefly represented by the gigantic *Cocytius*, whilst they show the greatest abundance of individuals in the genus *Protoparce* the representatives of which are met with everywhere in the whole of tropical America. The *Ambulicinae* have genuine *Smerinthus* in the north and the *Cressonia* and *Pachysphinx* representing the palaearctic *Amorpha*; they are replaced in the south by the much more graceful *Protambulix* and *Amblypterus* which are provided with a functional proboscis. The *Philampelinae* or vine-hawkmoths attain either a considerable size or an abundance of species and individuals in the *Pholus*, the *Choerocampinae* in the *Xylophanes*. The extremely corpulent, clumsy *Pachylia* represent the *Sesiinae*, and gradually pass over to the smaller and more graceful shape of the *Pachygonia*, *Sesia* and *Haemorrhagia*; the *Macroglossum* of the Old World we mentioned above are replaced in their outward appearance by the *Eupyrrhoglossum*.

Family Sphingidae.

By Prof. Dr. M. DRAUDT.

T. Sphingidae asemanophorae (without a scent-patch inside on the basal palpal joint).

Subfamily: **Acherontiinae.**

1. Genus: **Herse** Oken.

This genus being more common in the Palaearctic and Oriental regions is of a robust build, of the usual Sphingid type. Proboscis very well developed, longer than the body; palpi regularly scaled. Pulvillus only traceable. Antennae of ♂ strong, of ♀ thinner, slightly thicker towards the end. Only 1 species in the American region:

H. cingulata F. (= *affinis* Goeze, *druraci* Don., *pungens* Eschsch.) (90 a) is similar to the palaearctic *cingulata*, smaller on an average, more slender. Forewing grey with a darkened median band which, however, does not extend to the inner margin, and with a brownish mixture before and behind the two double notched transverse lines, the posterior line being more intensely filled with white. Base of hindwing and the first 5 abdominal segments mostly of a very bright pinkish carmine. This red colour has almost entirely disappeared in — ab. **decolora** Edw. — **pallida** Closs refers to a pale specimen without any red at the base of the hindwing, with a shortened basal band uniting with the discal band at the inner margin. From Pennsylvania. *decolora*, *pallida*. It has a very extensive range and is probably found everywhere from Canada to Argentina, in the northernmost districts probably as a bird of passage. Also from the Galapagos and Sandwich Is. Larva very similar to that of *convolvuli* and just as variable; green, olive brown, or sepia, with 8 subdorsal longitudinal bands and lateral oblique stripes; on Ipomoea, hidden in the daytime. Pupa light brown with a free and reflexed case of the proboscis.

2. Genus: **Cocytius** Hbn.

Contains some of the largest *Sphingidae* known, especially the ♀♀ are often of a very considerable size. Separated from the allied genera by the bare, pointedly projecting last palpal joint. Proboscis often of an enormous length which may be almost 25 cm in *cluentius*. The abdominal segments bear more or less distinct scale-tufts above in the centre. Anterior tarsus with numerous short prickles outside on the first joint.

1. Group: Disc of hindwing not hyaline.

cluentius. **C. cluentius** Cr. (90 b) is the largest species. Forewing jet-black with a brownish ray in the prolongation of the cell to the margin and in the whole inner-marginal quarter, with double notched lines, the innermost line of which very obliquely bends inward almost to the base of the inner margin; 2 yellowish-white dots at the cell-end. Abdomen with 5 yellow lateral spots in distinction from the following species. Mexico to South Brazil and the West Indies. Larva green, finely haired, with 7 white oblique stripes uniting on the dorsum, laterally generally reaching hardly below the centre. On Anonaceae, occasionally also on Piper aduncum; pupa with a rolled up case of the proboscis.

beetzebuth. **C. beetzebuth** Bsdv. (= *godarti* Bsdv., *vivularis* Drc.) (90 d) is of a greener colouring basally and submarginally than the other species, with a green spot also outside and above the cellular dot. Hindwing neither with a transparent disc. Abdomen with only 3 yellow lateral spots. Nicaragua to Rio de Janeiro. Larva hitherto unknown.

2. Group: Disc of hindwing hyaline.

duponchel. **C. duponchel** Poey (= *jatrophae* Wkr., *vivularis* Btlr., *affinis* Rothsch.) (90 c) is a smaller species, likewise intensely mixed with green, abundantly intermingled with white scales, especially in the ♀ at the apex and the marginal area; the two black longitudinal rays below the cell and on its outside are very indistinct. The two white discocellular spots are sometimes enlarged and united to a crescent. Abdomen with small heaps of very distinct yellowish-white scales above, without a black longitudinal median stripe. Mexico to Bolivia and Southern Brazil, also Jamaica and Cuba. Larva very similar to that of *cluentius*, but the much less distinct oblique stripes obsolete above, and there is a dark dorsal line bordered with yellowish on both sides, without the fine hairs. Case of proboscis of the pupa shorter than in the other species. — In ab. **roseus** Gehlen, described according to 1 female specimen from Sa. Catharina, all the white spots and streaks of the forewing are pink.

mortuorum. **C. mortuorum** R. & J. Colouring and marking very similar to that of *duponchel*, but the black markings on the body and wings above are finer. Basal quarter of forewing with a strong white, partly interrupted line which is bent distally in the cell; the black longitudinal streaks in the disc are absent, the oblique apical line is very thin and interrupted. The thinly scaled place of *duponchel* is a loam-coloured and densely scaled area here. The yellow spot of the hindwing is lighter and only slightly sinuated. Genital apparatus very different. Expanse of wings: ♂ 57—60, ♀ 72 mm. Amazons (Rio Madeira) and South-Eastern Peru.

vitrinus. **C. vitrinus** R. & J. is likewise very near to *duponchel*. Body greyer above, lateral margin of thorax white, abdomen of a pure white beneath, the brown median spots very small, the lateral spots lighter yellow than in *duponchel*, the base of the hindwing also lighter yellow above and beneath. Forewing narrower, the interior angle less projecting, distal margin more convex; the green colour is replaced by white and grey, the 2 black streaks at the apex of the cell are elongated; the large white stigma is reniform, bordered with brown; the lines of the median area are more curved at the costal margin, the space between the 3rd and 4th lines ochreous on the veins, the 4th line very strong; the black oblique apical line borders on a white apical spot. The transparent area of the hindwing is much more extensive and extends from the base to the submedian fold. Expanse of wings: 58 mm. Cuba.

lucifer. **C. lucifer** R. & J. (= *morgani* Bsdv., *rivularis* Btlr.) (90 b) is similar to *duponchel*, larger and more slender on an average, more monotonously green without the white admixture, only the reniform discal spot and occasionally a small one above it are white; the 2 black longitudinal rays are very strong below the centre. Abdomen without the small heaps of yellowish-white scales, almost invariably with a strong black median line. From Mexico to Colombia and Venezuela, also taken in Pará. Larva not yet described.

macasensis. **C. macasensis** Clark is presumably most closely allied to *duponchel* and *lucifer*, but different from all the species known of *Cocytius*. Base of palpus light yellow, body brown above, abdomen laterally with 3 yellow spots, hair-tufts white at the base, abdomen light yellow beneath except the brown apex. Disc of hindwing hyaline, but not dentate outside between the veins. Forewing unicoloured dark brown above, all the markings indistinct, the black longitudinal streaks distinct but not very prominent; between the costal margin and the second median branch there are long red-brown postmedian diffuse markings which are expanded towards the margin; a dump-bell shaped yellow spot at the cell-end, a smaller and less distinct spot above it and somewhat more apical; fringe yellow, darkened on the veins. Hindwing dark brown above, yellow at the base. Length of forewing: 67 mm. Described according to 1 ♂ from Macas (Ecuador).

C. antaeus *Drc.* (= *caricae* Müll., *jatrophae* F.). A very large species, separated from all the species *antaeus*. with a hyaline disc on the hindwing by the marginal band projecting like a pointed tooth between the veins. Forewing without green with a lateral brown intermixture and a whitish strongly notched antemedian line. The nomenclatural form is the insular form from the Antilles (Jamaica, Nassau, Bahamas). The continental form: — **medor** *Stoll* (= *anona* Shaw., *antaeus* *Mschlr.*, *cluentius* *Troschel*, *hydaspus* *Cr.*, *tapayusa* *Moore*) (90 a) *medor*. is somewhat darker, mostly somewhat more variegated, with more intense black markings, the black marginal band of the hindwing projects more deeply and pointedly into the yellow basal spot in the inner-marginal spot. Florida to Southern Brazil. Larva with fine hair as in *cluentius*. Green with inconspicuous whitish oblique stripes bordered with a darker colour above, only the last stripe terminating into the horn is a broad white stripe; dorsal line violettish-red, bordered with white on both sides. It lives on *Anona cherimolia*.

3. Genus: **Amphimoea** *R. & J.*

Allied to *Cocytius* in a certain way, but separated by the last palpal joint being more square when looked at from above, and projecting scarcely farther than in *Protoparce*. The long terminal spur of the posterior tibia is half the length of the 1st tarsal joint; paronychium bilobate on each side; anterior tibiae without thorns. Only 1 species:

A. walkeri *Bsdv.* (= *staudingeri* *Drc.*, *magnificus* *Rothsch.*) (91 a) is probably one of the largest *Sphinxes* *walkeri*. beside *cluentius*. Forewing greenish-grey, disc of hindwing semidiaphanous. Abdomen with 4 yellow longitudinal stripes, the yellow lateral spots placed longitudinally. An evidently rare species, distributed from Nicaragua to Southern Brazil. Larva and pupa already figured by MERIAN, then by BURMEISTER; it is said to live on *Jatropha*.

4. Genus: **Protoparce** *Burm.*

A large number of species which are sometimes difficult to separate from each other, whilst others are of an entirely different exterior. Structurally similar to the preceding ones. Proboscis of about the same length as the body; end of palpus on a level with the frons, last joint very short; last joint of antenna long and thin. Paronychium with one lobe on each side. Larvae mostly provided with oblique lateral bands; they live on Solanaceae.

P. sexta *Johanns.* (= *carolina* L., *nicotianae* Mén., *lycopersici* *Bsdv.*) (91 a) is a very common species, *seata*. easily recognized, grey, partly strewn with brownish, mostly with an intense blackish darkening outside below the cell-end, and a white notched line close before the white-speckled fringe. Hindwing with 3 or 4 whitish transverse bands. Abdomen with large reddish-yellow subdorsal spots as far as the last segment and intense white punctiform spots above. ♂ usually of a more subdued colouring and more brownish than the ♀. The nomenclatural type shows a very prominent white submarginal notched band of the forewing, and the whitish bands of the hindwing are more or less shaded. It occurs from Canada down to Honduras. — **jamaicensis** *Btlr.* *jamaicensis*. (= *paphus* Mén.) is less bright and more brownish, the hindwing browner, mostly very difficult to separate from the type. Jamaica, Haiti, Cuba, and Bahamas. — **paphus** *Cr.* (= *nicotianae* *Bsdv.*, *tabaci* *Bsdv.*, *cestri* *paphus*. *Bsdv.*, *griseata* *Btlr.*) is the form chiefly distributed from Costa Rica to Argentina, generally with somewhat paler forewings, the white submarginal line less prominent, the light bands of the hindwing of a purer white. The larva occasionally lacks the black dots bordering on the oblique lines in the other races. — **caestri** *Blch.* *caestri*. (= *eurylochus* Phil.) is a small and very light Chilean form; the white submarginal line of the forewing is almost or entirely absent, the black discal line is more prominent on the light ground, in the same way as the white dots on the abdomen. — **luciae** *Gehlen*, from Sa. Lucia, is remarkably different from *jamaicensis*, small, *luciae*. prominently coloured and marked; forewing more yellowish-brown, not grey, the bands of the hindwing of a pure black with white spaces between. The yellow abdominal spots are dark orange, the black median band is very distinct. — **fuliginosa** *Closs* is a form with a very distinct light postdiscal line, from São Paulo, *fuliginosa*. more extensively suffused with a smoky brownish colour, probably found everywhere among the typical form. The larva is green, generally smooth, on the white woolly *Solanum grandiflorum*, but according to Moss also covered with fine hairs, with white oblique lines bordered by black dots above, and a reddish horn. It lives on all kinds of Solanaceae, such as tobacco, tomatoes, potatoes, Spanish pepper, etc. and transforms, in a spacious underground cave, to a mahogany-brown pupa with a long, not rolled up case of the proboscis.

P. mossi *Jord.* is near to *sexta*, especially to its form *caestri*, separated by thinner antennae, blacker *mossi*. palpi, and a pure white underside of the abdomen; the wings are more pointed, the white colour in the fringe predominates upon the black spotting of it; the blackish-brown darkening in the disc of the forewing is absent, also the blackish-brown submarginal band of the hindwing; body above of a purer smoke-grey colour, the collar mostly exhibits an olive yellow line instead of a black one; the yellow lateral spots on the abdomen are smaller than in *sexta* and have broader black borders. Genital apparatus very different. The green larva, very frequently covered with parasites, shows white oblique stripes bordered with darker above, and a dark dorsal line bordered with white, but interrupted at the posterior end of each segment. It lives on *Cestrum hediundinum*. Peru.

- afflicta*. **P. afflicta** Grt. (= paphus H.-S.) is very near to *sexta*, the forewings are more greenish grey owing to yellow scales being intermixed, the hindwing with but two distinct white bands, the marginal band intensely dusted with yellow. Cuba; Haiti; Amazons. — *bahamensis* Clark (91 b), founded upon one specimen from Nassau, is larger, greyer above, more intermixed with white, whereby it is more variegated, the scanty markings more intensely black. Larva green, with lighter green oblique bands, 2 light dorsal lines and white stigmata.
- quinquemaculatus*. **P. quinquemaculatus** Harr. (= carolina Don., celens Hbn., maculata Grt.) (91 b). A well-known species, recognizable by the hardly dentate subterminal band of the forewing showing a distinct and double black border. The light grey hindwing exhibits 2 sharply notched median lines before the broad black subterminal band. Separated from all the other species by the presence of some thorny bristles on the anterior tibiae. North America to Mexico; a somewhat deviating form occurs in the Sandwich Is: *blackburni* Btlr. in which the small triangular light postdiscal spots reach to the costal margin, which is mostly not the case in the nomenclatural type. — *wirti* Schs., according to a bred ♀ from Virginia, is a form with a much darker ground-colour, more reddish-brown, with hardly any white, only outside at the subterminal line and in the marginal line. Hindwing and ventral side chestnut brown. Larva similar to that of *sexta*, of a variable colouring: green, brown, or black, covered with many light dots, with a light interrupted longitudinal band below the stigmata. It chiefly lives on tomatoes and potatoes.
- dilucida*. **P. dilucida** Edw. (= indistincta Rothsch.) has much lighter grey brown forewings with distinctly contrasting white markings the scheme of which is exactly as in the preceding species. Antennae long and, particularly in the ♂, relatively thick. Abdomen with normally 4, rarely 3 yellow lateral spots. Pulvillus absent. An apparently rarer species, found from Mexico to Honduras. Larva not yet known.
- kuschei*. **P. kuschei** Clark is only separable by the different genital apparatus, the ♀ is more monotonously coloured, greyer, the white inner-marginal area of *dilucida* is entirely absent. Expanse of wings: 76—88 mm. Mexico, Sinaloa.
- lucetius*. **P. lucetius** Stoll (= contracta Btlr., hannibal Burm.) (91 c) is well characterized by a large blackish-brown crescentiform spot with a silky lustre at the costal margin of the forewing, contrasting with the otherwise bronze brownish or more olive grey ground-colour. Fringe only white-dotted on the vein-ends, but the white colour occasionally expands inwards, or it may also be absent altogether. Hindwing as in *petuniae*. Guiana, Peru, Brazil to Argentina. — *nubila* R. & J., from Costa Rica, has a somewhat longer shape of the wings and a less brownish colouring in the basal and discal areas, the black postmedian line less curved. Costa Rica. — *panaquire* Berg (= argentina Clark) makes a more variegated impression owing to the very light brownish colouring around the dark costal marginal spot. The yellow abdominal spots are very bright orange and larger than in *C. lucetius*. From Tucuman (Argentina) and Bolivia. The early stages seem to be unknown.
- reducta*. **P. reducta** Gehlen is closely allied with *lucetius*, but it has narrower, more elongated and pointed wings, and thinner and shorter antennae. Head and thorax lighter than in *lucetius*. Collar with a black median stripe. Abdomen above similar as in *Clarki*, white beneath with scanty small brown hairs. Forewing lighter and greyer above, not so reddish as in *lucetius*, basal area with hardly any marking, the discal macular band straighter, not so much excurved, the area before it lighter, the postdiscal undulate line steeper, more parallel to the distal margin and not so undulated. Hindwing differs from *lucetius* only in the shape, apex more pointed, anal spots more projecting. The 1st joint of the posterior tarsus is longer than in *lucetius*, the anterior tarsi have longer spines. Peru (Huayabamba).
- diffissa*. **P. diffissa** Btlr. (= cestri Bsdv., petuniae var. Bsdv., diffusa Drc.) is intensely brown on the forewing, the notched transverse lines are not distinctly prominent on the irrorated ground; the postmedian lines are more angular below the centre. A white, black-edged dot at the cell-end. The black hindwing is grey at the margin and shows 2 whitish bands. The nomenclatural type is a small light form with a distinct black postmedian line. Argentina and Paraguay. — *petuniae* Bsdv. (= diffissa Ky.) is tinted somewhat more reddish-brown, but variable in the colour. From Sa. Catharina, Rio de Janeiro, Minas Geraes. — *tropicalis* R. & J. (= *lucetius* Rothsch.) is the common form with darker and less yellowish forewings, likewise rather variable, but never so light as *petuniae*. From Minas Geraes to the north as far as Colombia and Ecuador. — *ochracea* Clark is distinguished by its light ochreous ground-colouring on which the black markings are very prominent. Buenos Aires. — *mesosa* R. & J. is intermediary between *diffissa* and *petuniae*, as dark as the latter, but less reddish-brown on the forewing. North-Argentina. The larva is green with 7 white oblique bands bordered with black dots above, with 3 blue dots each around the white stigmata; the horn is pink. The form *petuniae* is said to have dark red oblique bands edged with dark red; it lives on Cestrum.
- occulta*. **P. occulta** R. & J. (= *lucetius* Drc., *petuniae* Drc.) (91 c). The exterior of the imago is the same as that of *diffissa*, only the forewing is somewhat broader on an average. Genital organs very different from those of *diffissa*. Only known from Central America (Mexico to Panama). Larva of a bright green with little yellow

tubercles on the first 3 rings; laterally 7 white oblique stripes confined to but 1 segment, whereas in *diffissa* they extend over two segments; the long green horn is granulated reddish.

P. hannibal Cr. Well characterized by the narrow bone-coloured marginal area in contrast with the *hannibal*. dark brown forewing the proximal border of which is not notched. Distributed from Panama to Sa. Catharina. — **hamilear** Bsdv. (= mayi Clark) (91 e) has a still more conspicuous light, almost white margin; the distal *hamilear*. band of the hindwing is of a purer white, less dusted blackish. Under surface darker and more distinctly marked, with a more dentated postmedian band. Genitally also somewhat different. Rio de Janeiro. Larva green, turning blue towards the ventrum, the first 3 segments thickened, lighter yellowish green, set with small reddish-yellow tubercles, the other segments with 7 white oblique stripes strongly widening below; horn bent, long, very much granulated. It lives on Solanaceae and Verbenaceae.

P. leucoptera R. & J. is light greyish-white above, with a white stigma, slightly shaded with brownish *leucoptera*. only submarginally, with a brown notched subterminal line and an oblique apical line. Hindwing greyish-brown, browner at the margin, with a blackish irregular postmedian band before which there are yet 4 quite indistinct bands. Only 1 ♀ (length of forewing: 45 mm) known from the Galapagos Is.

P. pellenia H.-S. (= capsici Bsdv., morelia Drc.) (91 e). Forewing mixed with lighter and darker *pellenia*. brown, with a large slaty blackish spot in the disc, reaching to the costal margin where it encloses — more distinctly so in the ♀ — an oblong light brown spot. The whitish yellow notched submarginal line reaches the apex more distinctly in the ♂ than in the ♀. Abdomen scaled brown beneath. Mexico, Panama, Colombia. — **janeira** Jord. is smaller than the type, abdomen almost purely white beneath, with broader forewings *janeira*. than in *scutata brasiliensis*. Basal and apical areas of both wings distinctly more variegated, the grey band of the hindwing shaded with dark brown; genitals somewhat different. Rio de Janeiro.

P. perplexa R. & J. resembles *pellenia* in the colour and marking; head and palpi of a blacker colouring, *perplexa*. abdomen lighter beneath, basally all white. Forewing broader, and darker in the costal-marginal area than in *pellenia*; the black spot with a silky lustre is longer and more incurved between R³ and the costal margin. The light discal band on the hindwing is intensely dusted with black, and the black submarginal band narrower than in *pellenia*. Hindwing darker beneath, only the inner-marginal area greyish-white, the blackish-brown dentate discal line is single. Genital apparatus somewhat different. Amazons (Rio Madeira). The very conspicuous larva is quite black, the 3 first segments set with yellow pointed tubercles, horn yellow; it lives on Solanum and Verbenaceae.

P. scutata R. & J. (= pellenia Mschr., pellenia Rothsch.) is not to be separated externally from *scutata*. *pellenia*, as *occulta* from *diffissa*, but the genital organs are so very different that it cannot even be a subspecies. Only the basal and marginal areas are somewhat less yellowish-brown, the whitish bands of the hindwings are somewhat smoky, the abdomen not scaled brown beneath. The two species occur together in Colombia. Besides known from Venezuela and Ecuador. — **boliviensis** Clark forms a transition to the following *boliviensis*. form. It is smaller and lighter: ground-colour light grey, the slaty grey macular band with its silky lustre is much narrower than in the other forms, the whole wing more monotonous, without the brown and white mixture; the white submarginal band of the hindwing is nearer to the margin. Bolivia. — **brasiliensis** Jord. *brasiliensis*. is a small form, greyer above than the nomenclatural type, but less so than in *tucumana* which represents *scutata* in Argentina; the black discal spots are shorter, the median band of the hindwing broader, the black spots on the abdomen beneath smaller. To a certain degree it also resembles *hannibal*. Rio de Janeiro. Larva bright green above, more bluish green beneath with white oblique stripes, the 3 first segments with small yellow tubercles; feet ochreous and black; it lives on Dasura.

P. clarki R. & J. is very similar to *perplexa*, *scutata* and *pellenia*, the most closely allied to *perplexa*. *clarki*. Smaller, the light areas on the thorax and wings grey without a reddish-yellow tint and therefore of a very different exterior. Antennae thinner than in the 3 species mentioned; frons and occiput black; the small white dorsal spots on the abdomen are very indistinct, the 7th segment without the yellow lateral spot; the white ventral side scaled brownish-black, only the 1st segment pure white, the black ventral spots small, mostly only one present. Legs black, scaled white. Hindwing beneath with a black median band composed of 3 lines. Genital organ very different from that of *perplexa*. Length of forewing: 41—48 mm. Only few specimens known from the Amazons (Fonteboa); Ecuador; Peru.

P. tucumana R. & J. looks like a small pale *pellenia*; the cell-end spot and the light lines of the fore- *tucumana*. wing are greyish white, not yellowish. Genital organs very different. Argentina and Paraguay.

P. oclus Klug (= instita Clem.) (91 e) is unmistakable for its brownish-yellow, peculiarly marked *oclus*. forewing with the 3 large costal-marginal spots which are scaled slaty blue. Thorax likewise tan-coloured. Mexico to Venezuela and Colombia.

P. lefeburei Guér. (91 b) is likewise hardly to be mistaken. Ground-colour whitish-grey, a dark brown *lefeburei*. band extends from before the centre of the inner margin, crossing the white discal dot, to the margin on vein 2, and together with another triangular costal-marginal spot farther outside it forms a triangle which is generally

edged with light brownish; antemedian line indistinctly whitish, the feeble postmedian line notched. Hindwing brownish black. Mexico to Southern Brazil. — **bossardi** Gehlen (91 d) refers to Eastern Mexican specimens (Veracruz) in which the ground-colour is of a much brighter cinnamon-reddish tint, with reduced markings of a dark cinnamon-brown colour; hindwing whitish yellow with a reddish-brown distal margin and similarly scaled veins. Vera Cruz.

incisa. **P. incisa** Wkr. is very similar to *lefeburei*, but separated from it by the presence of a strong black dorsal line on the abdomen, which is always absent in *lefeburei*; moreover, the proximal half of the forewing is lighter than the apical half; the black discal streak extends parallel to the veins and thus forms an angle with the costal portion. The exterior transverse lines are stronger than in *lefeburei*. Genital organs different. Amazons, São Paulo, Matto Grosso, as far as Paraguay.

andicola. **P. andicola** R. & J. is darker than *incisa*, the black markings broader and stronger, the black dorsal line on the abdomen also broader, but less prominent owing to the darker total colouring. 3 interrupted angled transverse lines in the basal half of the forewing, which is lighter than the apical half, and farther towards the margin a distinct postdiscal line composed of arches and small double spots; deeper brown beneath. The thorns on the 1st joint of the anterior tarsi are shorter than in *incisa*. On account of the genital differences it is better regarded as a distinct species than only a representative of *incisa* from the Andes. From the Andes to Peru and Ecuador.

prestoni. **P. prestoni** Gehlen (91 e) has a marking similar to that of the two preceding species; ground-colour monotonously brownish grey without the yellowish colouring and with little white; transverse bands on the forewing almost extinct, the interior half of the wing not lighter than the distal one, the blackish-brown longitudinal streak in the disc thin and distinct; base of forewing contrastingly pure white, like the large distinctly edged stigma. Hindwing black, costal margin, base and inner margin light yellow. Metathorax with white hair-tufts. Abdomen with 3 large yellow lateral spots, ventral rings with 2 white small apical spots each without a median line. Amazons (Manicoré). We are able to figure the type by the kindness of the author.

stuarti. **P. stuarti** Rothsch. (90 e) is the only species with yellow abdominal spots, but the second segment without them. Frons lavender grey, palpi yellowish with a deep black dorsal margin. The light brownish-grey forewing is intermixed with yellow scales, with black dentate lines, lighter whitish behind the cell, and two white black-edged discal spots at the cell-end. Hindwing darker than forewing, blackish-grey with 3 postdiscal and submarginal black notched transverse bands. Only known from Bolivia. Early stages not described.

manducoides. **P. manducoides** Rothsch. (= breyeri Köhler) (90 b) is a very conspicuous species, somewhat like *rustica*. Forewing deep black with 3 broad pinkish whitish bands traversed by black dentate lines, the two distal bands of which are connected at the inner margin by a broad whitish longitudinal band, and with a whitish stigma. Hindwing white with a blackish-brown marginal band and two narrower transverse bands before it. Abdomen black mixed with white, with 3 light yellow lateral spots. Chiquitos (Bolivia); Brazil.

viola-alba. **P. viola-alba** Clark (90 d) is a beautiful and very uncommon species, dissimilar to any other species, but somewhat allied to *manducoides* owing to the white colour of the hindwing. Body dark brown above, strewn with violet, abdomen with 4 rectangular yellow lateral spots, the 5th segment bears a white lateral spot, under surface strewn with white and yellow. Forewing dark violet above, with 4 irregular dark brown transverse lines which are dentate on the veins, and 4 dark brown submarginal spots on the veins; a dark brown oblique apical line cuts the 4th transverse line. Hindwing white above, somewhat pink at the inner margin, with a dark brown marginal band of 4 mm width, slightly intro-angular on the veins as well as on the inner-marginal fold. Length of forewing: 39 mm. According to 1 ♀ from Matto Grosso, Western Brazil.

brunalba. **P. brunalba** Clark is likewise allied to *manducoides*. Palpi brown with a white basal joint, head and thorax brown, tegulae bordered with black and white, with a yellow line between; abdomen light brown above, strewn with white, purer white between the segments, with a brown median line, 5 yellow lateral spots, the two distal ones less distinct; under surface white. Forewing above light brown, strewn with white, the trapezoid stigma pure white; median area almost crescentiform, brown, the base 2 cm long at the costal margin, somewhat lighter in the centre, extending almost to the inner margin, distally bordered by a white line; from the inner margin proceed 4 feeble light brown lines disappearing in the brown area; proximally to it, at the inner margin, a white transverse band 3 mm broad, not quite reaching the costal margin; the black apical streak is strong and 16 mm long; fringe speckled white between the veins. Hindwing dark brown above with a white submarginal band disappearing towards the costal margin; a white spot at the inner margin extends from the anal angle. Length of forewings: 50 mm. According to 1 ♂ from Cuyaba, Matto Grosso.

rustica. **P. rustica** F. (= chionanthi Abb. & Sm.) (92 a) is a very common large species, black, more or less intermixed with olive yellowish scales, and with 2 broad whitish transverse bands, traversed by black dentate lines and filled with a somewhat olive yellow colour, especially the distal one which is darkened towards the inner margin and connected with the antemedian one by whitish colouring at the inner margin. Hindwing blackish-brown with a whitish postmedian band and anal spots. If the yellow scales turn yellow or golden

auriflua. brown and are increased, we have — **auriflua** Gehlen, a rather common individual form, before us. In the whole of America excepting the extreme north and north, from New York to Buenos Aires; Bahamas; Haiti;

Jamaica. The race — **harterti** *Rothsch.* (= *rustica* *Snell.*), from the Lesser Antilles and Curaçao, scarcely differs, *harterti*. but the dark costal-marginal triangle is always distinctly lighter. — In **cubana** *Wood* the dark parts of the *cubana*. forewing are brown, not black, the central area is uniformly connected with the dark distal margin. — **domini-** *dominicana*. **cana** *Gehlen* is a still larger form with more slender wings, the upper surface and the body more extensively and purely white; the dark areas are not brown as in *cubana*, but black; the white spots of the hindwing are larger; S. Domingo, Haiti. — **postscripta** *Clark* is distinguished by more intensely marked hindwings of a lighter *postscripta*. ground-colour, with more distinct black transverse bands. The finely granulated lightgreen larva is more whitish above and has 7 white oblique bands which are bordered with dark green or violettish-red above; it lives on *Chionanthus*, *Bignonia* etc. It also occurs in a dark purple brown variety; before the pupation it turns dirty pink and covers itself with a foamy sticky substance like some other species of the genus. It pupates in a spacious underground hollow.

P. calapagensis *Holl.* The only type known is a distinct species and not a subspecies of *rustica*. Ground- *calapa-* colour more chalky white, chiefly on the thorax and the abdomen above; a uniformly bent thick black line, *gensis*. 6 mm long, laterally on the patagia. Wings differently shaped, the interior angle of the forewing being obtusely angled, above and below it the distal margin and inner margin are slightly concave, the distal margin convex towards the apex. All the rest as in *rustica*. Galapagos I.

P. nigrita *R. & J.* is likewise a distinct species and not an aberration of *rustica*, as the authors presumed. *nigrita*. 5 quite similar specimens are hitherto known. The lateral abdominal spots are white, not yellow. The transverse band of the hindwing is not dentate beneath, but coherent and rectilinearly defined. Strictly separated from *rustica* by the different genital organ. The larva lives on *Erigeron lancifolius* and *Croton scouleri*.

P. albiplaga *Wkr.* (= *cluentius* *Burm.*, *rustica* *Burm.*, *trojanus* *Schauf.*, *valida* *Boisdv.*) (92 a) is some- *albiplaga*. what similar to *rustica*, but the two white transverse bands are reduced to 2 large, indistinctly bordered antemedian and subapical spots and not traversed by distinct but only blurred shadowy lines; a small white costal-marginal triangle is above the distinct white discal dot. Mexico to Southern Brazil. The bluish-white larva has 8—10 lateral bright yellow spots bordered with black, and black belts interrupted above on each ring behind. It lives on *Boraginaceae* and *Anona*, mostly in small numbers together. — **exacta** *Gehlen*, according to 1 ♂ from *exacta*. Matto Grosso, shows a more extensive and purer white which is also more distinctly defined against the dark areas; the anal-angular spot of the hindwing and the 1st abdominal ring are also more extensively and purer white.

P. trimacula *R. & J.* is closely allied to *albiplaga* and also to *dalica*. Colouring and marking somewhat *trimacula*. like that of *rustica*, the white colour of *albiplaga* is confined to 3 submarginal spots at the anal angle, above the centre and above the apical oblique streak, and besides a small spot in the postmedian line below the costal margin is white, too. Hindwing with quite obsolete lighter band-markings. Colombia (Cauca and Rio Dagua).

P. leucospila *R. & J.* exhibits a colouring between *rustica* and *dalica*, with narrower wings. Abdomen *leucospila*. as in *rustica*, but more intermixed with white scales towards the end. Forewing similar to that of *rustica*, a triangular costal-marginal area before the stigma, the fillings in the antemedian and postmedian lines partly somewhat lighter reddish-yellow, a large apical spot, an anal spot, and the notched submarginal line white. Hindwing similar to that of *dalica*. Peruvian Amazons.

P. dalica *Ky.* (= *garleppi* *Rothsch.*) (92 b) is very closely allied to the preceding species and well charac- *dalica*. terized by a large white triangular spot at the costal margin above the white stigma; ground-colour more purple brown; a broader white subbasal band. Known from Costa Rica, Peru, and Colombia. — In **anthina** *anthina*. *Jord.* the ground-colour of the forewing is light brown from the white subbasal markings to the thick black postdiscal undulate line, scarcely shaded darker between the discal lines and the postdiscal line. Rio de Janeiro.

P. brontes *Dru.* (= *pamphilius* *Stoll*, *collaris* *Wkr.*). This species introduces a group of closely allied *brontes*. forms that are sometimes difficult to separate; all are more or less whitish-grey with black dentate lines; *brontes* is characterized by a brownish-black collar and a black spot bordered with rusty red, on each side of the metathorax. Veins 2 and 3 not striped black. In the ♂ of the nomenclatural form the postdiscal area and a stripe above the distal half of the inner margin is tinted reddish-yellow, in the ♀ the tegulae, the basal and marginal areas of the forewing, and an anal-angular spot of the hindwing are whiter than in — **cubensis** *eubensis*. *Grt.* (= *brontes* *Luc.*), from Cuba, Bahamas, Porto Rico, and South Florida, which is somewhat more distinctly marked black besides. The nomenclatural type is from Jamaica. — **haitiensis** *Clark* (92 c) is intermediate *haitiensis*. between *brontes* and *cubensis*, but nearer to *brontes*; the black markings are less intense than in *cubensis*, the colouring is darker and more unicoloured than in *brontes*, the reddish-yellow spots are absent. Haiti. — **smythi** *smythi*. *Clark* (92 d) has much broader wings, the colouring is much more yellowish or brownish, the markings are dark brown. Porto Rico. The larva of *brontes* is very much like that of *sexta*, with the same oblique lateral bands, but the spiracles are bright orange.

- sesquiplea*. **P. sesquiplea** *Bsdv.* (= *strix* *Bsdv.*) (92 d) is closely allied to the better-known *muscosa*, but larger, with somewhat narrower wings and a whitish-grey not olive grey ground-colour, the antemarginal bands filled with more blackish above the inner margin; genital organs very different. Only known from Mexico and Guatemala. — **opima** *R. & J.* is a much more decidedly greenish form, with longer wings than in *muscosa*, the ♂ antennae thicker; the thorax bears a narrow black lateral line, and the black submarginal band of the hindwing shows a more uniform proximal border. Much darker than Mexican *sesquiplea* which is whitish-grey above; the two black median bands on the hindwing are much nearer together and the transverse lines on the forewing are stronger. Costa Rica.
- muscosa*. **P. muscosa** *R. & J.* (= *sesquiplea* *Drc.*) (92 b) has remarkably broad wings of a dark olive grey colour with numerous black dentate bands and very dark hindwings in which the lighter bands are scarcely prominent. Mexico to Costa Rica.
- bergi*. **P. bergi** *R. & J.* is somewhat like a small, light and narrow-winged *muscosa*, of a much lighter and more yellowish ground-colour; as to the black transverse bands, two of them, an antemedian one and one extending through the centre, are more prominent, the others being quite blurred and indistinct; stigma absent. Argentina (Tucuman).
- bergarmatipes*. **P. bergarmatipes** *Clark* is intermediate between *bergi* and *armatipes*, but the genital organs are reported to be identical with those of *bergi*. The first palpal joint is white, the following joints are much intermixed with black. Thorax reddish fawn, tegulae ash-grey, bordered with brown; abdomen without the white basal hair, ash-grey above, white beneath with 2 small black median spots. Forewing light reddish-yellow above, less mixed with white than *armatipes*, marking very similar, but less distinctly prominent than in *armatipes*, and much more intense than in *bergi*; stigma crescentiform, but smaller and less distinct than in *armatipes*, the dark submarginal area is absent. Hindwing black above, darker than in the two other species, the white double median line is distinct anally and broader than in *armatipes*, vanishing towards the costal margin. Inner margin yellow. Length of forewings: 45—47 mm. 2 ♂♂ from Tucuman (Argentina).
- armatipes*. **P. armatipes** *R. & J.* (93 a) is very similar to *lichena*, but smaller and easily separated by 4 or 5 long spines on the 1st joint of the anterior tarsus, and a similar apical one on the 2nd joint. Colour and marking almost exactly as that of *lichena*, but the basal area of the hindwing above is more extensively grey, the black median band more distinct; transverse lines of forewing strongly developed and sharply dentate. Colouring very much like that of *Chlaenogramma undata* which, however, shows 2 black longitudinal streaks in the disc of the forewing. North Argentina (Tucuman).
- carrerasi*. **P. carrerasi** *Giac.* (92 e). This peculiar species which we figure from a water-colour sketch kindly placed at our disposal by the author, is compared with *bergi*. Ground-colour yellowish pink, abdomen above coal-black excepting the two first pinkish carmine segments, intermixed with single pink hairs. Antennae pink above, blackish beneath, face, palpi and legs black, forewing with 4 blackish dentate lines, the two first nearing each other, the third being the strongest and rather near to the fourth, between the two latter a brighter pink parallel line; all the rest as in *bergi*. 1 ♀ from La Rioja (Argentina), taken in spring.
- corallina*. **P. corallina** *Drc.* is so much like *lichena* externally that these two species flying at the same place are difficult to separate, except by the genital organs. *corallina* has somewhat longer and narrower wings than *lichena*, the tarsus is without a pulvillus. The white apical spot of the forewing bordered by the black oblique streak below is very distinct. Only in Central America: Mexico to Honduras. — **extrema** *Gehlen* (90 c) has a darker ground-colour with more contrasting markings, with more oblique and less curved transverse bands which are darkened in the basal third, with a yellowish postdiscal transverse band. Bolivia (Rio Songo).
- lichena*. **P. lichena** *Burm.* (= *rufescens* *Btlr.*, *brontes* *Rothsch.*, *corallina* *Rothsch.*, *florestan* *Bönnigh.*, *pamphilius* *Burm.*, *schausi* *Clark*) (92 e) is a large strong species, profusely intermixed with greenish-yellow scales, the basal and median areas darkened especially in the ♀, with a white stigma. Hindwing deep blackish-brown, anally lighter, so that the black dentate transverse lines are more distinct. Tarsi with a pulvillus. Larva green, granulated yellowish with narrow pink lateral oblique stripes. Distributed from Mexico to Argentina.
- florestan*. **P. florestan** *Stoll* (= *brevimargo* *Btlr.*) (92 d) is not separable from *lichena* structurally, but generally smaller, more unicoloured, with finer and duller markings, not so intensely darkened, the black streaks stronger on veins 2 and 3; mostly tinted reddish-brown distally to the stigma. Hindwing lighter and more brownish. Larva with broad white oblique bands narrowing down dorsally. Mexico to South Brazil.
- vestalis*. **P. vestalis** *Jord.* is much purer white than *florestan* which it resembles most. The black lateral spots on the abdomen are narrow and not contiguous above, so that the white spots directly pass over into the grey dorsal colour. Forewing marked as in *florestan*, the black basal stripe broader, the margin before the anal angle

more deeply incurved; the two discal streaks are distinct, submarginal line quite indistinct, the space between the 2nd and 3rd lines almost pure white; basal and discal areas tinted yellow in the type. From the base of the hindwing to the anal angle a broad whitish-grey area extends, crossed by 3 black transverse lines and 2 black streaks. Genitals similar to those of *florestan*, but the 10th sternit shorter and broader, the harpe less dentate and double-knóbbed dorsally. Length of forewing: 58—60 mm. Pará in May and June, according to 2 ♂♂.

P. fosteri *R. & J.* is very similar to *lichena*, but the forewings are narrower than in *lichena* and *fosteri*. *florestan*; the spaces between the black lines are purer white, the black longitudinal streaks longer in the disc; the subterminal line is expanded into a large triangular spot at the costal margin, and the space between this spot and the oblique apical line is whitish tan-coloured. Hindwing more oblong, white from the base to the 1st band except a large brownish-black spot between the cell and inner margin, the space between the 3 black bands at the costal margin distinctly white, then gradually more dusted brown. Genital organs different. From Sapueay (Paraguay), 1 ♂ taken in January.

P. lanuginosa *Edw.* (= *collaris* *Edw.*, *corallina* *Drc.*) (92 c) is likewise very similar, but much more *lanuginosa*. monotonous and greyer, scarcely mixed with white, it especially also lacks the white apical spot above the black oblique streak. Neither separable from the two preceding species in structure. Mexico to Honduras. A slightly darker form is — **hoffmanni** *Clark* (93 a) from Misantla. *hoffmanni*.

P. crocala *Drc.* (93 a) is marked like the preceding species, but of a warmer brown tint and easily *crocala*. discernible by the hindwing being grey in the basal third, strictly contrasting with the brown distal portion. Apparently very rare, from Guatemala and Honduras. — **tepici** *Clark*, from Tepic (Mexico), is of a greenish tint, *tepici*. not brown, the broad postmedian transverse band darkened; the grey basal portion of the hindwing is narrower.

P. franciscae *Clark* (93 b) resembles *florestan*, but it is much lighter whitish-grey, without the greenish- *franciscae*. yellow tint, marked lighter and darker blackish-brown, hindwing lighter brown, more extensively white at the anal angle. Smaller on an average than *florestan* and with narrower wings. Venezuela.

P. barnesi *Clark* (93 b, c) is likewise most closely allied to *florestan*, with still narrower wings than in *barnesi*. *franciscae*; ground-colour likewise whitish-grey, more bluish ash-grey, especially in the ♂ often with a somewhat greenish tint before the postdiscal bands; the black streaks on veins 2 and 3 are entirely absent. Hindwing still lighter brown than in *florestan*. Described from Guatemala, also from West Mexico (Colima).

P. corumbensis *Clark* also belongs yet to this group. The whitish ground of the forewing is densely *corum-* strewn with brown, marked like the allies, the two bands enclosing the median area with the white stigma *bensis*. as well as a subterminal line are very prominently dark; veins 2 and 3 with thick black stripes. Hindwing dirty white at the base, with a blackish-brown basal spot and median band, the two distal thirds grey with a broad brown subterminal band. Matto Grosso.

5. Genus: **Chlaenogramma** *Sm.*

Very near to *Protoparce*, separated by smaller eyes and the absence of the thorny bristles on the middle tarsi. Especially *Chl. jasminearum* is closely allied to *P. florestan* from which it can be hardly distinguished, and a remarkable fact is that the genital organs of these two species are identical.

Type: *jasminearum* *Guér.*

Chl. jasminearum *Guér.* (= *rotundata* *Rothsch.*) (93 c) is externally very similar to *P. florestan*, the *jasminca-* anal angle of the forewing projects somewhat less; the upper one of the two black submedian streaks extends *rum*. to the postmedian line or almost to the margin, the lower one being indistinct. Georgia to New England, to the west as far as Pennsylvania and Canada. Larva light yellowish-green with 7 narrow white lateral oblique stripes, the last bordered with red and green anteriorly; on ash-trees.

Chl. undata *R. & J.* has longer spined anterior tarsi than the preceding species; forewing yellowish *undata*. grey or grey dusted with brown with more distinct dentated transverse lines, the nomenclatural type with a loamy tint, very distinct transverse lines, with large brown spots on the abdomen beneath. The patria of the type: "Costa Rica" may be doubtful. — **cinerea** *R. & J.* is of a purer whitish-grey, the black markings less *cinerea*. distinct, the marginal band of the hindwing broader, the spots of the ventral side smaller. Argentina.

Chl. obscura *Clark* (93 c, d) is smaller, darker and with narrower wings, more brown with white irro- *obscura*. ration, the markings very similar to those of *undata*, the antemedian line stronger, the marginal area more darkened analwards. Argentina.

Chl. muscosa *Jones*. Body olive grey, tegulae bordered with white, on each side of the abdomen *muscosa*. a series of triangular black lateral spots, ventral side yellowish-white. Forewing yellowish-white, strewn with

olive and black; the double black anterior transverse line is introangular on the submedian fold; 4 black undulate-dentate postmedian lines, the 1st and 3rd space between them filled with olive green, the 2nd with yellowish-white, all 3 strewn with black; a black dentate stripe extends from the subterminal line between 6 and 7 to the apex; the white discal spot is encircled with black, its surroundings are darker than the rest of the wing; fringe yellowish-white, spotted black on the veins. Hindwing whitish ochreous, dusted with black at the base and margin, with a broad faded black postmedian band which is excurved at the anal angle. Expanse of wings: 115 mm. Curitiba, Paraná.

6. Genus: **Euryglottis** Bsdv.

Likewise similar to *Protoparce*, separated by the thorax and legs being clothed with long erect hair-scales; pulvillus absent. 4 species from Tropical South America.

Type: *E. aper* Wkr.

- albstigmata*. **E. albstigmata** Rothsch. (93 d). Forewing velvety black with irregular short, lighter blackish-brown transverse streaks, densely scaled violettish-grey, with a large round yellowish-white stigma. Hindwing brownish-black, with violettish-grey bands and dusted with this colour, the ♀ with white; the black thorax with reddish hair, the black, grey-haired abdomen with 5 round orange-yellow spots on each side. Colombia, Ecuador and Peru. — *basalis* Rothsch., from South-Eastern Peru (Carabaya), is distinguished by the hindwing being all white from the base to the first discal line.
- dognini*. **E. dognini** Rothsch. (= *aper* Bsdv.) is very similar to the following *dauidianus*, larger, easily discernible by entirely white abdominal spots; the transverse markings of the forewing are slightly visible, the antemedian ones are quite extinct. Ecuador, Colombia, Venezuela.
- dauidianus*. **E. dauidianus** Dogn. (93 e). Black, with fine yellowish-white veins, 2 almost straight transverse bands, a yellowish-white discal spot and distinct subterminal dentate line. Hindwing blackish with a whitish transverse band. The median row of the abdominal lateral spots, which are often very small, is yellow. Loja, Ecuador. Larva bluish-green with 7 white oblique lines bordered with dark green above; head and caudal horn emerald-green, the head with 2 yellow lines. It lives, at altitudes of 6—8000 ft., on a Bignonia with thick clusters of yellow blossoms.
- aper*. **E. aper** Wkr. (93 d) is larger than *dauidianus*, the orange abdominal spots are much larger and the antemedian lines form an acute angle. The nomenclatural type exhibits indistinct ventral dots on the 3rd to 5th segments, the postmedian band of the forewing composed of 3 lines is distinctly marked. Venezuela and Colombia.
- guttiventris*. **E. guttiventris** R. & J. shows distinct whitish ventral spots and a light basal ventral spot, the discal band of the forewing and the light veins are less distinct. The black spots of the forewing are smaller, the grey discal line is more dentate; fringe more intensely speckled blackish-brown. Genitally different. Colombia and Bolivia, occurring beside *aper*.

7. Genus: **Dolba** Wkr.

Very closely allied with *Protoparce*, separated by very long scales on the head, which hang over the eyes as long cilia. Pulvillus and paronychium present. Only 2 species.

Type: *D. hylaeus* Dru.

- hylaeus*. **D. hylaeus** Dru. (= *prini* Abb. & Sm.) (90 e) resembles a small *P. rustica*; forewing whitish-grey, scaled olive brown, the most densely so in the centre of the wing, the antemedian and marginal areas remaining purer white; a white discal spot at the cell-end. The race from North-Eastern North America shows a distinct contrast between the white and dark areas of the wings, and beneath there is a double, very distinct postmedian line bordered with white distally. — *floridensis* Clark (90 d), from Florida, is more monotonously coloured, not so contrastingly dark and white, more grey; the distinct postmedian line of the forewing beneath has more or less disappeared here. Larva with 6 distinct oblique stripes which are bordered with red anteriorly, with pink posteriorly, the stripe on the 5th segment is indistinct. It lives on Pinos, Ilex, Comptonia, Asimia.
- clarki*. **D. clarki** Carlos Hoffm. (90 a) is likewise closely allied. Body blackish-brown, intermixed with whitish hairs which predominate on the thorax, ventral side whitish with a yellowish tint, abdomen with a darker dorsal line and subdorsal lines. Forewing brownish black with a violet tint and mixed with white; anterior transverse band indistinctly double, posterior band prominent and distinctly double, bordered by a whitish transverse band outside; black longitudinal streaks between 2 and 4; stigma yellowish white. Hindwing brownish black, basally lighter, with 2 slightly darker transverse bands, the space between them lighter, the exterior one terminates anally with a blackish spot. Fringe blackish-brown speckled with white. According to 1 ♀ from Malinche near Puebla (Mexico), at an altitude of 2250 m, taken in August.

D. schausi *Clark* (91 a) is very closely allied to *clarki*; the white abdominal spots much smaller; the *schausi*. distinct black markings on the forewing of *hylaesus* are brown, the white areas on the wings are strewn with brown and the ground-colour is therefore more monotonous, the marking more blurred; postmedian line indistinct and less sharply dentate. Forewing marked lighter brown. Colombia (Cauca Valley).

8. Genus: **Dolbogene** *R. & J.*

Distinguished from *Dolba* by the short, long-spined first protarsal segment and shorter spurs. Only 2 species:

D. hartwegi *Blbr.* (= *hylaesus* *Wkr.* part.) (91 a). A small brownish grey species distinguished by the *hartwegi*. very strong black vein-streaks on 2 and 3 and subapically; transverse markings as in the allies; postdiscal spot mostly somewhat darkened. Hindwing greyish-brown, lighter at the base. Mexico to Honduras.

D. manni *Clark* (91 d). Forewing smoky brown, clouded lighter, more monotonous than *hartwegi*, *manni*. smaller and with narrower wings, with a white spot at the cell-end; inner margin darkened in the basal half, the transverse markings more diffuse. Hindwing smoky brown, the light transverse band narrower than in *hartwegi* and whitish analwards. Mexico, Guerrero.

9. Genus: **Isogramma** *R. & J.*

Closely allied to *Ceratomia* and *Chlaenogramma*, from which it is separated by the spined anterior tibiae and the apex of the middle tibia; the long terminal spur of the posterior tibia is shorter than the first tarsal joint; pulvillus present. Only 1 species:

I. hageni *Grt.* (93 e) is externally similar to *C. undulosa*, but it is separated by the structural differences *hageni*. and the yellowish-green tint of the colouring. Texas.

10. Genus: **Ceratomia** *Harr.*

Proboscis, palpi and eyes relatively small. Tibiae not armed; anterior tibiae short, the first protarsal joint with 3 or 4 long, thick thorns outside; middle tarsi without bristles. Pulvillus absent; paronychium with 1 lobe on each side. 3 species from North America.

C. amyntor *Hbn.* (= *quadricornis* *Harr.*, *ulmi* *Bsdv.*) (93 e). A large strong species; forewing more *amyntor*. or less strewn with brown on the whitish ground, the head, collar and the costal-marginal half of the forewing remaining lightest; lower half of median area deep dark brown; anterior transverse line only visible as pointed dents in the costal-marginal part, posterior line 3 or 4 fold, feebly dentate and filled with light; intense black longitudinal rays in the median area and subterminally towards the apex. Hindwing lighter greyish-brown, darkened towards the margin, with a narrow and a broad brown marginal band. Larva very peculiar owing to 4 horns on the thoracal segments. It lives on elm.

C. undulosa *Wkr.* (= *brontes* *Wkr.*, *repentinus* *Clem.*) (93 e) is of a lighter whitish-grey ground-colour *undulosa*. with distinct blackish-brown transverse lines; especially those in the postmedian area are very sharply dentate; subterminal line bordered with a somewhat darker brownish colour outside, the subapical dentate line is bordered with white towards the costal margin. Hindwing whitish, brownish grey in the disc, with antemedian and median transverse lines, and a broad blackish-brown marginal band. Larva light green with 7 greenish white oblique bands. It lives on ashes and Liguster. Canada to Carolina. — subsp. **polingi** *Clark* is of a much *polingi*. darker grey total colouring without any yellowish admixture, the stigma is smaller and less prominent, with more intense transverse lines and apical line, submarginal line indistinct; the white colour disappears on the fringe of the hindwing. Texas. — **borealis** *Clark* is the Canadian subspecies from Manitoba, the colouring is *borealis*. intermediate between the two others, with less distinct markings, the stigma often very small, hindwing monotonously dark grey above, with indistinct transverse bands.

C. catalpae *Bsdv.* (94 a) has somewhat narrower wings than the preceding species, of a more brownish *catalpae*. total colouring, the transverse lines much less distinct, particularly the antemedian ones; the postmedian ones are much less curved and more extinct, the black longitudinal rays in the discal area are more distinct and longer. The transverse lines on the brownish hindwing are almost extinct, the marginal band very dark as far as the margin. Larva on Catalpa and occasionally injurious by its immense numbers. It is light green, blackened above, with a light green interrupted subdorsal stripe; head and horn black. New Jersey and Pennsylvania to Florida.

11. Genus: **Isoparce** *R. & J.*

Distinguished by the very short and feeble proboscis, the short palpi being roughly haired. Tibiae spineless, the short first protarsal segment with several thick thorns outside, spurs very long. Pulvillus absent, paronychium without lobes. 6 and 7 of hindwing on a long stalk. Only 1 species:

cupressi. **I. cupressi** Bsd. (94 a). A monotonously brownish-grey small species, easily discernible by an almost longitudinally directed double line between veins 2 and 4 of the forewing. Georgia and Florida, apparently very rare. Larva unknown.

12. Genus: **Nannoparce** R. & J.

Proboscis longer than body; legs as in *Ceratonia*, but the middle tarsi exhibit a comb of bristles. Only 1 species:

pocyi. **N. pocyi** Grt. & R. (93 c) is likewise a smaller species, thorax bluish ash-grey, head and abdomen more brownish, like the forewing which exhibits a whitish dentate postmedian transverse band bordered with a darker brown towards the base especially in the cell; transverse markings very indistinct in the antemedian area, more distinct only in the costal-marginal area; black longitudinal streaks as well as the oblique streak parting the apex fine; some more black indistinct dentate blotches subterminally. Hindwing brown, lighter whitish at the inner margin. Cuba and Jamaica. — *haterius* Drc. is a rare form found in Yucatan, the forewings more intensely darkened blackish-brown, especially in the disc and at the costal margin.

13. Genus: **Dictyosoma** R. & J.

Proboscis shorter than body, palpi slender, short, hairy; the small eyes not ciliated; antennae strong. First protarsal segment with 3 long thorns, middle tarsi without the comb of bristles, the spurs of the middle and posterior tibiae very short. Pulvillus absent, paronychium without lobes. Only 1 isolated species:

elsa. **D. elsa** Stkr. (93 c) is an apparently extremely rare and quite different species, slightly recalling a small pale *ligustri*. Forewing reddish whitish-grey, quite light in the costal-marginal area, with 4 blackish-brown very oblique transverse markings in the inner-marginal third, the most distal one of which terminates into a fine apical streak. Hindwing whitish with a black base and 2 transverse bands; the light abdomen with black segments and with dorsal and subdorsal stripes. Larva green, granulated, with 6 red-brown oblique lateral stripes. Arizona.

14. Genus: **Neogene** R. & J.

Like the preceding genus, but the eyes are overhung by cilia. Legs similar as in *Dictyosoma*, but the middle tarsi exhibit 2 or 3 long bristles instead of the comb. Paronychium with 1 long lobe.

reevi. **N. reevi** Drc. (= *baruta* Berg, *cossoides* Rothsch.) (94 a) shows hardly any markings, the body and forewing are brownish grey with a yellowish ochreous tint, with a subterminal brown band bordered with whitish outside; tegulae with some grey hairs. Abdomen yellowish-white laterally, with large black spots. Forewing brownish, hindwing yellowish-white with a black marginal band. Argentina; Paraguay and Paraná.

curitiba. **N. curitiba** Jones resembles *reevi*, but it has an entirely blackish-brown thorax, and the forewing is suffused with black, a white discal spot is present and the fringe is spotted white. Abdomen deep blackish-brown above, intermixed with single ochreous hairs, laterally ochreous, spotted black, the last segments darker blackish-brown. Especially the basal and marginal areas of the forewing are much darker. Expanse of wings: ♂ 66, ♀ 75 mm. Curitiba, Paraná.

dynaeus. **N. dynaeus** Hbn. (94 a) is a small species; body blackish-brown, head, borders of neck and tegulae reddish-white, abdomen with white lateral spots. Forewing greyish-white, brown in the whole basal half and at the margin especially analwards; discal spot and a broad subapical oblique band white; subterminal white stripes between the veins 4 and 7. Hindwing greyish-white with faded brownish postmedian and marginal bands. A rare species from Bahia and Pernambuco. — *corumbensis* Clark is much more brown instead of grey, abdomen brown, not black, head and border of tegulae yellowish instead of white. The white markings on the forewing are almost quite absent. Hindwing monotonously brown above and beneath. From Matto Grosso. The larva which has much to suffer from parasites (Hymenoptera) was found by the Rev. Moss near Pernambuco on a Verbenacea; he describes it to be whitish-green with a red dorsal line terminating into the fine black horn; round white black-ringed subdorsal spots, and black spots of various sizes increasing in the growing insect.

steinbachi. **N. steinbachi** Clark is near to *dynaeus corumbensis*. Antennae and palpi dark brown, frons chalky white, occiput with a black transverse streak. Thorax dark brown, tegulae grey, abdomen grey above, with white and black lateral spots. Forewing grey with a white, S-shaped postmedian band of 2 mm width, pointedly extended between the veins; 2 angular black antemedian and median lines arise at the inner margin and extend to the cell, besides two lines behind the centre and between veins 2 and 3 near the cell a short black

longitudinal streak; a light dot at the cell-apex and a black dot above it. Hindwing plainly grey with a somewhat darker marginal band. Bolivia.

N. albescens Clark. Frons grey, thorax dark grey with lighter tegulae. Abdomen light grey above, *albescens*. laterally white with large black spots. Forewing white, a fine dark line proceeds at the inner margin, 5 mm from the base, obliquely to the cell, where it is sharply bent round and returns to the base of the costal margin; a very faint parallel line in front of it; the dark marginal area is narrower and lighter than in *steinbachi*, only a white dot at the cell-apex. Hindwing monotonously light grey, with dark veins and a distinct dark marginal band. From Argentina (La Rioja).

15. Genus: **Atreides** Holl.

Eyes edged with cilia, proboscis long. Anterior and middle tibiae spined; posterior tibia as long as the first tarsal joint, with very long spurs, the longer spur reaching to the end of the first tarsal joint. Only 1 species:

A. plebeja F. (94 b). Body and forewing brownish-grey with distinct black dentate lines and a very *plebeja*. small lighter, dark-edged discal spot; small black sagittate spots between the black veins of the marginal area; fringe speckled light and dark. Hindwing almost entirely black, lighter whitish grey only in the costal-marginal portion and in 2 small diffuse spots near the anal angle. Larva green, lighter or also reddish on the dorsum, with 7 yellow lateral oblique bands bordered with black or red above; skin intensely granulated, horn granulated black. It lives on Teeoma. Eastern United States.

16. Genus: **Sphinx** L.

A large number of partly very closely allied species are combined under this name to-day, part of which formed the genus *Hyloicus* Hbn. Eyes ciliated, anterior tibiae spined. Pulvillus absent. The spines of the middle and hind tibiae vary much in number and length in the different species, and they may even be absent. Abdomen almost invariably with black and white lateral spots, never yellow.

S. arthuri Rothschild. (94 b) is easily recognizable by the peculiar reddish olive green colouring of the *arthuri*. anterior body and forewings; with hardly any markings. Metanotum with 2 golden yellow spots. A single ♂ from La Paz, Bolivia.

S. maura Burm. (94 b) is quite similar to *arthuri*, and ROTHSCHILD suspects it to be the ♀ of it, since *maura*. only ♀♀ are known of *maura*, but the colouring is blackish-grey, whilst the shape and marking of the wings is the same in both species; abdomen not so white as in *arthuri*. Argentina and Espiritu Santo.

S. aurigutta R. & J. (94 e) is similar to *lugens*, but larger, and the anterior body slightly brownish; *aurigutta*. 2 golden yellow spots on the metathorax; markings of forewing not very distinct; some rusty-reddish scales before the anterior transverse line below the cell; the white cell-end spot is double, the greyish-white irregular submarginal line extends almost parallel to the margin. Bands of hindwing slightly brownish. Peru and Bolivia.

S. justiciae Wkr. (= *anteros* Mén.) seems to be an extraordinarily rare species the exterior of which *justiciae*. entirely resembles that of the following *merops*; it differs from it, however, in the orange border of the abdominal margins near the dorsal line and in the genital apparatus. Larva green with 7 reddish violet, posteriorly white-edged oblique bands, each of which is continued to the next segment by yellow colour; thoracic rings granulated. It lives on Justicia (Acanthaceae). Rio de Janeiro to Buenos Aires.

S. merops Bsdv. (= *lugens* Bsdv., *justiciae* Drc.) (94 e) is at once discernible from *justiciae* by the absence *merops*. of the two orange subdorsal spots on the abdomen, but it exhibits a rusty yellow tinge above on each side of the median line, and the forewing also shows red-brown places; the submarginal line being thickly black in the lower two thirds is bordered with yellowish-white distally. Mexico to Ecuador. Although the species is very common and widely distributed, yet the larva is not known.

S. tricolor Clark belongs to the *merops-justiciae* group, but it has shorter and obtuser wings. Head *tricolor*. and thorax grey, tegulae white, strewn with brown. Abdomen above with a yellow median stripe interrupted by slate-blue segmental indentations which are more conspicuous laterally, with black between them; ventral side yellow, strewn with brown. The costal and distal margins of the forewing form a right angle at the apex, the inner angle being quite round. Forewing grey, marked with black and white, lighter than in *merops* and *justiciae*, with a subbasal brick-red longitudinal blotch of 7 mm length; a double white stigma bordered with black; instead of the black submarginal band there are 3 black, distally white-edged lines here. Hindwing with a slate-blue basal area and median band. Dominica, from an altitude of 900 m, the only West Indian representative of the genus discovered hitherto.

- lugens*. **S. lugens** Wkr. (= andromedae Bsdv.) (94 c) is distinguished from the similar species by the abdomen beneath, on the white ground of which only the first spot is large and black, the others being very small or extinct. Forewing blackish-grey, mostly with a slight brownish hue in the ♂, with almost the same marking as in all the allies. Mexico to Honduras.
- geminus*. **S. geminus** R. & J. is so very similar to *lugens* that it can only be separated by the different genital apparatus and by the ventral side invariably bearing 5 large, well developed black spots. The harp is distally rounded, whilst in *lugens* it is extended hook-like at the upper angle. Likewise found from Mexico to Honduras.
- biolleyi*. **S. biolleyi** Schs. is very near to *geminus*, but of a more brown total colouring, intermixed with light reddish yellow; a pinkish-whitish antemedian spot below the cell is parted by a black line; a round blackish-brown spot in the cell is crossed by a black longitudinal streak, and a white dot is at the cross-vein. The antemedian white line of the hindwing is thinner, the fringe more intensely speckled black. 1 ♀ from Costa Rica.
- eremitus*. **S. eremitus** Hbn. (= sordida Harr.) (94 d) is very similar to *lugens* and *geminus*, but structurally separated by the spined middle tibiae — being spineless in the two species mentioned — and by the shorter first protarsal joint. Brownish, marked like the preceding species; the black longitudinal streaks are distinct and thick. The peculiar larva is distinguished by a three-edged projection on the 3rd thoracic segment and a velvety black dorsal spot on the two following ones. It lives on Labiatae (Mentha, Salvia, Monarda). Canada
- mccrearyi*. to Georgia, to the west as far as Missouri. — **mccrearyi** Clark shows a darker brown thorax and abdomen above, and the ground-colour of the forewings is much darker, too; the upper one of the two small white discal spots of *eremitus* is black here or absent altogether. Bands of hindwing blacker. Manitoba.
- pseudo-stigmatica*. **S. pseudostigmatica** Gehlen (94 d) is the most closely allied to *eremitus* and just as large, but of more slender wing-contours. Forewing darker than in *eremitus*, greyish-brown, without any yellowish tint; all the linear markings finer; the white anal dentate line is absent; a light spot in the centre of the cell, the white stigma scarcely recognizable; fringe brown. Hindwing much less black, the white median band narrower, the black marginal band distally dusted with light grey. Abdomen dark grey; palpi with much denser and longer hair. Mexico.
- eremitoides*. **S. eremitoides** Stkr. (= lugens Grt.). Exterior very similar to that of *separatus* and *lugens*, but lighter, more silvery grey, and smaller than these two, with smaller, more triangular black abdominal spots, the collar lacks the yellow spots of *separatus*, the black stripe on the tegulae is narrower, the basal and central costal-marginal areas are whiter, the black apical streak is thinner. The basal white band of the hindwing is greyer, the black distal margin narrower. Middle tibiae spineless. Southern States of North America. Larva, according to STRECKER, light green with 7 white oblique lateral stripes and a black horn. It lives on Salvia in two generations, in June and October.
- separatus*. **S. separatus** Neum. (= andromedae Bsdv., lugens Sm.) (94 d) is likewise very similar to the preceding species, larger, of a purer grey, irregularly marked and easily recognizable by 2 large ochreous spots on the collar; the area between 2 and 4 on the forewing as far as the submarginal line is darkened grey. Larva unknown.
- metacna*. Colorado, New Mexico, Mexico. — **metacna** R. & J. shows a much darker grey ground-colour, the black marking is therefore less contrasting and the insect also blacker beneath. Mexico (Hidalgo and Cuernavaca).
- istar*. **S. istar** R. & J. (= lugens Wkr., sordida v. A. Clem., leucophaeata Btlr., andromedae Schs.) (94 e) is very similar to *separatus*, still larger, at once discernible by the absence of the two ochreous spots on the collar. Disc of forewing more brownish than in *separatus*, the black longitudinal streak in the distal half of the cell is absent; the antemedian line consists in the inner-marginal half only of two though very thick lines, in *separatus* of 3 finer lines. Distal band of hindwing narrower. Mexico.
- praelongus*. **S. praelongus** R. & J. is still larger with more elongated wings than *istar*, otherwise very much like it, of a purer greyish white, cell with a black apical streak, a white blotch at the double antemedian line. It may be only a southern form of *istar* from Spanish Honduras.
- lanceolata*. **S. lanceolata** Bsdv. (= ? leucophaeata Clem., acuinotialis Bsdv.) (94 e) is one of the largest species. Light grey, somewhat more brownish in the disc, feebly marked, but with a large black basal spot on the forewing, 2 distinct discal black longitudinal streaks and a similar apical streak. Hindwing very extensively black in the costal area. Middle tibiae without spines. Mexico, maybe also Panama.
- chersis*. **S. chersis** Hbn. (= cinera Harris) (94 f) is very similar, smaller, darker and of a duller grey, transverse markings almost obliterated, the black longitudinal streaks finer, the black basal spot on the forewing absent. The ground-colour is decidedly loamy in the nomenclatural form, with brown fringe on the forewing. Canada
- oreodaphne*. to Georgia, to the west as far as Mississippi. — **oreodaphne** Edw. (= chersis Stkr.), from California and Oregon, is a smaller form, the black discal band of the forewing is narrower anteriorly, the median spots on the under

surface of the abdomen are smaller. — **pallescens** *R. & J.*, from Arizona and Colorado, forms a transition to the *pallescens*. following subspecies: as large as *chersis*, whitish-grey as *mexicanus* and with the same white-spotted fringe. — **mexicanus** *R. & J.* is darker in general, although the ground is a purer whitish-grey, without the loamy shine. *mexicanus*. The fine markings are more distinct, fringe spotted white; the black discal band of the hindwing broad. Mexico.

S. adumbrata *Dyar* (94 f) is very similar to *chersis*, smaller, abdomen with 5 pale sulphureous white *adumbrata*. spots laterally, with a fine black dorsal line above; besides the usual black longitudinal streaks on the forewing there are yet double fine postcellular streaks, 1 long fine one in the cell, and a fine submedian streak. Mexico (Zacualpan).

S. vashti *Stkr.* (= *vancouverensis auct.*, *drupiferarum Holl.*) resembles the preceding species in the *vashti*. scheme of markings, but distinctly differs in the almost white collar and tegulae, the latter intensely edged with black inwards. The whole basal costal-marginal portion of the forewing is greyish-white like the terminal area, centre of thorax grey. This is the spring-form from hibernated pupae. — **albescens** *Tepp.* (95 a) is the summer *albescens*. form with a blackened thorax. California, to the west as far as the eastern slopes of the Rocky Mountains. — **gerhardi** *B. & Benj.* is a more intensely strewn form, without any brownish tint, the black subterminal line *gerhardi*. between 6 and 2 is thicker black; thorax somewhat more coarsely clothed. South Nevada. The green larva with white oblique stripes edged anteriorly with black, and with a black horn lives on *Symphoricarpos racemosus*. McDUNNOUGH most meritoriously cleared up the complicated synonymy by examining the types, the type of *vancouverensis* originates from California and is synonymous to *perelegans Edw.*

S. mordecai *McDunn.* (= *albescens R. & J.*, nec *Tepp.*) (94 f) is extremely similar to *vashti*, but much *mordecai*. darker, and with a blackened mesothorax like *albescens*; the species is smaller on the whole than *vashti* and is easily discernible from it by the black subterminal line of the forewing forming an acute angle between veins 2 and 3 and then extending towards the anal angle, almost reaching the inner margin, whereas in *vashti* it vanishes far before this without a flaw; moreover it mostly lacks the interior line accompanying it, or it is very indistinct at least. Vancouver; British Columbia.

S. libocedrus *Edw.* (95 a) resembles *chersis* and is smaller than *vashti*; tegulae finely edged with brown *libocedrus*. inside. The yellowish or white lateral spots on the abdomen are bordered with black all round; the interior angle of the forewing is less rounded than in the allies. The nomenclatural type shows more purely white lateral spots on the abdomen. Arizona. — **insolita** *Lintn.* (= *libocedrus Smith*), from Texas, shows yellowish lateral spots. *insolita*. The larva is unknown.

S. perelegans *Edw.* (= *vancouverensis Edw.*) is very similar though larger than the preceding species; *perelegans*. uniformly silvery grey, recognizable by the fine white streak on vein 6 being prolonged into the cell; the black submarginal line is indistinct. Mesothorax black. California, British Columbia to the Rocky Mountains. — **asellus** *R. & J.* is a much lighter form with a grey mesothorax and a broader white submarginal band. Oregon, *asellus*. Colorado, Arizona. Larva unknown.

S. canadensis *Bsdv.* (= *plota Stkr.*) differs from the preceding species in the more distinct brownish *canadensis*. loamy ground-colour, and from *chersis* especially in a fine dark line in the centre of the tegulae; mesothorax loamy grey. Abdomen above with a very strong dorsal line. An apparently rare species from Canada, New Foundland, New England, Ohio. Early stages unknown.

S. francki *Neumoeg.* (95 b) we can figure from a specimen in the Berlin Museum. ROTHSCHILD and JOR- *francki*. DAN presume it to be a hybrid between *chersis* and *kalmiae*. Kansas.

S. kalmiae *Abb. & Sm.* (95 b) is still more brownish than *canadensis*, much less strewn, and with its *kalmiae*. darkened inner-marginal portion of the forewing it resembles the palaearctic *ligustri*; discal longitudinal streaks thick. Larva on lilac, privet, *Kalmia*, *Chionanthus*, green with distinctly marked black oblique bands and a black-granulated horn. Canada to Georgia, to the west as far as the Mississippi.

S. gordius *Cr.* (= *eremitus Grt.*, *poecila Stph.*) (95 b) is smaller and more robust than *kalmiae*, forewing *gordius*. more intensely strewn with brown, the inner-marginal area not so contrastingly darkened, more irregularly marked. The discal band on the hindwing above and beneath as well as the central spots on the ventral side very distinct. — **oslari** *R. & J.* is a larger and lighter form, the disc of the forewing less shaded with blackish- *oslari*. brown, the discal band on the hindwing beneath less distinct, the spots on the abdomen beneath very small. Colorado. — **borealis** *Clark* is a darker and purer grey race from Ontario, Manitoba, Quebec, Maine. Larva of a *borealis*. bright green, head striped yellow and brown, the white oblique bands bordered with red anteriorly, the horn only laterally black, green above and below. On apple, ash, rose, *Myrica*.

S. luscitiosa *Clem.* (95 b) is easily recognizable, forewing similar to those of the preceding species, but *luscitiosa*. all the margins darker than the brightened disc. Hindwing yellow with a black marginal band, median band

obsolete. Larva with white oblique bands which are bordered with pinkish lilac anteriorly, strewn with small black ring-dots; horn black laterally. On *Salix*, *Populus*, *Betula*. — **bombax** *B. & Benj.* is a western race from *Utah*, both the wings much lighter, the black longitudinal streaks only of half the size. — **una** *Skinner* was established according to 1 aberrative ♀, bred in Brooklyn, darkened on all the wings without the yellowish-reddish colour and therefore looking like *eremitus*.

drupiferarum. **S. drupiferarum** *Abb. & Sm.* (95 c) is exactly like the palaearctic *ligustri*. Thorax blackish-brown, tegulae light inside, edged with pinkish-white like the basal costal-marginal part of the forewing; submarginal area also light. Hindwing with a broad median band and a whitish margin before the dark marginal band. The nomenclatural type flies from Canada to Georgia, to the west as far as the Mississippi, and is very common. — **utahensis** *Edw.* (= *vancouverensis* *Holl.*) is the western form which is much whiter and occurs in the western States from Colorado to Utah, California and Oregon. Larva with red oblique stripes bordered with white posteriorly; on *Prunus*, *Pirus*, *Syringa* etc.

dolli. **S. dolli** *Neumöcg.* is a much smaller species, but it resembles the preceding species in the colour and scheme of markings, but the white costal-marginal part of the forewing is extended to the apex, distinctly separated from the greyish-brownish lower half by the black longitudinal streaks. Hindwing greyish-brown without the black discal and marginal bands. Arizona. — **coloradus** *Sm.* (95 c) is somewhat darker and shows a black submarginal line between the veins 2 and 5, which is absent in the nomenclatural type. Colorado; Utah. *australis*. — **australis** *Clark* is still darker, head and mesothorax dark grey, the dark brown tegulae without the light border; hindwing also darker. Early stages unknown.

sequoiae. **S. sequoiae** *Bsd.* (= *coniferarum* *Wkr.*) (95 c) differs from *dolli* in the costal part of the forewing not being lighter; antennae shorter than in *dolli*; ground-colour more monotonous, more brownish; only the black submarginal stripe in the anal-marginal part is bordered with whitish outside. Hindwing unicoloured brownish-grey. — **engelhardti** *Clark* (95 d) was originally described as a form of *dolli*. Thorax dark grey like forewing and not brownish, markings finer and less distinct. From Utah. Early stages not described.

17. Genus: **Lapara** *Wkr.*

Imago scarcely different from *Sphinx*, except the shorter proboscis and smaller palpi; larva quite different, without a horn and with longitudinal stripes, a triangular head, on conifers. Pupa without a free case of the proboscis.

Type: *bombycoides* *Wkr.*

coniferarum. **L. coniferarum** *Abb. & Sm.* (= *cana* *Martyn*) (95 c). Greyish-brown, somewhat lighter in the anal portion of the forewing, the markings of variable distinctness, postmedian fragments of two transverse lines being most distinct; the discal longitudinal streaks may also be present or absent. Hindwing unicoloured light greyish-brown. Canada to Florida, to the west as far as the Mississippi. Larva green with 3 white longitudinal stripes, often speckled with oblong lighter or darker grey spots. It lives on *Pinus*, especially *P. palustris*. — **pineum** *Lintn.* is probably no distinct species, but only a monotonous extreme aberration, all the markings, transverse lines and discal longitudinal streaks being obsolete. Only 2 specimens known from the State of New York.

bombycoides. **L. bombycoides** *Wkr.* (= *coniferarum* *Harris*, *harrisi* *Clem.*) (95 d) is smaller than the preceding species, likewise most variable, darker brown on the forewing, anterior transverse lines more distinct, the posterior ones more strongly dentate. Canada to Florida, to the west likewise to the Mississippi. The larva differs from that of *coniferarum* in the red face, it also lives on *Pinus*, especially *P. strobus*.

halicarniae. **L. halicarniae** *Stkr.* (95 d) is a rare species, much larger than *coniferarum*, all the markings nearly extinct, so that often only 2 black discal longitudinal streaks are present beside a fine notched posterior transverse line. The type is a pathological specimen with shorter and broader wings. Florida.

Subfamily: **Ambulicinae**.

18. Genus: **Protambulyx** *R. & J.*

Proboscis extending almost to the centre of the abdomen; palpi and frons situate almost on a level; a transverse comb of hair between the antennae. Dorsal segments of abdomen distally spined; tibiae spineless; pulvillus present. Distal margin of forewing cut out below the apex. Abdomen with oblique lateral stripes. Part of the species are difficult to distinguish.

Type: *P. strigilis* *L.*

P. eurycles H.-S. (96 a). Very similar to *strigilis*, but easily discernible by much lighter yellow hindwings and under surface of wings and body; forewing much more produced on vein 7, a subbasal large olive-black spot. The brown marginal band of the forewing beneath is broader; the antemarginal band on the hindwing above is concave between 8 and 4 and strongly angled on 4. Colombia to Rio de Janeiro. Larva green, granulated yellow, the head triangularly pointed, with a yellowish lateral stripe on the 3 first segments, feebly yellowish oblique stripes anteriorly bordered with a darker green on the other segments, and 4 large orange red lateral spots on the 5th to 8th segments; horn almost straight, very long; on Anacardiaceae. *eurycles*.

P. fasciatus Gehlen (96 a) is allied to *eurycles*, but the head and prothorax are darker. Forewing with more distinct antemedian and postmedian transverse bands and a lighter median area between them, interrupted dark between veins 2 and 3; subbasal spot less broad. The yellow basal area is more extensive, because the very strong 1st discal line is removed more distally; the discal lines are partly confluent. Very different from *eurycles* beneath, the dark marginal half distinctly contrasting with the light basal half. 1 ♂ from Sa. Catharina. *fasciatus*.

P. xanthus R. & J. resembles *eurycles*, but the posterior subbasal spot is narrower and more obliquely arranged. Hindwing very pale chromatic yellow, the transverse lines as in *euryalus*, the first line broader and nearer to the cell, the marginal band narrower. Length of forewing: 60 mm. Costa Rica. *xanthus*.

P. euryalus R. & J. (96 b) is very similar to *eurycles*, the 2nd abdominal segment less grey above; forewing also less grey, more reddish-yellow, with larger olive green costal-marginal spots, the two spots at the cell-end and behind it are contiguous; marginal band blackish-brown, almost equably broad, apically pointed, bordered by a blackish line, proximally to it an olive green, sharply defined band which is much less sharply defined in *eurycles* and much broader between veins 5 and 6. Apex of hindwing obtuser, anal angle less produced, the black postdiscal band more uniformly curved. Venezuela; Peru. *euryalus*.

P. ockendeni R. & J. resembles *euryalus*, forewing more monotonous above, not so variegated, more violettish grey in the basal half, the olive marginal band much narrower between veins 4 and 6; the 3rd discal line on the hindwing is finer, more uniform, less dentate. South-Eastern Peru, 6000 ft. *ockendeni*.

P. sulphurea Rothsch. Wings shaped as in *eurycles*, but somewhat narrower; much lighter, hindwing lemon-coloured; the forewing lacks the large costal spots and the subbasal inner-marginal spots; discal lines also dentate on vein 5; feebly tinged with reddish pink in the basal half; the double marginal band is much narrower between 6 and 4 than in *eurycles*. The 2nd and 3rd lines on the hindwing are fine, the 3rd curved as in *euryalus*. Venezuela. *sulphurea*.

P. astygonus Bsd. (96 a). Very similar to *goeldii*; forewing above without a stigma; the first line on the hindwing is S-shaped, much less curved than in *goeldii*, and nearer to the base, the 2nd is very fine or absent altogether, the 3rd regularly dentate. Distal margin of hindwing more convex. The marginal band on the forewing beneath is very broad, crescentiform. Brazil. *astygonus*.

P. goeldii R. & J. (96 b). Body above yellow-reddish grey, with a silky gloss, thorax marked olive green, the oblique lateral stripes of the abdomen yellowish olive green, the 8th segment olive green above. Forewing like body, marked olive green, hindwing maize-coloured, with a straighter distal margin. Forewing with a large discal spot. Peru. — **andicus** Gehlen has broader forewings of a darker ground-colour, with a still larger stigma, hindwing deeper orange with a broader red-brown submarginal band. West Colombia. *goeldii*. *andicus*.

P. strigilis L. (96 b) is a very widely distributed and common species. Forewing mostly with a rather uniform silky gloss, olive brownish, sometimes more yellow, sometimes more brown, finely marked, with a small discal dot. Hindwing coppery orange, with 3 fine discal lines, the 1st and 2nd united at the inner margin, striated in tan-colour beneath, sometimes also above so densely that the hindwing turns rusty brown and the lines are almost covered by it; this is: — ab. **rubripennis** Btlr. The larva is very variable, green, with or without yellow granulation, or claret-coloured, the former with light yellow oblique stripes, the latter with darker red ones, often with dark spots before them. It lives on Cajú (Anacardiaceae). Mexico to South Brazil, Cuba; West Indies. *strigilis*. *rubripennis*.

P. carteri R. & J. resembles *strigilis*, but it is distinctly separated by the absence of the submarginal line on the forewing, and the oblique lateral lines on the abdomen are also absent or very indistinct. Forewing broader, the indentation below the apex much shallower; the disc only shows one transverse line starting at the olive costal-marginal spot of the cell; only the extreme margin is purple brown. Hindwing as in ab. *rubripennis* with traces of 2 discal lines, the median line being absent; the brown marginal band is feebly developed. Probably only an insular race of the preceding species from the Bahamas and Florida. *carteri*.

19. Genus: **Amplypterus** Hbn.

Separated from the preceding genus by somewhat longer palpi which form an obtuse angle with the frons; antennae longer. The lobate angle on the forewing projects farther below the apex. Otherwise almost the same.

Type: *A. gannascus* Stoll.

gannascus. **A. gannascus** Stoll (= *ganascus* Hbn., *rostralis* Bsdv., *daphne* Bsd., *sexoculata* Btlr.) (96 c) is an extremely common and variable insect regarding the ground-colour and the extent of the dark marking. Light yellowish, reddish or violettish-brown, olive brown or chocolate brown spots; the basal oblique band may be broad or narrow, reaching the costal margin or not; mostly a lighter blotch behind the cell. The 3 black bands of the hindwing are often very broad and partly confluent. The extremest forms are: — **mollis** Gehlen (96 c). Forewing loamy yellow, with no marking except the very narrow blackish-brown subbasal band only extending to the cell, a small subapical spot and a small spot above the inner margin near the anal angle; the two exterior bands on the hindwing are confluent. From Sa. Catharina. — **magicus** Gehlen (96 c) is the reverse of it, extremely large and very profusely marked, of a dark brown ground-colour. Hindwing red basally, black distally with 3 rows of yellowish-white spots. Colombia. Other forms named are: — **rubra** Closs, a feebly marked form, the ground-colour turning more red-brown. — **grisescens** Closs. Body and forewing silvery grey, from Icononzo (Colombia). — **fulvescens** Closs, body and forewing reddish-yellow, from Orizaba (Mexico). — **acostalis** Closs, the dark subbasal band not extending to the costal margin, likewise from Mexico. — **interrupta** Closs. The black submarginal band of the hindwing is interrupted here between the veins and broken up into rhombic spots; Mexico. — **connexa** Closs. The black bands of the hindwing are very strong and confluent, so that the hindwing sometimes turns quite black. São Paulo. — **cubanus** R. & J., from Cuba, has shorter and broader forewings. — **jamaicensis** R. & J. is a large race with broad wings, the greyish cinnamon forewing with a broader subbasal band. Bands of hindwing narrow and situate more distally. The black spots beneath are almost extinct. Jamaica.

dentoni. **A. dentoni** Clark (96 c) has narrower wings than *gannascus* and of a lighter grey colour, varying to whitish-grey; apex of forewing more produced, distal margin more convex, the subanal spot of the forewing is greatly reduced, the transverse linear marking more distinctly prominent; marginal area darkened brownish-grey, the dark spots more dark chestnut-brown, not olive. The black bands of the hindwing are broad. Peru (Chanchamayo).

ypsilon. **A. ypsilon** R. & J. (96 e). Body with a brighter red and green marking than in *gannascus*, wings broader; ground-colour variable, from yellowish-brown to deep carmine-brown. Subbasal band much broader and extending to the base especially at the inner margin, subapical spot also much larger, vein 6 brown in its entire length, marginal area extensively brown or olive. Shape of hindwing broader, median band scarcely dentate, the two distal ones confluent except the costal-marginal portion where they comprise a red triangle of the ground-colour; marginal area behind them olive yellowish-brown, somewhat pink only towards the costal margin. Mexico to Ecuador.

palmeri. **A. palmeri** Bsdv. (= *ganascus* Wkr., *marginata* Btlr.) (96 d) chiefly differs from *ypsilon* in the subbasal band being broadly interrupted in the cell, its costal-marginal portion being generally lighter brown, and behind it there is an oblique line extending to the centre of the costal margin. Hindwing with a broad blackish-brown marginal band. Separated beneath by the absence of the large black spots in the basal third of the forewing, by which the two preceding species are distinguished. Most variable. Brazil; Colombia; Peru; Venezuela. Early stages unknown. — ab. **rubicunda** Closs is without discal bands on the hindwing, and the black marginal band is very indistinct; very similar is: — ab. **rubrimargo** Gehlen, where the hindwing only shows the proximal one of the 3 bands, the two distal ones being scarcely traceable, the marginal area with a yellowish tint. Brazil. — ab. **flavellus** Gehlen has a red basal part of the hindwing, and the space between the median band and submarginal band is yellow; the forewing lacks the median spot between veins 2 and 3 and the two small anal spots. 1 ♂ from Novo Friburgo. — **flavus** Niepelt has an olive yellowish-grey ground-colour of the forewings, and pale yellow hindwings with a slight pink hue, without the black marginal band, with traces of the interior band, without the median band. 1 ♂ from Rio de Janeiro. — subsp. **brasilensis** Clark (96 d) is of a lighter and more yellowish tint than western forms, and the red colour of the hindwing is lighter, and the dark marking on the forewing is duller. Rio de Janeiro.

eurysthenes. **A. eurysthenes** Fldr. (= *crethon* Bsd., *schausi* Rothschild.) (96 e) is near to *palmeri*, but easily discernible by the non-interrupted olive green subbasal band of the forewing and the much less oblique antemedian line extending almost parallel to the subbasal band. Hindwing pink with 2 feeble discal lines and a broad blackish-brown marginal band. Espiritu Santo to Colombia.

tigrina. **A. tigrina** Fldr. (97 a). Scheme of markings somewhat like that of *gannascus*, but the hindwings are straw-coloured. Forewing brownish tan-coloured, subbasal band interrupted, the upper portion distally removed, only an oval spot in the cell; vein 6 distinctly blackish-brown. Hindwing with distinct black veins and 3 transverse bands. Venezuela; Colombia; Ecuador; Peru; Bolivia; South Brazil. — **coronata** Gehlen (97 a) is the race from West Colombia, distinguished by more intense whitish-grey dusting; the dark preapical spot assumes the shape of a crown the points of which show towards the base. The triangular subanal spots of the hindwing are enlarged.

sexoculata. **A. sexoculata** Grt. (= *depuiseti* Obth.) (97 a) looks like a very dark *gannascus*, but is structurally different like *tigrina* by the spined anterior and middle tibiae. Forewing deep chocolate brown, quite similarly marked as *gannascus*. Hindwing pinkish-red in the basal half, more yellowish orange distally, veins very thick, distally widened blackish-brown. Venezuela; Colombia; Ecuador; Peru; Bolivia.

A. globifer Dyar. Light olive ochraceous, vertex and a large spot on the tegulae olive brown; forewing *globifer*. with a large pear-shaped olive brown subbasal spot the upper end of which traverses the median vein; feeble double lines behind it; distal line parallel to the margin, brown, vanishing in the irregular shading of the distal third, a curved black line and bluish dusting near the anal angle; a brown subapical shadow. Hindwing dark pink with a broad brown submarginal shadow and 2 median lines. Expanse of wings: 115 mm. Mexico.

A. donysa Drc. (97 b) is one of the most beautiful species, easily recognised by the distinct broad, non-*dony* dentate, very oblique median line of the forewing. ♂ light olive or yellowish-brown in the basal portion, the distal portion mostly of a beautiful olive green; subbasal spot large, oval, two dentate lines in the subterminal area. Hindwing bright carmine with a black postmedian band distally extending into long vein-dents, and a fine antemedian line. The ♀ is more monotonously brown, the distal transverse lines almost obsolete, a light greenish almost reniform spot crosses the transverse line between 2 and 4, the concavity being turned downwards. Mexico to Panama. — subsp. **dariensis** R. & J. exhibits a less sharply defined grey *dariensis*. marginal area on the forewing beneath, and the dark spot before the antennae contrasts less with the occiput. Costa Rica.

20. Genus: **Orecta** R. & J.

Proboscis short and feeble; head small, frons vertically inclined, a comb-shaped transverse tuft between the antennae. Eyes ciliated; palpi similar as in *Amphypterus*. Legs shorter than in that genus. Tibiae spineless, only the anterior tibia with a spine at the end. Pulvillus present. Forewing with a falciform apex, without the subapical indentation of the preceding genera.

Type: *O. lycidas* Bsd.

O. lycidas Bsd. (= *tithonus* Ky.) (97 b). Markings of a most variable development. Lighter or dark-*lycid* er pinkish-brownish, more yellowish in the marginal area; tegulae and the subbasal spot, which is shaped as in the species of the preceding genus, olive brown; some dentate transverse lines are more distinct especially in the marginal area and are intensified analwards. Hindwing darker pinkish-brown, at the anal angle a double spot edged by two blackish lines and clothed with oval scales which very easily fall off, so that it mostly appears transparent. The nomenclatural type is from Brazil (Espírito Santo, Rio de Janeiro, São Paulo, Paraná). — **eos** Burm. (= *lycidus* Burm.) (97 c) is the subspecies from Argentina and Uruguay, with less pro-*eos* duced apex of the forewing and a more convex distal margin; the subbasal band is more oblique, the subapical costal-marginal spot is smaller. Larva long and slender with a triangular head, a very long upcurved horn; green with white subdorsal lines, on *Oreodaphne acutifolia*.

O. fruhstorferi Clark (97 e) is not synonymous with *lycidas*, but separated by its darker colouring *fruh-* and more intense and contrasting marking; subbasal spots more distally situated, a distinctly dark band at *storferi*. the margin; two more distinct transverse bands on the hindwing. Venezuela.

O. acuminata Clark is light yellowish-red on the body and wings, tegulae red-brown; subbasal spot *acuminata*. 2 mm broad, 4 mm long, beginning at the inner margin 3 mm behind the base and ending at the costal margin in a point at the first quarter; a distinct dark brown spot at the cell-apex, 3 smaller dots between this spot and the apex; a sharply defined band at the margin, narrowed above and at the anal angle; a dark longitudinal streak of 4 mm length on the submedian fold near the anal angle. Hindwing unicoloured with dark brown fringe and a dark dot and transverse streak at the anal angle. Length of forewing: 37 mm. 1 ♂ from Tucuman (Argentina).

21. Genus: **Trogolegnum** R. & J.

Proboscis still feebler than in the preceding species, palpi short, coarsely haired; head and eyes small. Tibiae spineless, anterior tibia without an apical spine. Margin of forewing indented below the apex and between 4 and 6; 6 and 7 of hindwing on a rather long stalk. Only 1 species:

T. pseudambulyx Bsd. (97 e) in colouring resembles *A. donysa*, but the subbasal band of the forewing *pseud-* reaches the costal margin; the produced lobe below the apical indentation is broadly rounded. Total colouring *ambulyx*. duller, light reddish greyish-brown, the markings with an olive tint. Hindwing pink, the black longitudinal vein-marking predominates over the feebly marked transverse bands. Hitherto only known from Mexico and apparently extremely rare.

22. Genus: **Smerinthus** Latr.

Proboscis very feeble and short, palpi short in the ♀, longer in the ♂; frenulum stunted, retinaculum quite absent in the ♀. Antennae of ♂ shortly pectinated. Anterior tibia with an apical spine in *cerisyi*, without it in *jamaicensis*.

Type: *S. ocellata* L. (palaearctic).

- cerisyi*. **S. cerisy** Ky. (= *geminatus* Wkr.) superficially resembles the palaearctic *ocellata*; forewing light brownish ash-grey, with a median line sharply angled on 2, a dark brown area behind it in the inner-marginal half, continued eostally as a shadowy stripe obliquely to the eostal margin, 2 feeble and 1 strong undulate line behind it, a triangular dark brown anal spot behind the last line; marginal area darkened. Disc of hindwing pink, anal eyespot light blue, surrounded and centred with black. The nomenclatural type is distinctly marked, the brown postdiscal lunae are more curved than in the other forms: Canada, New England, New York, Rhode Island. — **astarte** Stkr. (= *cerisyi* Sm.) is not always distinctly separable from the type; distal margin of forewing somewhat less dentate, the brown marginal area is narrower, the postdiscal lunae are less curved. Colorado and States to the west of the Mississippi excepting the Pacific coast. — **ophthalmica** Bsd. (= *vancouverensis* Btlr.) (96 c) is generally lighter than *astarte*, ash-grey; a subordinate form: — **pallidulus** Edw. is more cinnamon reddish-grey. South California to Vancouver. — **nigrescens** Clark (97 d), from California (Mission S. José), founded upon 3 couples, is dark olive brown above, the light areas silvery grey; hindwing darker, the pink area reduced, the blue ring very narrow and darkened. — **borealis** Clark is likewise a darkened form, blackened on both wings above and beneath, but the pink area very bright. Manitoba. — **saliceti** Bsd. (*ophthalmica* Bsd.) (96 e) is scarcely different genitally; the blue ring of the hindwing is very extensive and bright. Arizona and Mexico. Larva light green with yellowish-white oblique stripes in the sides, horn blue with a black point; on willows.
- jamaicensis*. **S. jamaicensis** Dru. (= *excaecatus* Lintn., *myops* Btlr. *ocellata* F.) (97 d) is of a very similar exterior, but the anterior tibia is without the apical spine. Antennae much longer pectinated. Smaller on an average, median line of forewing not so pointed, but indistinctly twice angled, postdiscal lines less undulated; colour and marking, as well as development of the eye-spot very variable. The nomenclatural type has only one blue spot in the eye-spot. The normal form: — **geminatus** Say. (97 e) has 2 blue spots. — **tripartitus** Grot. (97 d) has 3 blue separated small spots. New Foundland, Canada to Virginia and Arizona; Iowa. Larva light green, granulated green or white, with light yellow lateral bands, the last being of a deeper yellow; horn blue; on prunus and other trees. — **gamma** Ckll. has pale forewings with a very contrasting dark brown longitudinal band below the stigma and a similar angular antemedian band, so that they together form a horizontal Y-mark; hindwing not suffused with dark behind the ocellus. Colorado. — **flavitincta** Nixon is also light on forewing, but with yellow hindwings which otherwise belong to the form *geminatus*. 1 ♂ from Baltimore. — **clarkii** *clarkii* Franck is a melanotic aberration from Coney Island.

23. Genus : **Calasymbolus** Grt.

Very near to *Smerinthus*, separated by a high comb of scales on the head between the antennae and differently shaped hindwings which project costally in a rounded lobe. Anterior tibia without an apical spine.

Type: *C. astylus* Dru.

- excaecata*. **C. excaecata** Abb. & Sm. (= *pavonina* Geyer) (97 d) exactly resembles the preceding species in its exterior, ground-colour browner, ocellus of hindwing not centred. Distal margin of forewing undulated, fringe white, brown at the ends of the veins. Common from Canada to Florida, to the west as far as the Mississippi.
- borealis*. — **borealis** Clark is a smaller form, much darker, with more contrasting light and dark parts. Cellular stigma smaller. Manitoba. — **pecosensis** Ckll. on the contrary is a much lighter desert-form of the South-Western States. Larva green, darker ventrally, with yellowish lateral oblique stripes, the last widened, often with red dorsolateral and ventrolateral spots. It lives on many trees and shrubs: Prunus, Rosa, Corylus, Carpinus, Betula etc. — hybr. **neopalaearcticus** Stfs., from a copulation of *ocellata* L. ♂ + *excaecata* ♀ is of a very bright red-brown colour with *ocellata*-marking on the forewing. Ocellus of hindwing combined from both the parents, but somewhat variable, in some species more inclined to the one species, in some to the other species. Abdomen with the dorsal line of *excaecata*.
- myops*. **C. myops** Abb. & Sm. (= *rosaearum* Bsd., *cerasi* Bsd., *tiliastris* Bsd., *sorbi* Bsd.) (97 b). Distal margin of forewing not undulated; ground-colour bright red-brown, not so contrasting; postdiscal transverse lines very undulate, shaded between 6 and 7. Hindwing predominantly reddish yellow, ocellus small. — **occidentalis** Clark is the subspecies from Colorado, much lighter than eastern specimens, light yellowish brown, feebly strewn with reddish, the light and dark parts more distinctly contrasting; the blue centre of the ocellus of the hindwing is smaller. — **mcCrearyi** Clark, from Manitoba, on the contrary is a much darker form, but also with brightly contrasting light and dark areas, dark brown, marked purple in the apical area. Larva similar to that of *excaecata*, but more finely granulated. On Prunus and other Rosaecac. Distributed from Canada to Georgia, to the west as far as the Mississippi and Colorado. — hybr. **wormsbacheri** John originates from a cross-breed between *myops* ♂ and *ocellata* ♀; little different from *myops*, but hindwing more pink and the dark thoracal spot indicated. — hybr. **myoastylus** John is the result from a cross-breed of *myops* ♂ with *astylus* ♀; it likewise resembles much the light specimens of *myops* with a more faded marking; the distal margin of the hindwing, however, is not so dark, more light yellow as in *astylus*. Both the sexes were bred.

C. astylus Dru. (= *integerrima* Harris, io Grey) is the rarest of the 3 species. Distal margin of fore-*astylus*. wing not produced at all subapically and on 3, but quite smooth, transverse markings almost extinct, only traceable in the apical part of the costal margin; inner margin very dark. Larva light green with a red lateral stripe and small irregular red dorsolateral spots; it lives on *Vaccinium*, *Rosaceae*, *Andromeda* etc. Canada to New York and Pennsylvania. — hybr. **interfaunus** Neumoeg. ist rather intermediary between *astylus* and *interfaunus*. *Sm. ocellata*; a short apical spine on the anterior tibia is present.

24. Genus: **Pachysphinx** R. & J.

It differs little from *Smerinthus*. Anterior tibia with a strong apical spine; frenulum absent in both sexes. The larvae differ more in the reduced horn, thickened thoracal segments, and the roundish, not so triangular head.

Only 1 species:

P. modesta Harris (= *cablei* Reizst., *occidentalis* Edw., *populicola* Bsd., *princeps* Wkr.) (97 f) is a very *modesta*. variable species, from whitish-grey to light brown, with two notched transverse lines enclosing the median area, hindwing from pink to brown with a dark anal spot. Several subspecies distributed over the whole nearctic region. The nomenclatural type is the common eastern form, forewing more darkened distally to the anterior transverse line, the pink colour of the hindwing densely covered with brown. Canada to Louisiana, to the west as far as California, Oregon and Brit. Columbia. — **occidentalis** Edw. (nec Drc.) is probably a lighter *occidentalis*. summer-breed of the same race. — **imperator** Stkr. (97 f), from Arizona, is large, coarsely scaled, with a large *imperator*. light stigma at the cell-end, the transverse lines more undulately dentate, the pink of the hindwing reduced, the light inner-marginal area increased, the interior one of the two blackish anal spots long and narrow. The nomenclatural type refers to the spring-form with greyish-white forewings, the median band is somewhat greyer, often with a reddish-yellow tinge. — **kunzei** R. & J. is the summer-form which is still lighter, the forewing *kunzei*. more yellowish-white, the transverse lines much less distinct or quite extinct, the two anal spots of the hindwing scarcely contrast with the yellowish-white ground. Arizona, and besides in Colorado, Sonora, and Lower California. — **borealis** Clark, on the contrary, is still darker than typical *modesta*, especially on the thorax *borealis*. and abdomen above and in the broad median band of the forewing. Manitoba. — **regalis** R. & J. is as large *regalis*. as *imperator*, of a more monotonous and darker colouring with a more reddish tinge, the basal area not so contrastingly light; discal lines distinctly undulate-dentate, the distal margin also less undulated, the marginal area less grey. The red colour on the hindwing is extensive, the inner-marginal area blackened. North Mexico (Jalisco and Durango). The intensely granulated larva with transverse pads on the 3 first segments and a very short horn lives on *Populus* and *Salix*.

25. Genus: **Monarda** Drc.

The only species, apparently very local and extremely rare, has hardly become known hitherto. Proboscis stunted, palpi very small, coarsely haired like the basal part of the inner margin on the wings. Antennae long, bipectinate in the ♂, tibiae spineless. Wings broad with rounded margins. Frenulum present.

M. oryx Drc. (97 f) is a most peculiar species. Forewing dark brown, covered with rusty brown scales, *oryx*. the veins broadly olive; double antemedian and postmedian transverse bands are blackish and interrupted by the veins. Hindwing pale reddish, smoky at the margin, with a dark, almost straight transverse band. The species was originally described from Jalisco (Guadalajara), later on it was found near Tlalpam and in Cholula and Puebla in the valley of Puebla (cf. the report of CARLOS C. HOFFMANN in Rev. Mexicana d. Biologia, 1922, p. 17 sq.); the specimens from the valley of Mexico (Tlalpam) are browner than the intensely blackened Puebla-specimens. Mr. HOFFMANN had the kindness to present us with a specimen for having it figured.

26. Genus: **Cressonia** Grt. & Rob.

Proboscis short and thin; palpi of ♂ long, divergently bent, of ♀ shorter; tibiae spined; pulvillus present. Distal margin of forewing undulate; costal margin of hindwing straight at first, somewhat lobate beyond the centre. Antennae almost Saturnid-like.

Only 1 species:

C. juglandis Abb. & Sm. (= *hyperbola* Sloss., *instabilis* Martyn, *pallens* Stkr., *robinsoni* Btlr.) (97 f). *juglandis*. The brownish-white ground-colour is of a most variable tint, with a slightly angular subbasal line, a straight antemedian line which, together with the more oblique undulate postmedian line, encloses the median area being darker brown in the proximal half, with a brown discal streak; terminal area brownish enclosing a curved, broadly faded light subterminal line. Hindwing with 2 antemedian lines and a postmedian shaded band. Larva green or reddish with lateral oblique stripes anteriorly bordered with red, frequently with red spots before

them. Head two-pointed triangular, horn long, feebly curved. It lives on Juglans, Ostrya. Canada to Florida and Texas, to the west as far as the Mississippi.

B. Sphingidae semanophorae (with a scent-patch inside on the basal joint of the palpus).

Subfamily: **Sesiinae**.

1. Tribe: *Dilophonoticae*.

27. Genus: **Pseudosphinx** *Burm.*

Scarcely separable from the following genus in structure, but of a very different exterior; hair-tuft on mesothorax somewhat higher, but more sharply interrupted posteriorly, the whole metathorax shorter.

Only 1 species:

- tetrio*. **P. tetrio** *L.* (= *plumeriae* *F.*, *hasdrubal* *Cr.*, *asdrubal* *Poey*, *rustica* *Sepp.*) (98 a). One of the commonest *Sphingidae* with most gigantic females, the ♂ darker than the ♀, whitish-grey, with brown, very irregular linear markings, the ♂ with a brown basal spot at the costal margin and a brownish area behind and below the cell, a strong black discal streak and a black streak terminating into the distal margin far below the apex. Hindwing blackish-brown, whitish-grey at the anal angle with dentate lines therein. Intensely darkened blackish-brown ♂♂ belong to — **obscura** *Btlr.* — Larva of a very striking colouring, black, with yellow segments, red head, feet and anal segment, and a long thread-like horn; it lives gregariously on Euphorbiaceae and Apocynaceae, especially on *Plumeria*. According to observations by MILES Moss it seems to remain unmolested by parasites, whereas v. BÖNNINGHAUSEN states it to be much stung by parasitic flies. The pupae are found covered in leaves that have dropped to the ground and have been spun together with few silky threads. Very widely distributed from Florida across the West Indies, to the south as far as Paraguay and South Brazil.

28. Genus: **Isognathus** *Fldr.*

Of almost the very same structure as *Pseudosphinx* and *Erinnyis*; strongly built, thorax with a low tuft. Margin of forewing slightly undulate-dentate, hindwing yellow. Several similar species.

Type: *I. scyron* *Stoll*.

- leachi*. **I. leachi** *Swains.* (= *cahuchu* *Bsd.*, *metascyron* *Btlr.*, *scyron* *Wkr.* part., *pedilanthi* *Bönningh.*) (95 d). Dark wood-coloured brown, mixed with grey and black, slightly strewn with greyish-white, a dark basal spot is about 2½ mm broad; cross-vein light, a dark cellular spot before it, another round spot behind it, the black streak between 3 and 4 is very thick, more or less connected with a curved spot above 2; without grey vein-streaks in the postmedian area. Hindwing ochreous as in all the species, with a regularly dentate marginal band. Abdomen unicoloured. Larva — at least probably — brownish-black and with grey spots, with a filiform caudal horn and a red head; on *Plumeria*. Surinam to Southern Brazil.
- swainsoni*. **I. swainsoni** *Fldr.* (= *fumosa* *Btlr.*, *scyron* *Wkr.* part., *pedilanthi* *Bönningh.* part., *zebra* *Clark*) differs from *leachi* in the increased white irroration and interrupted whitish-grey vein-streaks in the postdiscal area; the two spots in and behind the cell-apex are confluent, the basal spot is narrower, and the space between veins 2 and 3 less dark brown; marginal spots at the ends of the veins larger and lighter grey. The marginal band on the hindwing is broader and only very little inwardly dentate, or not dentate at all. Surinam to Southern Brazil. Larva black, with white segments and red head, anus and abdominal legs, the filiform horn enormously long. It lives on *Plumeria*.
- scyron*. **I. scyron** *Stoll* (= *pedilanthi* *Bsd.*) (95 e) has a distinctly banded abdomen, ground-colour more reddish-brown, ventral side dingy reddish-white. Postdiscal area of forewing with a grey vein-stripe interrupted by black dots; disc of ♂ with 2 black spots in a reddish area between 4 and 2, absent in the ♀. Venezuela to Para, Trinidad.
- menechus*. **I. menechus** *Mén.* (= *amazonicus* *Btlr.*, *pelops* *Bsd.*, *rimosa* *Bsd.*, *scyron* *Wkr.* part.) (95 f). Well characterized by the peculiar bluish-grey ground-colour, very strongly built body and distinctly banded abdomen; forewing with double antemedian and discal transverse lines which are more distinct at the costal margin, interrupted on 5, concave below it and connected with the antemedian pair, so that a half-ring is produced, which is open towards the inner margin. Larva similar to that of *Ps. tetrio*, with white segments, orange-red head, abdominal legs and anal segment; according to MILES Moss the segments are not white, but spotted red. On *Artocarpus*. Surinam to Espiritu Santo.
- rimosa*. **I. rimosa** *Grt.* (95 c). Forewing and thorax chalky greyish-white, abdomen with distinct bands. Forewing with large white marginal spots. Hindwing lighter yellow. The species is most variable and divided into many subspecies. The collar of the nomenclatural type is not striped brown, the black basal spot of the

forewing is absent or very small, the black marginal band of the hindwing is broad and extends almost to the cell; the ♀ is without the black discal longitudinal streak. West Indies, Cuba, Haiti. — **inclitus** *Edw. inclitus*. (= *scyron* *Dic.*) (95 c) is the form from Mexico, Yucatan, Honduras, Costa Rica and Panama; collar striped brown, forewing much more intensely marked blackish-brown, the marginal band of the hindwing narrower; the ♀ is more dusted with black, especially at the inner margin. — **papayae** *Bsd.* (= *laura* *Btlr.*, *papayae*. *scyron* *Wkr.* part., *silenus* *Grt. & Rob.*) is much smaller, forewing of both sexes intensely marked brown and white; marginal band of hindwing narrower. Venezuela, Guiana. — **brasiliensis** *Clark* (95 f) is very closely allied *brasiliensis*. to *papayae*, but more monotonously greyish-brown and less marked, ground-colour not white. Abdomen with less intense bands. — **wolcotti** *Clark*. Marginal band of hindwing only half as broad as in the other insular *wolcotti*. forms; ground-colour of forewing brown, both wings beneath with a very conspicuous broad light grey marginal band. — **occidentalis** *Clark* (= *amazonica* *Clark*) is intermediary between *papayae* and *brasiliensis*. *occidentalis*. Thorax above dark brown, abdominal bands likewise brown, not black; ground-colour of forewing chalky white as in *papayae*, with less conspicuous white marginal spots, the black subbasal longitudinal streak distinct. Hindwing light yellow with a broad monotonously dark marginal band. Amazons. — **molitor** *R. & J.* *molitor*. has very light whitish-grey body and wings. The yellow areas beneath are reduced, sharply defined, distally bordered by a black band. Haiti. — **jamaicensis** *R. & J.* has grey forewings with a feeble rosy tint; *jamaicensis*. margin of hindwing very broad, the grey anal spot almost entirely lacks the black lines. Jamaica. — **congratulans** *Grt. & Rob.* (= *rimosa* *Gundl.*) (95 f) has almost quite blackish-brown forewings above; margin of hindwing very broad, extending almost to the cell. Ventral side grey mixed with brown. According to RAMSDEN it is only a form of *rimosa*. From Cuba. — **woodi** *Ramsden* is likewise a dark blackish-brown form from Cuba, *woodi*. but with a light grey broad postdiscal band.

I. excelsior *Bsd.* Upper surface similar to the form *inclitus* of the preceding species, but easily separable from it and all the other species by the purely white, black-spotted ventral side of the abdomen. A remarkable species, the basal two thirds of the forewing blackened, the apical third chiefly white, marked black. Brazil (Pará). Larva very similar to that of *leachi*, but the spots are light reddish. Horn longer than half the larva.

I. australis *Clark* (98 a). A smaller light species, the forewing with an intense brownish tint, with few contrasts, and very fine markings. Marginal band of hindwings of medium width. The species is very near to *rimosa* f. *papayae*. From Eastern Brazil (Uruahy).

I. allamandae *Clark* is very near to *australis*, but with narrower wings; forewing grey above, intermixed with white, with darker markings, colouring still more monotonous, the black discal longitudinal streaks thicker than in *australis*, absent in the ♀. The convex distal margin is more intensely undulate-dentate. The black marginal band is narrower than in *australis*. From Pernambuco and Pará. Larva similar to that of *mossi*, but the lateral stripe is narrower and striped red, the red dorsal and subdorsal lines are broader. Head black. On Allamanda.

I. caricae *L.* (= *cacus* *Chr.*) (98 a) is distinguished from all the similar species by the black-striped veins in the distal half of the yellow hindwing; without a marginal band, only with a small subanal spot. Strongly built, abdomen with strong bands; forewing intensely blackened, with very distinct deep black transverse lines, discally with red-brown longitudinal patches. Venezuela to Rio de Janeiro. Larva black with a yellow band on the neck, yellow sublateral lines and a red head. It lives on Allamanda.

I. mossi *Clark* (95 f) is the most similar to *menechus*, but of a much darker colouring. Body brownish-grey, abdomen with distinct bands. Forewing monotonously brownish-grey, strewn with white, transverse lines very distinct, half-ring above the centre of the inner margin, similar to that of *menechus*. The black band of the hindwing is 10 mm broad, leaving free the anal angle. Manaos, Pará. Larva black with a white lateral band and red longitudinal lines and a yellow head, on Plumeria.

29. Genus: **Erinnyis** *Hbn.*

Hindhead with a high double tuft, mesothorax also with such a tuft which is higher than in *Isognathus*; ♂ with a tripartite anal tuft; legs long and slender. Margin of forewing regularly undulate-dentate. Sexes mostly very different, ♂♂ much darker than ♀♀.

Type: *E. ello* *L.*

E. alope *Dru.* (= *edwardsi* *Btlr.*, *fasciata* *Swains.*, *flavicans* *Goeze*, *scyron* *Burm.*) (98 b) differs from *alope*. all the others in the yellow hindwings. Forewing predominantly black, of brownish wood-colour at the inner margin and in the anal-marginal part, with very oblique transverse lines. Hindwing yellow in the basal portion, black distally. Larva brown above, green beneath, the two colours separated by a black line, a large black spot enclosing a red ring is on the 3rd thoracal ring. Horn short. It lives on *Carica* and *Jatropha*. Widely distributed from Florida to South Brazil and Argentina, also in the West Indies and Bahamas.

E. lassauxi *Bsd.* has the blackest wings among the species with a black-ringed abdomen. Hindwing deeper red than in the other species, very often darkened blackish-brown; easily recognizable by the trian-

gular light costoapical spot of the forewing. The nomenclatural type from Venezuela to Argentina has the darkest, blackish-brown hindwings without any rusty red. — *omphaleae* Bsd. (= *cercyon* Burm., *picta* Ky., *piperis* Schauf.) (98 b) has a deep cinnamon-red basal spot on the hindwing. Mexico, Costa Rica, Colombia, *merianae*. Venezuela, Bolivia, Argentina; Jamaica. — *merianae* Grt. (= *janiphae* Bsd.) has a much narrower margin of the hindwing than the two preceding forms; abdomen beneath spotted black as in the preceding forms. *impunctata*. West Indies, Florida, Central America. — *impunctata* R. & J. is smaller on an average, otherwise similar to *merianae*, but the ventral side is not spotted black and lighter. Venezuela to Argentina (Tucuman). Larva very conspicuous, hornless, green with a brownish-white dorsal stripe on the 6 posterior segments, and 4 oblique stripes directed posteriorly downwards on the 6th to 9th segments, with large white knob-like swellings on the thoracal segments, copying the milk-drops of the food-plant, an Asclepiadea.

ello. **E. ello** L. (98 b, c) is presumably the commonest Sphingid in South America. Forewing grey, the ♂ with a black longitudinal stripe from the base of the inner margin towards the apex, the ♀ without it. Abdomen with very strong bands. Larva green or brownish with a light lateral stripe, and with or without a brown saddle-spot on the thoracal segments; the horn is merely a tiny knob. It lives on various Euphorbiaceae. Found in the whole of America, wandering to the north as far as Canada.

yucatan. **E. yucatan** Drc. (98 c) is larger, with broader wings, of a purer whitish-grey, the ♂ more clearly marked, the ♀ with less marking; the longitudinal stripe of *ello* is interrupted here several times. Hindwing without a sharply defined marginal band. Abdomen without bands. Mexico and Costa Rica.

oenotrus. **E. oenotrus** Stoll (= *hippotoon* Burm., *melancholica* Grt., *penaeus* F., *picta* Sepp, *piperis* Grt. & Rob., *sthen* Gundl.) (98 c) is also a very common species; ♂ blackish-brown, marked grey, ♀ whitish-grey, marked blackish. The border of the black large basal area between the median branches in the ♂ is somewhat concave, the marginal band of the hindwing coherent. Abdomen spotted black beneath. Larva green, lighter or brownish on the dorsum, with darker dots or spots, on Apocynae, where it is often found in a Geometrid-like attitude.

crameri. **E. crameri** Schs. (= *oenotrus* Grt., *omphaleae* Btlr.) (98 c) differs from *oenotrus* in the lighter metathorax and spotless ventral side; margin of hindwing more distinctly defined. Larva green or slaty bluish, dotted darker, with red spots on the 2nd and 3rd segments, on Apocynae. Mexico to Paraguay and the West Indies.

obscura. **E. obscura** F. (= *cinerosa* G. & R., *phalaris* Ky., *rustica* Schaller) (98 d) is a small and most variable species, different in the sexes, the ♂ showing a dark longitudinal band through the forewing and an oblique subanal streak, both of which are absent in the ♀, though the two sexes may also become similar. The sexes of the nomenclatural type are dissimilar, the ♂ has a darker thorax than the ♀ and exhibits the black longitudinal stripe from the base to the apex. Distributed over the whole tropical and subtropical regions of America, occasionally to the north as far as Canada. Specimens from Haiti, Cuba and also from the continent with

rhaebus. a brownish thorax and distinct brown markings on the forewing are: — **rhaebus** Bsd. In the Tring Museum *sthen*. there is a specimen the habitat of which is not stated and which fits well to — **sthen** Hbn. The forewing is much shorter here, the dark longitudinal band is broadly interrupted in the centre, and the apical part is connected with the subanal streak, forming a submarginal band; also slightly different in the genital apparatus. According to CLARK from the Antilles and Barbados. — **pallida** Grt., from Jamaica, Cuba, and Haiti,

pallida. are pale specimens with traces of the dark longitudinal band in the ♂, the subanal streak being quite absent. — **conformis** R. & J. is small, the ♂ is also without the dark longitudinal band and has a light grey thorax like the ♀; marginal band of hindwing darker, the row of dots before it very intense. Galapagos Is.

socorrensis. — **socorrensis** Clark is still smaller and of a much more monotonous grey colouring and scarcely marked, ♂ and ♀ almost the same, the longitudinal stripe of the ♂ only marked by a fine line. Marginal band of hindwing above very narrow, the row of dots before it indistinct. Revilla Gigedo Is., on the western coast of Mexico. Larva green or light brown. Thoracal segments thickened and with a fine black dorsal line, with black dots on the other segments; on a creeping Asclepiadea (*Gonolobus*).

domingonis. **E. domingonis** Btlr. (= *fest* Edw., *rhaebus* Drc.) (98 d) has the same size and colouring of the hindwing as *obscura*, but the forewing of both sexes is brownish-black for the greatest part, grey patches only remaining in the centre and subapically at the costal margin, and at the distal margin; the black longitudinal stripe of the ♂ is not prominent owing to the dark ground-colour. From Texas to Paraguay and South Brazil, and in the West Indies. Larva unknown.

guttularis. **E. guttularis** Wkr. (= *pallida* Bsd., *suillus* Bsd.) (98 d) is the smallest of the species, the forewing very similar to that of *obscura*, but the hindwing is only traceably coloured rusty red, and white beneath in the proximal part. Genital apparatus very different. Larva unknown. Haiti and Cuba.

30. Genus: **Grammodia** R. & J.

Chiefly distinguished from *Erinnyis* by the smooth, not undulate-dentate distal margin of the forewing and a very feeble thoracal tuft. Only 1 species.

G. caicus *Cr.* (= *cacus* *F.*) (98 d) is easily recognizable by the light linear markings behind the cell-end *caicus*. of the forewing and the bright red-brown hindwing the marginal band of which is divided into vein-spots. Abdomen above with dark bands. Larva reddish, light brown or light green with blackish or reddish subdorsal lines and lighter lateral stripes; until the last moult it has a straight black horn, after that only a slight protuberance. It lives on Apocynae (Echites, Zschokkea). Distributed from Florida across the West Indies to Central and South America as far as Buenos Aires, but absent in Mexico.

2. Tribe: *Sesiicae*.

31. Genus: **Pachylia** *Wkr.*

The genus contains a number of large, stout species with rather broad wings, the non-angular forewing with a pointed apex. Palpi smoothly scaled, antennae long with a long slender terminal hook. Thorax tuftless, ♂ abdomen with a triangular anal tuft; distal edge of the dorsal segments with a series of long thorns alternating with short ones, though the latter may also be absent.

Type: *P. ficus* *Wkr.*

P. ficus *L.* (= *crameri* *Mén.*, *lyncea* *Clem.*, *venezuelensis* *Schauf.*, *undatifascia* *Btlr.*) (98 e) is one of *ficus*. the commonest American *Sphingidae*, olive brownish with darker notched transverse markings which are mostly inconspicuous, and a large light subapical spot of the forewing; hindwing ochreous with a black median band and marginal band, and a small white spot at the anal angle of the hindwing. A somewhat darker and usually smaller form is: — **aterrima** *Bönnigh.* Larva green or grey mixed with reddish, with yellow *aterrima*. subdorsal lines and with oblique stripes which, contrary to the other Sphingid larvae, extend from in front above to behind below. Before the pupation it turns slaty blue beneath, orange above. It lives on many species of *Ficus* and on *Artocarpus*. Distributed from Florida and Texas across the West Indies to Buenos Aires.

P. syces *Hbn.* (= *ficus* *Stoll*, *inornata* *Clem.*) (98 e) is similar, darker, more indistinctly marked, still *syces*. with a light costal-marginal triangle in the centre, which is rarely connected in the type with a small inner-marginal spot, forming a light median band. Hindwing unicoloured brownish-grey, likewise with a white anal dot and without a median band. Mexico to South Brazil and Bolivia. The form: — **insularis** *R. & J.* *insularis*. (= *ficus* *Wkr.* part., *syces* *Btlr.* part., *inornata* *Grt.*) is distinguished by the non-interrupted light median band of the forewing. West Indies, Jamaica, Haiti. — **cubensis** *Closs* is much smaller, monotonously dull *cubensis*. brown; only the light apical spot is distinct, the light median area only indicated at the costal margin, without the notched lines before and behind it. Larva similar, but it does not turn orange above before the pupation, but exhibits broad jet-black saddle-spots on each segment.

P. darceta *Drc.* (98 e) is the rarest of the 3 species, without the light subapical spot, more reddish- *darceta*. brown with 3 dark oblique stripes, the first proceeding at the costal margin 1 cm behind the base and extending to the first third of the inner margin, the second beginning at the costal margin 5 mm behind the first stripe and extending towards the anal angle, the third from the centre of the costal margin to the centre of the distal margin, a thick discal dot at the cell-end. Hindwing as in *syces*, but without the white anal dot. Panama to Bolivia and Pará. Larva still unknown.

P. resumens *Wkr.* (= *inconspicua* *Wkr.*, *tristis* *Mén.*, *versuta* *Clem.*) (98 f). Likewise an extremely *resumens*. common, smaller species, more reddish brown on the hindwing, marginal area usually somewhat darker, above the more or less distinct transverse markings similar to those of *ficus* there are 2 oblique very indistinct shadowy bands in the same direction as in *darceta*. Hindwing as in *ficus*, but without the white anal dot. Larva similarly coloured and marked as that of *ficus*, but more whitish on the dorsum and without subdorsal lines. Florida to Buenos Aires, Paraguay, Parana; West Indies.

32. Genus: **Oberthurion** *Clark.*

Closely allied to *Pachylia*, eyes large, not ciliated. The thorns of the distal tergite-margins in one row, very strong and long; antennae more club-shaped with a long thick and obtuse terminal hook. Distal margin in both wings undulate between the veins, especially on the forewing the costal margin of which is extraordinarily bent downwards before the apex. Only 1 species:

O. harroverii *Clark.* Body dark brown above, lighter, wood-coloured beneath. Forewing above wood- *harroverii*. coloured with darker margins and a dark brown subbasal dot behind which there is an irregular line almost vertical to the inner margin; double anterior transverse lines enclose a dark brown band of 2—3 mm width; a thick brown spot at the cell-end; posterior transverse line curved S-like, a brown area behind it between vein 3 and the inner margin; 2 dark lines towards the margin; marginal area darkened enclosing a triangular light costal-marginal spot. Hindwing wood-coloured with a dark inner-marginal band and a white anal spot. Length of forewing: 47 mm. Costa Rica.

33. Genus: **Oryba** Wkr.

Similarly stout species as in *Pachylia* with very large projecting eyes which are not eiliated; palpi slender; antennae distinctly club-shaped with a long filiform terminal hook. Basal sternit of abdomen strongly spined. Shape of wings almost the same as in *Pachylia*.

Type: *achemenides* Cr.

kadeni. **O. kadeni** Schauf. (= *imperialis* Drc., *robusta* Bsd.) (98 A a) is a large beautiful species, dark green, more yellowish-green in the marginal area with a concave blackish-brown submarginal band which is lighter violettish-pink especially towards the inner margin; a broad darker green band in the centre of the wing is finely bordered with white proximally. Hindwing of similar colouring and marking. Panama to Bolivia and South Brazil. The gigantic larva is of a glaring ochre colour with large quadrangular black subdorsal spots, and whitish and black oblique stripes below them in the same direction as in the larvae of *Pachylia*; a dark brown variety with whitish bands also occurs. It lives on *Palicourea*, a Rubiaceae with tufts of red and white blossoms.

*ache-
menides*. **O. achemenides** Cr. (= *robusta* Wkr.) (98 A a) is very similar, but more unicoloured and darker, the marginal area violettish-grey, much narrower, the median band scarcely darker, not bordered with white proximally. Basal abdominal segments much more extensively and glaringly golden yellow on the sides. Larva very dissimilar to that of *kadeni*, with enormously widened thoracal segments in the shape of a trilateral pyramid; cadmium-yellow with small black dorsal spots, green subdorsal lines and green and white spots below them. A dark brown variety may occur here, too. It lives on *Ouroparia*, a creeping Rubiaceae with strongly bent thorns. Honduras to Bolivia and North Brazil.

34. Genus: **Leucorhampha** R. & J.

Distinguished from the preceding ones by the forewing being angled on vein 4 and the less stout build. Antennae slender. Forewing with a silvery longitudinal mark on the base of vein 4. Abdomen with long strong conical spines on the distal tergite-margins; end of ♂ abdomen with a tripartite anal tuft.

Type: *L. triptolemus* Cr.

*tripto-
lemus*. **L. triptolemus** Cr. (98 A a). The silvery mark on the forewing is 4—5 mm long and forked at the proximal end; ground-colour light reddish lilac brown with dark brown markings and a long yellowish-white inner-marginal streak, a blackish-brown spot above the anal angle is notched thrice distally. From Mexico to Brazil. Larva greenish-yellow with a fine green dorsal line, a very short horn and a brown anal segment. Ventral side brown, thoracal segments very much swollen; by its terrifying attitude the larva presents a wonderful example of mimicry, turning its ventral side towards its enemy, inflating the thoracal segments still more and strikingly copying a snake's head by 2 large black round eye-spots. It lives on species of *Echites* (Apocynae) and also occurs in a brown variety.

diffusa. **L. diffusa** R. & J. is very closely allied to the preceding species and chiefly differs in the much shorter (3 mm) silvery mark not being forked. Wings broader. Distal margin more strongly dentated, ground-colour darker; basal area and disc of forewing dusted with bluish-white like the hindwing in the submarginal area. Under surface redder than in *triptolemus*. Length of forewing: 45—47 mm. Colombia, Bolivia.

ornatus. **L. ornatus** Roths. (= *triptolemus* Bsd.) shows the yellow abdominal rings reduced to small dorsal spots, whilst they extend around the whole abdomen in the two preceding species. The silvery mark is shorter than in *triptolemus*, only 3 mm long, likewise forked. The ground-colour is more or less covered with greenish-yellow scales exhibiting a bronze reflection. The larva entirely resembles that of *triptolemus*, but it is generally browner and more intensely marked grey. It lives on *Zschokkea* (Apocynae). Colombia to Rio de Janeiro.

longistriga. **L. longistriga** R. & J. (98 A b). Externally very much like *triptolemus*, but the proximally forked silvery mark is 10 mm long and extends to beyond the postdiseal line; the black submarginal band extends from the apex to vein 4. Hindwing sealed rusty brown submarginally almost to the costal margin. Brazil, Sa. Catharina.

35. Genus: **Madoryx** Bsd.

Very near to the preceding genus, separated by a series of alternately long and short thorns at the posterior edges of the posterior segments of the abdomen above. The 4 species are likewise marked with silvery spots on the forewing.

Type: *M. oiclus* Cr.

oiclus. **M. oiclus** Cr. (= *faunus* Bsd.) (98 A b). Forewing silvery grey with a slight lilac tint; 2 silvery spots in the darkened brown disc, the lower spot roundish quadrangular, the upper spot upright crescentiform;

another dark brown spot at the base does not reach the inner margin and encloses a silvery white spot. Mexico to Rio de Janeiro. Larva not described.

M. pluto *Cr.* (= *deborrei* *Bsd.*, *plutonius* *Hbn.*) (98 A b) is easily distinguished from the other species *pluto*. by the pointed apex of the forewing not being once more produced on 7 and therefore looking truncate; the latter, however, seems to be somewhat the case also in Central-American and Colombian specimens. The colour is a dark purple brown or chocolate; the lower silvery spot is very long triangular, its lower side being longest; no white dot in the dark basal spot. Mexico to Bolivia and South Brazil. The light brownish larva is the most similar to a larva of *Catocala* or, in the resting position, when the middle part of the body is raised arc-shaped, to a Geometrid larva, whilst in the terrifying attitude the thoracic segments are raised and inflated, whereby 2 bluish-black eyespots again copy a snake's head with an opened red mouth. It lives on Melastomaceae.

M. bubastus *Cr.* (= *didyma* *Gmel.*, *lynceus* *Bsd.*, *oiclus* *Burm.*, *parce* *Burm.*) (98 A e) has more olive brown *bubastus*. wings, the scheme of markings rather much like that of *pluto*; a white dot in the dark basal spot; two distinct light postdiscal lines, the interior one being rectangular on 7, the exterior one extending to the apex. The nomenclatural type has a strongly produced apex, deeply concave below it, with a more dentate distal margin. Ecuador and Venezuela to Sa. Catharina. — **butleri** *Ky.* (98 A c) has a less deeply concave and less *butleri*. dentated distal margin of the forewing, the black discal band of the hindwing is narrower. Mentioned from British Honduras, before me from Mexico; according to Moss also in the West Indies (St. Vincent, Sa. Lucia, Martinique), where the larva which has not been described lives on *Tecoma leucoxydon* (Bignoniaceae).

M. pseudothyreus *Grt.* (= *oiclus* *H.-S.*) (98 A c) is easily separated from the other species by the dark *pseudo-* short marginal band below the apex being undulate-dentate inwards; the dark subbasal spot is divided into two *thyreus*. small spots, without the white dot; the lower one of the two silvery spots is angle-shaped, the postdiscal lines are dentate. Florida; Cuba. Larva unknown.

36. Genus: **Hemeroplanes** *Hbn.*

Palpi more pointed than in the preceding genera, the scaling somewhat coarse between the antennae which are slender, not club-shaped. Body smoothly scaled, with a tricuspid anal tuft in the ♂; the ♀ with a long pointed tuft. Hindwing of most of the species reddish ochreous or cinnamon-red. 9 partly very similar species.

Type: *H. pan* *Cr.*

H. nomius *Wkr.* (98 A c) is the only species with dark brown hindwings which are light reddish *nomius*. ochreous only at the base. Forewing deep dark red-brown, with a light cinnamon-brownish triangle at the costal margin and a similarly coloured marginal area ending pointed towards the apex and analwards; a diminutive silvery dot at the cell-end. Larva unknown. Guatemala to South Brazil.

H. pan *Cr.* is the only species with a somewhat truncate apex of the forewing and a dentate margin, the hindwing being red, otherwise rather similarly coloured and marked as *parce*. A smaller species from the Upper Amazons, Pará, Surinam, and British Guiana. Larva unknown. — **denticulata** *Schs.* (98 A d) is *denticulata*. the form from Mexico, which however occurs as far as Peru, with a more deeply dentate margin, hindwing with a broader black anal spot and a less darkened margin.

H. grisescens *Rothsch.* (98 A d) is light bluish-grey, marked brown, more densely dusted brown in *grisescens*. the basal and subterminal areas, with a blackish median band close before the silvery spot. Hindwing cinnamon-red with a black anal spot. Hitherto only known from Argentina.

H. gracilis *Jord.* Size and colouring similar to the ♂ of *grisescens*, but the margin of the forewing is *gracilis*. still deeper concave below the apex; the dark median band extends more obliquely than in *grisescens*, the silvery spot is composed of a thin interrupted streak on the cross-vein and a thicker longitudinal streak in a right angle to it. Hindwing with a more brownish margin, but less distinct anal spot. Cuba. Only 1 ♂ known (type in the Berlin Museum).

H. calliommenae *Schauf.* (= *ellacombei* *Rothsch.*, *pan* *Maass.*, *lutescens* *Btlr.*) (98 A d) is the only *calliom-* species with ochreous hindwings with a blackish-brown margin and a dentate distal margin of the forewing, otherwise resembling *grisescens* in colour and marking, the ♀♀ generally more monotonously coloured, often with a distinct spot of crecents below the costal margin behind the centre; the ♂♂ are browner, often intensely strewn with blackish-brown. Colombia, Venezuela; Haiti. *menae*.

H. parce *F.* (= *galianna* *Burm.*, *licastus* *Stoll*) (98 A d). The reddish-grey ground of the forewing suffused *parce*. with a deep rusty brown, the darkest in the basal and subterminal areas; the discal area with black reticular markings and bluish-white dusting; a thick silvery drop at the cell-end, a small Y-shaped mark is attach-

ed to it outside above; in distinction from *innus*, the light oblique apical streak is slightly bent and is situate at the end nearer to the margin than to the undulate-linear spot which is attached to the costal margin behind the centre. Hindwing cinnamon-red with black and light anal markings. From Florida to Bolivia and South Brazil; West Indies. Larva unknown.

ramsdeni. **H. ramsdeni** Clark is closely allied to *parce* and shows the same marking; smaller, with a more obtuse and shorter apex of the forewing; the costal-marginal spot of the forewing containing the undulate lines is merely a small light brown spot with traces of lunar markings; the silvery mark is only a fine angular mark; a broad dark brown line extends from behind the centre of the inner margin towards the costal margin. Hindwing redder than in *parce*. Length of forewing: 29—30 mm. Cuba.

acuta. **H. acuta** R. & J. Body similar to that of *parce*, but of a more olive tint. Forewing narrower than in *parce*, more monotonously coloured and more sepia-blackish; the two costal-marginal spots are more lead-coloured, the posterior one without the undulate lines of *parce* and *innus*; a lead-coloured inner-marginal spot below the silvery mark; distal area transversely striated black; the light apical oblique line is absent, a lead-coloured spot before the centre of the distal-margin. Hindwing rusty-red with a blackish-brown marginal band. Length of forewing: 32 mm. Amazons (Rio Madeira); Chanchamayo (Peru).

innus. **H. innus** R. & J. (= *galianna* Btlr., *lycastus* Wkr., *parce* Bönningh., *bréthesi* Köhler) (98 A e) is externally very similar to *parce*, but easily discernible by the oblique light apical line which is longer and quite straight and the end of which is nearer to the undulate-line spot than to the margin; this costal-marginal spot is mostly more reddish-yellow than in *parce*. The total colouring is deeper and brighter cinnamon-red; distal margin of forewing much less convex. Mexico to South Brazil and Paraguay. The larva has the usual Sphingid shape and is green with light subdorsal lines and orange-red spiracles, horn short, blackish-blue. It lives on *Ambelania tenuiflora*, an *Apocynae*, and turns red before the pupation.

37. Genus: **Stolidoptera** R. & J.

Very near to the following genus *Aleuron* from which it differs in the palpi not being angled laterally; antennae long and slender, with a long terminal hook; stings of the posterior tergite-margins arranged in one row. Margin of forewing irregularly lobed, costal margin of hindwing very convex and of the same green colour as the forewing, in distinction from the otherwise dark hindwing. Only 1 species:

tachasara. **St. tachasara** Drc. (98 A e) is an unmistakable species with dark moss-green forewings, a somewhat lighter apex, the submarginal band with a lead-coloured reflection, and with quite indistinct darker transverse markings, which are partly filled with a lighter colour especially at the inner margin. Hindwing monotonously blackish-brown excepting the green costal lobe. Larva unknown. Mexico to Venezuela.

38. Genus: **Protaleuron** R. & J.

Head tufted, eyes ciliated. Palpi very large, angled outside as in *Aleuron*. Otherwise similar to the preceding genus, but the hindwing without the lobe at the costal margin. Only 1 species:

rhodogaster. **P. rhodogaster** R. & J. Forewing somewhat like that of *St. tachasara*, but not so strongly lobed, shorter dentated. Dark olive green with 3 antemedian and postmedian transverse lines being distinct and blacker only towards the inner margin. Hindwings dark olive brown like the body above. Very remarkable for its bright pinkish carmine ventral side. Only 1 ♂ from Ecuador seems to be known hitherto.

39. Genus: **Aleuron** Bsd.

Distinguished by enormously developed palpi which are angled laterally. Head and thorax with a central ridge. Eyes small, ciliated, the slender antenna with a long terminal hook. The feeble spines of the posterior tergite-margins not in one row. Distal margin of forewing irregularly lobately dentate.

Type: *A. carinata* Wkr.

carinata. **A. carinata** Wkr. (= *chloroptera* Bsd., *philampeloides* Fldr., *orophilos* Bsd.) (98 A e) belongs to the two species with black abdominal bands, though mostly only 2 or 3 basal ones are visible, the others being covered underneath the segments which are pushed one above the other. Forewing olive brown with a straightly cut off oblique light reddish-brown apical part and a similar median band behind the discal dot; hindwing light reddish-yellow with a black apical part and median band. The dark dentate transverse lines of the ♂ are not present in the ♀, but there are only traces of 2 straight lines, one being submedian, the other postdiscal. From British Honduras to Bolivia and Rio de Janeiro.

ypanemae. **A. ypanemae** Bsd. is similar to *carinata*, but the abdomen is without black bands. Unmistakable on the forewing by the triangular white hyaline spot being situated in the angle between vein 6 and 7

behind which a linear white spot follows. Hindwing reddish-brown with an irregularly dentate olive brown margin. A rare species from Brazil (Petropolis).

A. cymographum R. & J. (98 A e) has the same black abdominal bands as *carinata* from which it differs in much less angular palpi and an undulated distinct white line bordering proximad on the lighter apical portion which extends angled, not retilinearly proximad. Bolivia (Rio Songo).

A. chloroptera Perty (= *disis* Bsd., *smerinthoides* Bsd.) (98 A e). Hindwing with a lobately projecting costal-marginal portion, especially in the ♂. Abdomen without black bands. Forewing monotonously dirty green which very quickly turns loamy ochreous brown or reddish-brown, with indistinct darker transverse lines, without the light apical portion. Hindwing somewhat diaphanous greenish ochreous with a broad black marginal band. Nearagua to South Brazil and Argentina.

A. prominens Wkr. (= *carinatum* Bsd., *chloroptera* Burm., *promiscus* Burm., *pudens* Bsd., *smerinthoides* Fldr.) (98 A f) is very near to *chloroptera*, but easily discernible by the shape of the wings, the forewing exhibiting a larger rounded lobe on vein 3, which is merely an insignificant dent in *chloroptera*; a whitish scaled spot subapically at the costal margin, and a similar submarginal one in the centre of the distal margin. The marginal band of the hindwing is somewhat dentate, and a deep indenture is before the anal angle. Brazil (Amazons; Petropolis).

A. iphis Wkr. (= *scriptor* Fldr., *volatica* Clem.) (98 A f) is a lighter, more variegated species, light reddish ochreous with a narrow dark median band of the forewing, composed of 4 black lines and bordered basad by 2 white lines. Forewing beneath with a large bright red-brown discal spot extending below the cell towards the base. Base of abdomen with a distinct white belt, the following segment browner than the others. Mexico to South Brazil. The larva — which, however, may also belong to the next species — is green or brown with red subdorsal lines and oblique stripes coherent with them, with red dorsal markings and red pectoral feet. It lives on *Davilla* (Dilleniaceae).

A. neglectum R. & J. (= *iphis* auct. part.) (98 A f) is extraordinarily similar to *iphis* and often confounded with it. It constantly differs in but 1 white line bordering proximad on the median band which contains very much less distinct black lines. The white abdominal segment is very narrow, the next segment not browner than the rest. The discal spot on the forewing beneath is almost black and much smaller than in *iphis*. Mexico to Bolivia and South Brazil.

40. Genus: **Enyo** Hbn.

Very near to the genus *Aleuron* anatomically, from which it only differs in the spined tibiae.

Type: *E. japix* Cr.

E. japix Cr. (= *japix* Wkr.) (98 e) is a smaller species, light olive brownish with a dark brown median band which is straightly bordered proximad and deeply indented distally below the costal margin and submedianly. A large trapezoid dark subanal spot at the distal margin. Hindwing blackish-brown, marked light near the anal angle. A narrow white belt at the base of the abdomen. The nomenclatural type is the northern form with a broader median band, especially towards the inner margin, projecting distally more rounded in the disc. Mexico to the Amazons and Bolivia. — **discrepans** Wkr. (= *japix* Btlr., *succinetus* Fldr., *japix* Bönnigh.), from South Brazil, shows a narrower median band at the inner margin, projecting with a sharper angle in the centre distally, the dark anal spot is larger. Espiritu Santo to Sa. Catharina. Larva green with a brown ventral side, or quite brown with brown subdorsal lines and oblique stripes and a very short horn; it lives on *Davilla rugosa*.

E. pronö Drc. (= *variegata* Roths.) (98 f) is larger than *japix*, more variegated, the deep dark triangular costal-marginal spot is isolated, the median area not much darker olive than the rest of the wing and not straightly defined inside, but by somewhat undulate lines; a round black discal dot at the cell-end, the anal portion of the distal margin contrasts very dark with the apical portion. Hindwing semi-diaphanous with a broad blackish-brown marginal band. Abdomen without the white basal belt. Honduras to Bolivia and Pará. — **fuscatus** R. & J. is the southern form from Sa. Catharina; the hindwing only shows a diaphanous stripe in the cell and one below it, the triangular costal-marginal spot of the forewing is smaller.

41. Genus: **Epistor** Bsd.

Separated from the preceding groups especially by the second palpal joint not projecting angularly distad, and the comb-like thoraeal tuft. The ♂ exhibits a tripartite anal tuft and is extraordinarily dissimilar to the ♀ both in colouring and marking. The species are divided into two sections according to the presence or absence of a subcostal fold filled with small white scent-seales and woolly hair on the forewing.

Type: *E. lugubris* L.

Section I: Forewing of ♂ without a subcostal fold.

lugubris. **E. lugubris** L. (= fegus *Mén.*, fegeus *Cr.*, luctuosus *Bsd.*, lugubus *Bönnigh.*, phegeus *Hbn.*) (98 A f). ♂ above blackish-brown with a purple reflection, a small distinct black discal spot in a reddish-yellow ring, and an oblique double antemedian line which is filled with light reddish-yellow; more or less distinctly reddish-yellow are also the veins in the postdiscal area, which look dotted dark, as they are interrupted by several undulated dark transverse lines; dark spots at the costal margin in the basal half and subapically. The ♀ shows a lighter brown ground-colour, it lacks the basal dark costal-marginal spot, and the discal dot has a more extensive light ring behind which there is an oblique dark area. — **latipennis** R. & J., from Jamaica, differs in the broader wings and less produced apex, the disc of the forewing is more variegated, the postmedian undulate lines are more distinct and darker. The nomenclatural type has a very wide range from Massachusetts to Paraguay and South Brazil, also in the West Indies. Larva green or pink, with light dorsal and subdorsal lines as well as light oblique lateral stripes bordered darker above; large black spots may occasionally occur between the latter. It lives on vine and *Cissus*.

ocypete. **E. ocypete** L. (= camertus *Cr.*, daunus *Cr.*, lugubris *Willgr.*) (98 A g). The ♂ is at once discernible by the very dark purple blackish-brown wings with a glaringly contrasting yellowish-white inner-marginal pad of the hindwing. The darker marbled forewing only shows the treble light oblique antemedian line and a lighter narrowly crescentiform marginal spot and the inconspicuous discal dot surrounded by reddish yellow. The ♀ is lighter brown, otherwise similar to that of *lugubris*, but the distinct and more oblique antemedian line is bordered with dark distally as far as the inner margin; the discal spot is situate in a light slate-blue spot in which the veins are prominently lighter. the marginal crescent is lighter reddish-brown, the second abdominal segment bears a dark brown belt. Mexico to Paraguay and South Brazil; Cuba, Haiti, Jamaica. Larva very similar to that of *lugubris*, but more intensely granulated white or yellow, the oblique stripes of a purer white. It lives on *Cissus sicyoides* and *Davilla rugosa*.

boisduvalii. **E. boisduvalii** *Obth.* (= camertus *Bsd.* part.) is unknown to me; founded upon 2 ♂♂ from the Coll. BOISDUVAL. In contrast with *ocypete* the mesothorax is lighter than the head and prothorax; the abdomen exhibits a light grey dorsal line between 2 dark brown lines; the 4 wings exhibit a slightly undulated velvety black oblique line extending from the costal margin of the forewing to the anal angle of the hindwing and touching the discal spot which is situate between two black parallel lines; excepting a dark brown costal spot, the antemedian area is light reddish ochreous like the marginal crescent. Patria not mentioned.

Section II: Forewing of ♂ with a subcostal fold.

gorgon. **E. gorgon** *Cr.* (= lyctus *Hbn.*) (98 A g). The ♂ has a very broad subcostal fold extending to the lower margin of the cell. Forewing chocolate brown, deep dark brown below the cell, in a triangular spot behind it and in an apical spot. The ♀ is light reddish brown, partly with a lilac tint, a deep dark brown area thrice angled below in the upper two thirds of the postmedian area in which the large, contrastingly light round discal spot is situate. Mexico to South Brazil, absent in the West Indies. Larva also similar to the two preceding species, with a darker bluish-green dorsum and a dark brown horn and marking on the anal segment, the 4th segment more widened laterally; on *Cissus sicyoides*.

taedium. **E. taedium** *Schs.* is very similar to *gorgon*, but the scent-organ i. e. the subcostal fold of the forewing is much narrower, whereby the costal margin is less convex; distinguished by the more olive brownish ground-colour lacking the dark postdiscal triangular spots; the lower discocellular vein of the forewing is half the length of the distance between the veins 3 and 4. The ♀ is almost exactly like that of *gorgon*, but distinguished by narrower forewings with a more distinctly bent distal margin, a darker ground-colour and the distal margin of the forewing beneath exhibiting a whitish-grey diffuse band. Mexico to Colombia. — In **australis** R. & J. (= lyctus *Wkr.*, *gorgon* *Bltr.*), from Brazil and Venezuela, the lower discocellular vein is shorter than $\frac{1}{3}$ of the distance between 3 and 4; the light marginal crescent is lighter and clearer, the veins in it not striped brown.

bathus. **E. bathus** *Rothsch.* is darker brown than *gorgon* and *taedium*, the abdomen not clothed with woolly scales. Forewing dark brown, the dark shadow below along the fold is confluent with the large triangular discal spot which is larger than in *gorgon*; the dark brown apical spot is broader and shorter than in the allies, the crescentiform light marginal band is narrower. Hindwing less brown; anal angle more produced. Peru and Bolivia.

cavifer. **E. cavifer** R. & J. (= *gorgon* *Bltr.*, lyctus *H.-S.*) (98 A g) has the same narrow shape of the subcostal fold as *taedium*, but it is much darker, of a purple blackish-brown colour, with single bluish-white markings and veins, particularly in the anal area of the forewing; a large triangular area in the distal half of the costal margin as far as the anal angle, distally bordered by the light marginal crescent, is deep dark brown like a spot below the median; a deep oval concavity is near the base of the forewing. Larva like those of the preceding species, but more slender, the subdorsal line undulated, with large light reddish-brown spots between the oblique stripes, bordered above by dark brown. Bred from the egg on *Cissus sicyoides* by MILES MOSS. Panama to Bolivia and Brazil.

42. Genus: **Pachygonia** Fldr.

Distinguished from *Epistor* by the absence of the thoracal comb and by the posterior tibiae being long-scaled dorsally and ventrally, whereby they appear to be flatly compressed. Excepting this latter peculiarity it is also closely allied with *Perigonia* and *Nyceryx*. 5 species:

Type: *P. subhamata* Wkr.

P. subhamata Wkr. (= *caliginosa* Bsd., *gigantea* Schauf., *grandis* Bsd., *nimerod* Bsd., *subtramata* ^{sub-}*Bönningh.*) (98 B a). Forewing dark red-brown with numerous dark transverse lines; a distinct loamy grey ^{hamata.} crescentiform marginal spot below the apex. In distinction with the very similar *caliginosa*, the distal margin is concave below the apex, another concavity is below it between 7 and 5. Hindwing red-brown basally, black distally with dull ochreous bands, occasionally with a reddish tint. Mexico to Brazil and Paraguay. Larva unknown.

P. caliginosa Bsd. (= *subhamata* Wkr.) (98 B a) is exactly like *subhamata* in colour and marking, but *caliginosa.* it has a pointed apex of the forewing and a convex, not concave, distal margin. The under surface is lighter. Central and South America.

P. hopfferi Stgr. (98 B a) is similar to *subhamata* in the shape of the wings, but the forewings are much *hopfferi.* darker brown, so that the transverse markings are much less distinct, the crescentiform light marginal spot below the apex is absent, and the bands of the hindwing are bright carmine. Panama to Bolivia.

P. drucei R. & J. (= *hopfferi* Ky.) (98 D a) differs in the same way from *hopfferi* as *caliginosa* from *drucei.* *subhamata*, i. e. the apex of the forewing is pointed, the distal margin not concave; the light discal spot is larger, the crescentiform light marginal spot below the apex is very distinct; anal angle with whitish scales; the red bands of the hindwing are broader. Panama, Honduras.

P. ribbei Drc. (98 D a) is at once discernible from all the preceding species by the reddish bands of the *ribbei.* hindwing being only represented by rudimentary streaks at the anal angle. Distal margin of forewing dentate. Panama. — **peruviana** Joicey & Talbot is much darker brown above, especially the hindwing, on which the two *peruviana.* light anal streaks are more distinctly marked. Under surface of a more ochreous colour. From the Upper Marañon (Peru), at an altitude of 1000 ft.

43. Genus: **Himantoides** Btlr.

Very near to the preceding genus which it resembles in the peculiar laterally compressed scaling of the posterior tibiae and of the first tarsal joint. Chiefly separated by the anal angle of the forewing not being bent downwards and backwards as in *Pachygonia*, but ending obtusely rounded. Only 1 species:

H. undata Wkr. (98 B a) is a smaller species, forewing brown with a white, black-edged stigma and *undata.* several black transverse bands; the median area enclosed by them is mostly dusted with white towards the inner margin, more blackish-brown towards the costal margin. Hindwing orange with a black base and marginal band. Jamaica. Nothing is known of the life-habits.

44. Genus: **Cautethia** Grt.

Distinguished from the otherwise similarly built *Himantoides* by the shorter antennae and normally scaled posterior tibiae.

Type: *C. noctuiformis* Wkr.

C. spuria Bsd. (98 B a) is the largest species, marked almost exactly like the following *yucatana*, but *spuria.* darker blackish-grey, the basal area still somewhat darker like the band extending from the centre of the costal margin to the anal angle. Hindwing somewhat lighter yellow with a broader marginal band. Genitally different from the following species. Hitherto only known from Mexico.

C. yucatana Clark (98 B a) is the most closely allied to *spuria*, but considerably smaller; forewing of *yucatana.* the same smoke-grey colouring and the hindwing just as light yellow, whereas *grotei* and *noctuiformis* have yellowish orange hindwings; the black marginal band of the hindwing extends to the cell; markings of forewing less prominent, basal area much lighter; a dark band extends from the anal angle obliquely basad to the first third of the costal margin, as in *noctuiformis*. Length of forewing: 16 mm. According to 1 ♀ from Yucatan (Izamal).

C. grotei Edw. (98 B a) is smaller and very much lighter silvery grey than the preceding species; basal *grotei.* area scarcely darkened, distally defined by double transverse lines, a black discal streak at the cell-end; post-

discal lines strongly notched, a black spot above the anal angle, another notched line before the margin. Hindwing orange with a black marginal band. Bahamas and Florida. The larva described by Dyar lives on the Rubiaceae Chiococca.

*noctui-
formis.*

C. noctuiformis Wkr. (= *hipparsus* Grt. & R., *grotei* Gundl.) (98 B a) is more slate-coloured, the basal area darker; a white black-ringed discal spot at the cell-end, a black transverse band behind it extends to the inner margin more vertically before the anal angle and is strongly widened at the costal margin, the marginal area much narrower. Hindwing orange with a variably broad marginal band which occasionally extends to the cell. St. Thomas; Porto Rico; Haiti; Cuba.

45. Genus: **Nyceryx** Bsd.

Very near to the following *Perigonia* from which the species chiefly differ in the dentate distal margin with a subapical concavity. Numerous, partly similar species.

Type: *N. hyposticta* Fldr.

hyposticta.

N. hyposticta Fldr. (= *vega* Bsd.) (98 B b) is the largest species of the genus, so that earlier authors ranged it with the genus *Ambulyx*. It is always easily discernible by the forewing beneath being covered with numerous reddish-yellow spots as far as the base, whilst the basal part in all the other species is without any spots. It is somewhat similar to the following *ericea* above, with some scantily scaled, semidiaphanous spots in the subterminal area. Colombia and Venezuela as far as Bolivia.

ericea.

N. ericea Drc. (= *coffea* Drc.). Forewing light greyish-brown with olive brown undulate transverse lines, the two median ones connected submedianly by a black longitudinal streak, the interior one expanded at the inner margin into a brown triangle; a brown postmedian oblique band from the centre of the costal margin to the anal angle, behind which there is a series of 3 or 4 small white-scaled hyaline spots distally bordered with black; a black crescent below the apex; discal spot scaled white. Hindwing yellow with a black

minor.

marginal band in which there are some small white strigiform anal spots. Honduras to Colombia. — **minor** Clark (98 B b) is smaller, lighter, more silvery grey, the brown antemedian inner-marginal triangle is absent; behind the brown oblique band there is but one small hyaline luna, the others being merely traceable; the black apical luna is narrower; discal spot light brown, not white. The hindwing exhibits a yellow spot instead of the white anal streaks. Brazil (Sa. Catharina).

lunaris.

N. lunaris Jord. is still much larger than *ericea*, hindwing rusty red, not yellow, with a postmedian row of white dots. Forewing of a much warmer colouring and longer shape, with an obliquely truncate apex, without the dent on vein 5, the angle on vein 4 projects less, and the dents on 2 and 3 are very insignificant; 2 discal dots at the cell-end, the blackish-brown marginal area is bordered by a black centrally angled line as far as the anal angle. From Macas (Ecuador).

coffea.

N. coffea Wkr. (= *abboti* Schauf., *boisduvali* Btlr.) (98 B b) is a large strong species, violettish-brown with deeper purple brown transverse markings which are condensed in the median area, forming a band that is widened at the inner margin; a small white-edged discal spot is in the upper cell-angle. Hindwing very well characterized by a black transverse band extending from the anal portion of the broad marginal band to the basal part of the costal margin. Honduras to Rio de Janeiro.

magna.

N. magna Fldr. (98 B c) is somewhat similar to *coffea*, but the hindwing is of a much deeper orange red colour in the costal part and it lacks the black transverse band. Forewing more bluish black, the blackish-brown median band is rather broader at the costal margin than at the inner margin. An apparently rare species from Peru and Ecuador.

tacita.

N. tacita Drc. (98 B b) and the following *eximia* are easily discernible by the forewing beneath being reddish-yellow as far as the base and by the strikingly white marginal fringe of the ventral side of the anal segment of the abdomen. Forewing brown, frequently with an ochreous tint, profusely strewn with silvery bluish scales between the transverse lines; a large brown spot in the centre of the inner margin extends upwards to the cell and at the inner margin basally narrowed to the base. From Mexico to Bolivia. As to the differences from *eximia* cf. the following species.

eximia.

N. eximia R. & J. (= *tacita* R. & J. part.) is very similar to *tacita* in structure and colouring, but it has a different genital apparatus. The dark spot on the forewing above of *tacita* is proximally defined by a distinct straight grey line ending near the upper one of the black cell-apex dots; the forewing of *eximia* is more violettish-brown and the dark spot is extended towards the base with a curved interior edge; the whitish-grey lines are more irregular than in *tacita*; the oblique postdiscal line which extends from the costal margin to the distal margin is less straight than in *tacita*; the whitish-grey curved submarginal line extending from the brown apical spot to the middle distal-marginal dent shows a very distinct white dot in *tacita*, whilst it is absent in *eximia*. The ochreous area of the hindwing is much more extensive than in *tacita*, the dark marginal band at the subcostal vein 3 mm broad at most, 5—6 mm in *tacita*. The under surface is of a brighter colouring in *eximia* and therefore contrasts more with the marginal band than in *tacita*. The white dots on the abdominal sides are larger than in *tacita*. Described from Panama (Chiriqui).

N. maxwelli *Rothsch.* (= *stuarti* *Rothsch.*) (98 B c) is very closely allied to *continua*, but much larger. *maxwelli*. A variegated species with red-brown markings on the light lilac-brownish ground; the red-brown inner-marginal spot does not extend above to the cell and is black especially at the upper end. Apex of hindwing not black but red-brown. Tegulae edged with white; palpus with a distinct white spot. Only few specimens are known hitherto. Peru; Ecuador; Bolivia; Sa. Catharina.

N. nictitans *Bsd.* (= *subaurea* *Köhler*) (98 B c) is similarly coloured above as *tacita*, but at once *nictitans*. discernible by the forewing beneath being dark brown in the basal part and by two distinct dark brown fine longitudinal lines on the ventral side of the abdomen. Hindwing very dark reddish-ochreous, almost rusty brown with 2 more or less distinct median lines ending in a large spot towards the inner margin. Forewing with a small discal spot bordered with white scales on the interior side. South Brazil (Rio de Janeiro to Rio Grande do Sul). — **saturata** *R. & J.* is the Peruvian form of a much deeper ground-colour, but with less reddish- *saturata*. yellow hindwings. Forewing more lobate at the distal margin. The two reddish-yellow postdiscal spots beneath are traversed by brown undulations and much smaller. — **bryki** *Gehlen* is founded upon a specimen from *bryki*. Chanchamayo, which is intensely marked rusty red instead of blackish-brown.

N. continua *Wkr.* (= *distans* *Bsd.*) (98 B c) is a smaller variegated species which is at once separable *continua*. from the otherwise similar *maxwelli* by its smaller size and the entirely black marginal band of the hindwing. The basal costal-marginal area of the forewing is without distinct linear markings. The oblique antemedian band is filled with black; stigma rather large. Hindwing yellow as far as the inner margin. Brazil (Espírito Santo to Parana). — **cratera** *R. & J.* (*maxwelli* *R. & J.* part.), owing to its larger size, is still more similar to *cratera*. *maxwelli*. The upper surface of the body and wings is of a greyer colour, the marginal band of the hindwing is broader and less distinctly defined, and it extends before the orange inner margin to the base; a brown spot below the cell-end and a few more spots behind it. Peru, Bolivia (Rio Songo).

N. alophus *Bsd.* (= *nephus* *Bönnigh.*) is similar to *continua*. Prothorax and mesothorax browner, *alophus*. tegulae not so purely white-edged. Forewing more variegated owing to more distinct linear marking; stigma narrow and oblong; a blackish subbasal band. The nomenclatural type from Brazil. Bahia to Parana, is the darker form showing the antemedian band filled with black. — **ixion** *Burm.* (= *nephus* *Burm.*) (98 B c) is a *ixion*. lighter form in which the antemedian band is not filled with black. Bolivia, Paraguay and Argentina.

N. nephus *Bsd.* Only the typical specimen is known of this species. Coloured very much like *alophus*, *nephus*. but the upper surface shows a broader marginal band of the hindwing. The disc of the forewing beneath is ochreous, traversed by distinct crescentiform lines in the distal part of the costal margin. Genital apparatus different. Brazil.

N. riscus *Schs.* (= *creusa* *Rothsch.*) (98 B d) is a more common species, similar to *stuarti*, but much *riscus*. smaller and with an excavated forewing below the apex. Ground-colour of forewing light reddish-brown with a slaty blackish marginal band defined inside by a deep dark brown arcuate band. Mexico to Bolivia and Brazil (S. Paulo).

N. stuarti *Rothsch.* (= *riscus* *Drc.*) (98 B d) is much larger than *riscus* with darker forewings which are *stuarti*. truncate below the apex and not excavated; the postdiscal linear markings are more bent below the costal margin. The yellow on the hindwing is more reduced. Peru and Bolivia.

N. draudti *Gehlen* (98 C e) is very similar to *stuarti*, but larger and it has broader forewings; ground- *draudti*. colour greyer, not so reddish-brown, metathorax with 2 red-brown hair-tufts. The distal margin of the forewing is more sharply dentate, the apex distinctly concave; the black marginal band is straight, not curved, and proximally accompanied by another feebler parallel line, a greyish-white stripe distally to the marginal band; the other marking is more reduced than in *stuarti*. Hindwing more extensively yellow and the dark brown tints more greyish-black. Length of forewing: 34 mm. Shanusi (Peru, at the sources of the Amazon R.).

N. mülleri *Clark* (98 B d). Near *clarki* *Fassl.* but smaller. Light brown above with a dark brown marking, *mülleri*. without any silvery grey; with a large triangular dark brown inner marginal spot, 3 undulate lines behind it; distal margin similar to that of *eximia*, but more notched in the centre of the margin and at the anal angle. A straight dark brown longitudinal shadow extends from the upper cell-angle to the centre of the margin. Hindwing dark brown with an orange costal-marginal area, with bluish-white scales in the anal area and undulate submarginal lines. Orizaba (Mexico).

N. clarki *Fassl.* Antennae brown, similar to *stuarti*, head, thorax and abdomen lighter than in *coffaeae*. *clarki*. Marking between *coffaeae* and *maxwelli*. Hindwing with a narrow ochreous longitudinal area at the costal margin, which, however, is half as narrow as in *stuarti*; the other marking towards the anal angle similar to *maxwelli*, but more distinct and extending farther in front. Similar to *coffaeae* beneath, but without bluish-grey marginal areas and turning somewhat olive green especially towards the base. Expanse of wings: 60 mm. Bolivia (Rio Songo), at an altitude of 750 m.

46. Genus: **Perigonía** H.-Schäff.

Like *Nyceryx*, but with a non-dentate margin and pointed apex, not excavated below it. Palpi strong, rounded, hindhead with a feebly parted tuft; antenna slender with a short terminal hook. Posterior margin of the abdominal segments with 3 or 4 rows of strong spines. Anal tuft of ♀ truncate, of ♂ with a prolonged middle part. About 10 mostly tropical species.

Type: *P. stulta* H.-S.

- divisa*. **P. divisa** Grt. & R. (98 B h) is an apparently very rare species from Cuba, easily discernible by a distinct white line extending obliquely from the apex of the forewing inwards; behind the centre there is a straight black discal band edged with yellowish-white. The yellow colour on the hindwing extends to the base.
- grisea*. **P. grisea** R. & J. By the sharp dent in the centre of the margin and at the anal angle it almost resembles a *Nyceryx*, but the apex of the wing is pointed. Body and wings grey, forewing with a straight antemedian line, a small cellular dot and a postmedian line which is twice almost rectangularly broken. A straight line extends from the last fifth of the costal margin to the distal margin at the end of vein 3 and is continued along the margin to the anal angle; all these markings are blackish olive. Hindwing yellow almost to the base as in *stulta*, a yellow distal spot also at the inner margin; marginal area grey. Peru; Bolivia.
- pallida*. **P. pallida** R. & J. (98 B d) is very similar to *stulta*, but lighter and with narrower wings, distal margin more broadly rounded in the centre; immediately discernible from *stulta* by a white lateral line on the first palpal joint. Hindwing with a narrower brown margin, the disc deeper yellow. Venezuela and Argentina.
- thayeri*. **P. thayeri** Clark is allied with *pallida*; apex and anal angle of forewing less pointed, distal margin less convex in the centre; colouring very similar, the dark apical line more prominent like the stigma, the markings more contrasting. Under surface lighter, distal band darker. The yellow on the hindwing is less extensive. Length of forewing: 32 mm. St. Vincent.
- stulta*. **P. stulta** H.-Schäff. (= *lusca* Wkr.) (98 B d) varies in the intensity of the grey admixture in the brown colour of the wings; a crescentiform subapical darkening is situated at the distal margin, bordered inwards by a triangular light costal-marginal blotch. Hindwing extensively yellow to the base. Guatemala to Bolivia and Rio de Janeiro. Larva unknown.
- leucopus*. **P. leucopus** R. & J. is very near to *stulta*. Body above reddish-grey, abdominal sides with a series of obsolete grey spots. Shape of wings and markings as in *stulta*, upper surface dusted with reddish grey, the brown lines are therefore somewhat more prominent, the antemedian line is less regular; a crescentiform grey spot at the margin between the apex and the centre; apex of the wing somewhat sharper than in *stulta*. The brown distal margin of the hindwing is narrowed towards the costal margin. From Cuyaba, Matto Grosso.
- lusca*. **P. lusca** Fabr. is a most variable species and all the forms described are connected by transitions so that it is sometimes almost impossible to separate the single forms. The antemedian band of the forewing is not distinctly defined towards the margin, but faded. The yellow band of the hindwing does not extend to the base, it is generally very narrow, frequently quite obsolete. The 5th abdominal segment is mostly scaled grey. The various forms, like *lefebrai* and *jamaicensis*, do not differ genitally, so that it cannot be decided which is a species and which a form. In the nomenclatural type the blackish submarginal line is uniformly bent and not angled, the antemedian dark band is proximally bordered with a very light colour like the disc, too. A smaller form with a yellow anal spot of the hindwing, from Cuba. The inner margin of the hindwing beneath is extensively yellow. — **passerina** Bsd. (= *lusca* Burm.) is a small form, length of forewing 25 mm at most, margin of forewing obtusely angled in the centre, submarginal line irregular, extinct towards the inner margin. The yellow anal spot of the forewing is large above, absent beneath. This is the form from Matto Grosso, Paraguay and Bolivia. — **ilus** Bsd. (98 B d) is larger, the submarginal line also irregular towards the inner margin. The yellow band of the hindwing is narrower than in *passerina*, the inner-marginal area on the hindwing beneath yellow, not so in *passerina*. Both wings beneath extensively rusty reddish-brown, more olive in *passerina*. — **interrupta** Wkr. (= *lusca* Wkr. part., *doto* Schauf., *restituta* Drc.) (98 B e) has somewhat longer forewings, less convex in the centre of the margin; the black submarginal line is more regularly bent and more remote from the margin. The yellow band of the hindwing is narrower than in *ilus*, extending to vein 2; the yellow anal spot above is more or less distinct, absent beneath. Mexico to Bolivia and Peru. — **bahamensis** Clark (98 B h) is much larger, the light grey tints in the basal area, behind the postmedian line and at the distal margin show a distinct bluish tinge, otherwise very similar to *interrupta*. Bahamas. — **restituta** Wkr. (= *lusca* Wkr. part., *affinis* Schauf.) (98 B e) differs from *interrupta* in the much narrower yellow band of the hindwing, the yellow anal spot being almost or quite absent. Mexico to the Amazons. — **tenebrosa** Fldr. (= *restituta* Roths.) (98 B e) lacks all the yellow colour on the hindwing; Venezuela to the Amazons. — **major** Clark is very similar to *tenebrosa*, the yellow is quite absent in the ♀, only traceable in the ♂.

The ground-colour is darker above and beneath. A large, well marked form from St. Vincent, Guadelupe and Dominica. — Moss describes the larva of the form *restituta* to be whitish or apple-green with a narrow white median stripe and 7 oblique white lateral stripes bordered above with dark green, often also yet with black: head and horn bluish-green. When alarmed the front body is raised and 2 or 3 large black and yellow moon-spots are visible on the ventral side of the segments. It lives on Rubiaceae such as *Ourouparia guianensis*, but mostly on *Coffea arabica* and *liberica*.

P. lefebraei *Luc.* (= *lefebvrei* *H.-Schäff.*) (98 B e). Very similar to *lusca lusca* and with the same genital *lefebraei*. apparatus, the dark antemedian band of the forewing is rudimentary, and the hindwing lacks the yellow inner-marginal spot. Larva not described, according to GUNDLACH it also lives on Rubiaceae. Cuba; Haiti.

P. jamaicensis *Rothsch.* likewise resembles *lusca* and its genital apparatus is neither very different, only *jamaicensis*. the elasper is broader. It chiefly differs in a large yellow discal spot on the forewing beneath. Jamaica.

P. glaucescens *Wkr.*, only known from a single type, resembles the form *tenebrosa* of *lusca*. Thorax *glaucescens*. greenish-yellow above, the 5th and 6th abdominal segments spotted white laterally, ventral side lighter than in *tenebrosa*. Forewing with a broad antemedian band distinctly defined on both sides; the brown submarginal line is regularly bent and begins 2 mm distant from the apex at the costal margin. Hindwing without a yellow band, with a reddish-yellow submarginal spot at the anal angle. Haiti.

47. Genus: **Eupyrrhoglossum** *Grt.*

Structure exactly like that of *Sesia*, but veins 7 and 8 of forewing are not fused at the ends. Only 2 species:

Type: *E. sagra* *Poey*.

E. sagra *Poey* (= *harpyia* *Schauf.*) (98 B e) is a most characteristic species; body mouse-coloured above, *sagra*. brown laterally, abdomen with a brown dorsal line. Forewing brown with black markings and a white hyaline spot before the centre of the margin in the black submarginal band which begins about 8 mm before the apex and is sharply broken in the upper third. Hindwing jet-black with a uniformly narrow straight yellow transverse band and yellow fringe. Mexico to Rio Grande do Sul and Cuba. — Larva, according to Moss, brown, dorsally more pinkish-brown, with a darker brown dorsal line and similar 7 oblique stripes on the rings 8—11 with emerald-green spots below them; the black horn is very coarsely granulated. It lives on *Sabicea aspera* (Rubiaceae.)

E. corvus *Bsd.* (= *eculus* *Btlr.*) (98 B f) is much more like a *Perigonias* with very slender and narrow *corvus*. wings. Forewing brown with darker transverse markings and a feebly and regularly bent submarginal band. Hindwing yellow with a black base and marginal band. Nicaragua to Bolivia. Moss presumes the larva to be very similar to that of *sagra*, but green, on Rubiaceae, but it did not develop.

E. venustum *R. & J.* is near *corvus*, but easily separable from it by the broader and much lighter *venustum*. greenish yellow band of the hindwing, by the light maize-coloured pectoral side of the thorax, and by numerous blackish-brown lines on the forewing above. Thorax blackish-brown with 2 lead-coloured stripes. Forewing narrower and longer than in *sagra*, blackish brown, with a leaden gloss between the transverse lines, with 7 antemedian and 5 postmedian blackish brown lines, the latter lines somewhat dentate, in a feeble S-curve, the 5th line being broadest, united with a submarginal line before vein 4 and extending together to the anal angle. Length of forewing: 31 mm. Rio Madeira (Amazons).

48. Genus: **Sesia** *Fabr.*

Head broad, palpi with a short point. Antenna scarcely thickened towards the apex, with a slender terminal hook. Margins of wings entire; the veins 7 and 8 of the forewing are fused at the ends. The genus contains 5 species with a relatively very strong body, anal end with a strong fan-like tail and with relatively narrow and small, though very strong wings. Only American.

Type: *S. tantalus* *L.*

S. ceculus *Cr.* (98 B f) and the following *gehleni* are the only species with a yellow band of the *eculus*. hindwing. Forewing dark brown with a darker basal half and several dark submarginal bands, often with a narrow hyaline subterminal spot which may also be just as often absent. Hindwing black with a narrow orange band widening analwards. Abdomen spotted orange laterally. Mexico to Bolivia and South Brazil. Moss has

described the larva, it lives on the two Rubiaceae: *Oourouparia guianensis* and *Sabicea aspera*, and on each of them in an entirely different form adapted to the plant. The form living on *Oourouparia* is bluish-green, dorsally whitish with 7 white lateral stripes, the first and last of which are broader and whiter; the form living on *Sabicea* is more yellowish-green with chestnut-red lateral stripes and dorsal line and an undulated subdorsal stripe on the first to third segments.

gehleni. **S. gehleni** Closs which is doubtfully regarded as a species is described as follows: closely allied with *cecylus* Cr., the yellow lateral spot on the abdomen only extends to one segment; the dark postdiscal band of the forewing above extends from the costal margin like a wedge with straight margins, not curved; the apical area of the forewing beneath shows a rusty brown, triangular, sharply defined costal-marginal spot followed by a rusty brown rectangular spot which is somewhat faded downwards. Rio Songo, Bolivia. According to GEHLEN it may be only a form of *cecylus*.

blaini. **S. blaini** H.-Schäff. (= *acdon* Bsd.) is a smaller rare species from the West Indies. Forewing black with a whitish hyaline macular stripe; hindwing quite black. Tegulae light-edged inside. Abdomen, contrary to the following species, without a white transverse band on the 4th segment, intensely intermixed with olive yellow. Cuba; Jamaica; Porto Rico.

tantalus. **S. tantalus** L. (= *ixion* L., *sisypus* Burm., *titan* Burm.) (98 B g) is the smallest of the 3 similar following species; well discernible by the traceable or absent light brownish median band of the forewing, composed of 2 or 3 undulate transverse lines, without distinct white spots or only with a very small one; there are always only 3 small white subterminal hyaline spots, the uppermost being the largest and often bipartite. Hindwing without a white anal spot. The ♂ occasionally shows a short yellowish discal band on the hindwing. The nomenclatural form flies from Surinam and Venezuela to Argentina. — **zonata** Dru. (= *terpunctata* Goeze, *tantalus* Wkr., *tripuncta* Btlr.) is very little different, the white subterminal spots are reduced in size and number. Slight genital differences. — **eumelas** Jord. is a special insular form from Jamaica, similar to the Mexican form, jet-black above, head and thorax greenish; palpi white below, pectus creamy whitish like the bases of the wings beneath, sharply contrasting with the abdomen which is not grey at the base and also scarcely shows grey median lines. — **clavipes** R. & J. (= *tantalus* Grt., *Edw.*), from Mexico and Central America, also occurs as an alpine form in the South-American Andes to the south as far as Tucuman. Generally somewhat larger than *eumelas*, the disc of the forewing occasionally with a small white dot. As the structure of the anterior tarsus differs somewhat from that of *eumelas*, JORDAN regards this form now as a distinct species; also slight genital differences. Larva unknown.

titan. **S. titan** Cr. (= *fadus* Btlr., *tantalus* Wkr.) (98 B f) is very near to the following species, but differs in the following marks: there are 4 or 5 small white hyaline spots on the forewing, which are not parted; hindwing more extensively and densely scaled white. The ♂ exhibits 2 thick black scale-tufts on the anterior leg, one at the end of the femur, the second at the end of the tibia. Widely distributed in the whole neotropical region, occasionally it also passes over to North America. — The larva resembles so much that of *fadus* that it is difficult to distinguish, the colour is somewhat more bluish-green, the dorsum more whitish, with a dark green, dorsal line and feeble oblique stripes, the first and last being broader and whiter, the last with a yellow and pink hue. A brown variety occurs, too. It lives on *Randia formosa* (Rubiaceae) and very rarely on *Genipa americana*.

fadus. **S. fadus** Cr. (= *annulosum* Swains., *balteata* Kiril., *tantalus* Wkr., *titan* Burm.) (98 B f) is like the preceding species, but invariably with 4—7 white hyaline spots which are mostly divided into 2 lunae, and without the black tufts on the anterior legs. Range the same as that of *titan*, but also in Cuba and Haiti. — The larva exactly resembles that of *titan*, but it may be somewhat more yellowish green and lives exclusively on *Genipa americana* (Rubiaceae). — **flavosignata** Closs shows a median band on the hindwing dusted yellow from the costal margin. From Blumenau.

49. Genus: **Haemorrhagia** Grt. & Rob.

It comprises the small group of *Macroglossa* which are almost uniformly represented in the northern latitudes of the Old and New World, but are entirely absent in the tropics. Eyes ciliated; antenna club-shaped with a short terminal hook which is suddenly bent downwards. Abdomen with an anal tuft which can be broadly spread like a fan. Anterior tibia with a long terminal spur. Wings entirely margined, more or less hyaline in the disc, strewn with very loose scales, and with a densely scaled marginal band. Genital apparatus of a remarkably unsymmetrical structure.

Type: *H. thysbe* F.

thysbe. **H. thysbe** F. (= *etolus* Bsd., *pelagus* Cr., *ruficaudis* Ky.) (98 B g) is a large species; body olive excepting the 4th and 5th deep dark chestnut-red segments, the 6th segment mostly exhibits such a median spot, anal tuft black laterally, red-brown in the centre. Wings hyaline with a broad chestnut-red marginal band and margins, the former band projecting between the veins with pointed dents and being widened on vein 5. Basal area likewise red-brown with olive hair. The hyaline areas may vary greatly in extent. The nomenclatural form is widely distributed in the Atlantic States as far as the Mississippi. — **cimbiciformis** Stph.

(= *buffaloensis* G. & R., *floridensis* G. & R., *pyramus* Bsd., *uniformis* G. & R.) (98 B g) is the more common spring-form showing the marginal band not inwardly dentate; it flies, however, also in summer. — **fuscicaudis** Wkr. *fuscicaudis*. is another form in which all the segments, beginning from the 4th, are dark chestnut-red, almost black; these forms are connected with each other by all kinds of transitions exhibiting lateral olive green spots on the 6th and 7th segments. Margin of forewing dentate inside. *fuscicaudis* is a more southern form, the usual summer-form of the Southern States, which does not go as far as New England in the north. — Larva green with a dark dorsal line bordered with white, and yellowish subdorsal lines; ventrum with a sharply defined reddish median band. On *Viburnum*, *Symphoricarpos*, *Prunus*, *Crataegus*, and other shrubs.

H. gracilis G. & R. (= *ruficaudis* Wkr.) is a somewhat smaller and very rare species, separated from the *gracilis*. preceding species by the marginal band not being expanded on vein 5; the tiny hyaline spot in the cell-apex is not parted by the fold as in *thysbe*. Hindwing beneath with a yellowish-white spot analwards. Each side of pectus with a rusty brown horizontal stripe which is absent in all the other species. Ventrums cinnamon-red with yellowish-white central spots. Canada, New England. Larva unknown.

H. diffinis Bsd. (= *fuciformis* Abb. & Sm., *marginalis* Grt.) (98 B g). Body olive, abdomen above more *diffinis*. yellowish ochre, laterally and ventral side black, pectus whitish, legs black. Wings extensively hyaline with narrow black margins and a black base; the centre of the anal tuft in the nomenclatural form is of the same colour as the thorax and the two last segments. It is the larger summer form the distal margin of which is somewhat dentate inwards. — **tenuis** Grt. (= *fumosa* Stkr., *metathetis* Btlr., *diffinis* Beut.) is the spring form *tenuis*. the distal margin of which is not dentate, and finally — **axillaris** G. & R. (= *grotei* Btlr., *aethra* Stkr.) is an *axillaris*. autumn breed with a very strongly dentate margin. Atlantic States from Texas to Canada, in the north to the west as far as the Pacific. — **ariadne** B. & McD. (= *senta* R. & J., *rubens* Hanham) is the smaller more slender *ariadne*. race from Colorado. Legs more grey, not black, with yellow hairs on the tibiae, the margins of the wings more reddish enclosing a rusty red apical spot, the inner margin of the hindwing also enclosing a yellowish-grey area. 4th and 5th abdominal segments not with black bands. — **thetis** Bsd. (= *palpalis* Grt.) (98 B g) shows the 6th *thetis*. and 7th abdominal segments light above, generally also the centre of the 5th segment. Hind tibiae with a light hair-tuft at the base, or altogether light-haired. — **rubens** Edw. is the larger summer-form of it with distinctly *rubens*. red-brown margins of the wings. — **cynoglossum** Edw. has quite black hind tibiae and black 4th and 5th ab- *cynoglossum*. dominal segments. The latter 3 forms from the Pacific States, British Columbia to Arizona. — Larva similar to that of *thysbe*, but the dorsal line is not bordered on both sides with light but with dark, and the whole dorsal part has a brownish tinge. It lives on *Symphoricarpos*, *Lonicera*, *Apocynum*.

H. senta Stkr. (= *brucei* French) (98 B g) is very closely allied to the form *ariadne* of the preceding *senta*. species, but it constantly differs in the entirely grey ventral side and grey legs. Abdomen above somewhat more variegated. Colorado and Utah.

Subfamily: **Philampelinae.**

Tribe: *Philampelicae.*

50. Genus: **Pholus** Hbn.

About 20 large Sphingid species with stout bodies, partly very brightly coloured. Proboscis long, palpi large, rounded in front. Eyes large, not ciliated, no tuft between them. Antenna with a slender thin terminal hook. Posterior edge of the abdominal tergites with conical, very long and strong spines. Anterior hips with a strongly developed scent-organ. Larva green or brown with a very much widened 4th segment and oblique stripes extending from in front above to behind below, contrary to most of the other *Sphingidae*. The long horn is S-shaped at first and gradually becomes a roundish protuberance in the growing insect. It lives on vine and *Jussieu*.

Type: *Ph. achemon* Dru.

P. anchemolus Cr. (= *satellitica* var. *Burm.*) (98 C a) is one of the largest species, chocolate brown, in *anchemolus*. the ♂ with a faint pink hue, recognizable by the distinctly creamy white inner margin. The scheme of markings is the same in nearly all the species: an oblique dark trapezoid spot above the inner margin before the centre, dying away inwards, a triangular dark spot in the centre of the costal margin, obliquely continued to the distal margin along vein 3, and a dark preapical spot ending straightly cut off on vein 3. Hindwing greenish yellowish-grey with a light reddish anal angle, a black spot above it, and a broad blackish-brown marginal band. Under surface more or less brick-coloured reddish. — The gigantic larva is green with greenish-yellow broad oblique spots on the 9th to 11th segments, finely bordered with red-brown; small spots of the same colour are on the anterior segments. More rarely also in a claret-coloured form. It lives on *Ampelopsis* and *Cissus*. Distributed from Mexico to Argentina.

triangulum.

Ph. triangulum R. & J. (= *lycaon* Btlr., *licaon* Ky., *pandorus* Drc.) (98 b a) is very similar, but of a more sepia-brown colour; the subapical costal-marginal spot is not cut off on vein 7, but it extends with a triangular point down to vein 6; the creamy white inner-marginal stripe is almost entirely absent; the distinctly undulated transverse lines are very prominent. Hindwing with a very thick median spot. Mexico to Bolivia. Early stages unknown.

satellitica.

Ph. satellitia Dru. (= *lycaon* Maass.) resembles *triangulum*; of a most variable colouring and marking, so that a number of subspecies have been founded. Recognizable by the double cell-end spot and the fine reddish inner-marginal stripe of the forewing, the anal part of the hindwing mostly showing a red tinge, the trapezoid spot before the centre of the inner margin of the forewing is well defined also inwards. In the nomenclatural form from Jamaica the forewing is suffused with pink, the ♀ is more whitish-grey than continental specimens.

pandorus.

— **pandorus** Hbn. (= *satellitica* Harris, *ampelophaga* Wkr.) (98 C a) is the North American form with a more olive green ground-colour; the inner-marginal area from the base to the trapezoid spot is almost just as dark green as the latter itself, veins 2 and 3 are of a distinct reddish flesh-colour. Disc of hindwing more bluish, the anal portion generally with a pink tint. The light dorsal stripe on the abdomen is scarcely lighter than the

intermedia.

subdorsal spots accompanying it. Canada to Georgia, to the west as far as the Mississippi. — **intermedia** Clark (98 C c) is presumably the most similar to *licaon* and *pandorus*, but without the green tinge the colour being more light grey and light brown. Hindwing basally yellowish-grey, anally with an extremely faint pink tinge.

licaon.

Gulf States, to the west as far as Texas and New Mexico. — **licaon** Cr. (*satellitica* Wkr.) (98 C b) is usually of a duller colouring, less contrastingly coloured, more brownish and never so green as North-American specimens, the basal inner-marginal area much lighter than the trapezoid spot. Hindwing more yellowish-grey, the anal part

analys.

scarcely pink. Mexico to North Brazil and Bolivia. — **analys** R. & J. (= *licaon* Hbn., *satellitica* Burm., *posticatus* Btlr., *lycaon* Burm.) (98 C b) resembles *licaon*, but it has a bright pink anal-angular spot of the hindwing. South

rosea.

Brazil from Espiritu Santo down to the south; Paraguay, Argentina. — **rosea** Closs refers to very light and

excessus.

reddish specimens of the *analys*-race from Brazil (Matto Grosso). — **excessus** Gehlen is the most similar to *analys*. Ground-colour of forewing brownish olive-grey, the whole obliquely cut off apical half is darker than the basal half, with hardly any bands; hindwing almost as in *posticatus*, the dark marginal band very much reduced, the

posticatus.

anal spots continued as a line. From Matto Grosso. — **posticatus** Grt. (= *satellitica* Luc., *lycaon* Grt., *licaon* Ottol.) (98 C b) is somewhat similar to the form *analys*, but the whole postdiscal area of the forewing is distinctly silvery grey like the interior border-line of the trapezoid spot. The dark margin of the hindwing is almost entirely absent, the small black subanal spots are continued as a line almost to the costal margin. Cuba;

cinnamomea.

Bahamas, Florida. — **cinnamomea** Closs is a form of the race *posticatus* suffused with a reddish-brown cinnamon-colour with an indistinct marking. From Cuba, Guantanamo. — Larva green with 5 or 6 lateral oblique spots and fine black dots, especially on the 4th segment. It turns brown shortly before the metamorphosis. It lives on Vitis and Ampelopsis.

macasensis.

Ph. macasensis Clark resembles *satellitica* and *licaon* (98 C b), but it is of a darker colouring and marking; forewing without any white or pink colour along the veins 2 and 3; ground-colour light yellowish with dark brown markings; the dark rhombic area in the centre of the inner margin is narrow and almost rectangular, the whole impression of the wing more variegated. Hindwing without any pink at the anal angle. Under surface: the two postdiscal lines are strong, the exterior one is dentate between the veins, 3 dark lines between them in both wings (being absent in *licaon*). Length of forewing: 58 mm. From Macas, Ecuador.

drucei.

Ph. drucei R. & J. (98 F g). This very rare species resembles the form *posticatus* of the preceding species (98 C b), but it is of a deeper olive colour; the light dorsal line on the abdomen is narrower, the lateral spot on the second segment and the subdorsal spot on the third are larger and of a deeper colour. The trapezoid spot at the inner margin of the forewing is triangular, the tip resting on the inner margin, the postdiscal lines are stronger and more oblique; the triangular costal-marginal shadow is indistinct and not continued to the distal margin, but a rusty yellowish shadow extends along vein 2, and the dark anal spot is prolonged to this shadow. Hindwing with a broad pink inner-marginal spot; 3 distinct black lines follow behind the large black inner-marginal spot. Hindwing beneath pink at the inner margin and in the disc, contrary to *satellitica*. Length of forewing: 40 mm. Ecuador.

neuburgeri.

Ph. Neuburgeri R. & J. This species described from 1 ♂ is much darker than all the others. Forewing with an almost falcate apex; the large inner-marginal spot is likewise triangular, and another large black spot before it at the base of the inner margin, two distinct transverse lines between these spots; discal spot absent, the small subapical costal-marginal spot is triangular; a distinct yellowish-white line extends from the lower cell-angle along vein 2 to the margin, vein 3 is also broadly yellowish-white. Hindwing light greenish-grey, the discal spot is a tiny dot, a small light spot at the anal angle, without pink, 2 narrower lines before the broad black submarginal lines. Under surface bright brick-coloured red. Length of forewing: 48 mm. Argentina, probably Tucuman.

elisa.

Ph. elisa Smyth, from Mexico, resembles small specimens of *licaon*. Forewing greyer above, without a stigma, the apex more produced; a black subbasal spot at the inner margin as in *neuburgeri*, the trapezoid spot behind it is basally prolonged on the submedian fold, lighter in the centre; inner margin not pink. Hindwing as in *satellitica*, the dark marginal band is narrow, but united with the dark inner-marginal spot. Guadalajara (Mexico). It is also allied with the following *cissi*.

Ph. cissi *Schauf.* (= *vinii* *Ky.*) (98 C c). Similar to *anchemolus* and *obliquus*. Upper surface more olive *cissi*. brownish, the trapezoid spot at the inner margin almost triangular, not very dark, two distinct zigzag lines in the light space behind it, stigma at the cell-end absent. Base of hindwing light reddish-yellow, extensive: cellular spot absent, the black inner-marginal spot not very large, an indistinct line from its lower anterior end is continued towards the costal margin; the small black anal spots forming a submarginal band extend to the costal margin. Venezuela, Peru, Bolivia.

Ph. obliquus *R. & J.* (= *satellitiae* *Bönnigh.*) (98 C c) looks very much like *anchemolus* above, but it is *obliquus*. easily recognised by the absence of the cell-end spot of the hindwing and by the 3 parallel almost straight lines in the basal area of the forewing. Ground-colour lustrous lilac grey, the dark spots sepia-brown; the trapezoid spot at the inner margin is not sharply defined inwards and extends into the dark basal part. The dark broad marginal band of the hindwing is somewhat lighter grey anally with indistinct lines and extends below the cell like a broad wedge towards the base. From Mexico to Brazil. We figure a large Mexican specimen. The larva, according to BURMEISTER, is brown with a white oblique band on the 10th segment.

Ph. eacus *Cr.* (= *megaeacus* *Hbn.*, *pandorus* *Drc.*) (98 C d). Dark olive brown, the linear markings *ecacus*. distinct and sharply undulate-dentate, but almost extinct in the light longitudinal area which is suffused with pinkish-brown or more grey and extends from the base and between the veins 2 and 3 to the margin. Hindwing greenish yellowish-grey, a black line from the upper distal end of the black inner-marginal spot almost to the costal margin, the space behind it not shaded black. — Larva light green with 6 light yellow oblique stripes bordered with red above; it lives on a *Jussieua* (*Onagraceae*). Ecuador, Guiana, and to the south as far as Sa. Catharina.

Ph. adamsi *R. & J.* (98 C d). A small species easily discernible by the almost quite pink hindwings, *adamsi*. Forewing brownish cinnamon-coloured, strewn with brown, with fine linear markings as in the following *translineatus* (98 C d) and a large black basal spot; the trapezoid spot at the inner margin is reduced to a small black triangle, the dark costal-marginal shadows are almost quite absent. Hindwing black at the base, lighter lilac-pink in the disc than at the carmine margin; at the anal angle there is a black ring filled with pink, from which a submarginal band extends towards the costal margin. Length of forewing: 40 mm. Venezuela.

Ph. translineatus *Stgr.* (98 C d). Forewing fawn with fine darker linear markings, a dark spot at the *translineatus*. inner margin in the centre, and two small ones before the anal angle. Hindwing without any pink tinge, with a black basal spot and a dark marginal band, a light reddish-brown stripe at the inner margin. Abdomen with dark triangular subdorsal spots on the two middle segments. Only known from Sa. Catharina. — *extinctus* *extinctus*. *Gehlen*, described according to a ♀ from Ecuador (?), lacks both the dark spot in the centre of the inner margin and the two small anal-angular spots; the dark apical area is also distally lighter again.

Ph. achemon *Dru.* (= *crantor* *Cr.*) (98 C e). This beautiful species has light brown forewings with fine *achemon*. lighter veins in the postdiscal area and very indistinct linear markings, a large deep velvety brown trapezoid spot in the centre of the inner margin, the interior and exterior sides of which are somewhat concave, an irregular subanal spot and a triangular subapical spot. Hindwing pink, brownish-grey at the margin, with a curved subterminal band composed of small black spots, and a dark red spot tinged with brownish-grey above the interior angle. North America to Mexico. — *trigon* *Gehlen* resembles the following *typhon* by the subapical *trigon*. spot being longer triangular and continued analwards as a feeble line, the spot being red-brown and distally bordered with whitish-grey. Ground-colour more grey and lighter. Hindwing more reddish-brown, the subterminal band of black spots is distinctly prominent. North Mexico, according to JORDAN also in Arizona. — The larva is green or red-brown with 6 white lateral spots; on *Vitis* and *Ampelopsis*.

Ph. typhon *Klug* (98 C e) is somewhat similar to *achemon*, but much larger, of a greyer ground-colour, *typhon*. the lines and spots much more distinct and deep brownish-black, the spots much larger, especially the subapical spot the apex of which is connected with the triangular anal spot by a line on the inner side of which there is a parallel line; the space behind and below the cell is darkened, the veins 2—4 especially distinct and broad yellowish-white. Hindwing similar as in *achemon*, but the red colour is duller, basally brightened up into yellowish-white, the black submarginal band is coherent, distally dentate, accompanied in the anal half by a parallel double line in front of which there are 2 violettish-blue spots. Larva unknown. Only from Mexico.

Ph. strenua *Mén.* (= *mirificatus* *Grt.*, *domingonis* *Rothsch.*) resembles *Ph. satellitia posticatus* and also *strenua*. the following *vitis*, the forewing exhibiting a light subbasal and postdiscal band, the discal band being divided, but the light longitudinal band of *vitis* only indicated basally; marginal area as in *posticatus*. Hindwing as in *vitis*, but with a narrower submarginal band and a less distinct black median band. Haiti and Cuba.

Ph. vitis *L.* (= *fasciatus* *Grt.*, *hornbeckiana* *Harris*, *linnei* *Grt. & R.*) (98 D a). This well-known beautiful *vitis*. species with the light longitudinal band parted by two transverse bands, on the forewing, the hindwing being pink only at the inner margin, is widely distributed in the whole neotropical region and the West Indies and may migrate up to New England. The light bands of the wings are slightly tinged with reddish-yellow in the nomenclatural form, the 3 light vein-stripes in the postdiscal area are clear and distinct. In the whole neotropical

- pallida*. region excepting Jamaica. — **pallida** Closs shows the light markings of the wings still wider and with a reddish tint. From Brazil, Blumenau. — **hesperidum** Ky. is the race from Jamaica, in which the markings of the forewing are of a purer white, moreover mostly only the veins 2 and 3 are striped white, 4 remains more or less darkened.
- fuscatus*. Under surface claret-coloured. — In **fuscatus** R. & J. the light markings are suffused with brown, therefore less contrasting with the olive green markings; the subbasal band is not distinctly bordered with white, the brown line in the grey oblique band is indistinct, the marginal band broader, not bordered with white. Sa. Lucia, Grenada, St. Vincent. — Larva light bluish-green, lighter on the dorsum, or reddish claret-coloured, brown or olive with 5 white oblique spots very finely bordered with black, more or less granulated white. On vine.
- fasciatus*. **P. fasciatus** Sulz. (= jussieuae Hbn., strigilis Vogel, vitis Dru.) (98 D a). Very similar to *vitis*, but at once discernible by the hindwing being carmine also at the distal margin. The antemedian band of the forewing is rudimentary, the discal spot plain, not divided. The hindwing lacks the black median band, but it has a very broad black subterminal band. — Larva very different, green, yellow, or brown, with numerous black transverse lines and with 7 white or yellow oblique stripes. It lives on *Jussieu* (Onagraceae). In the whole neotropical region, to the south as far as Patagonia, migrating to the north as far as New England.
- phorbas*. **Ph. phorbas** Cr. (= pandion Stoll) (98 D b) and the following *capronnieri* are distinguished by orange hindwings. Forewing deep olive green with darker green markings, 2 lines similarly convergent to the inner margin as in *labruscae*, the exterior one cut by an oblique line extending from the centre of the costal margin to the end of vein 3 on the distal margin; apex parted by a straight line which is continued to the inner margin in a thrice broken line; some of the lines are bordered with silvery bluish-grey. Hindwing with a marginal band and a notched median line. From Venezuela and Surinam to Para; Trinidad.
- capronnieri*. **Ph. capronnieri** Bsd. (98 D b) is somewhat like *phorbas* in the scheme of markings, but the ground-colour is light fawn, greenish light grey behind the notched subterminal line; a basal inner-marginal spot, the broad distal border of the antemedian line as well as that of the distal oblique line to the margin on vein 3 are olive green in a broad triangular shape; a distinct discal spot at the cell-end. Hindwing orange with a blackish-brown marginal band and a broad median band from the anal angle to the costal margin. Surinam; Venezuela; Amazons; Ecuador.
- labruscae*. **Ph. labruscae** L. (= clotho F.) (98 D c) is a universally known beautiful green species with 2 lines convergent towards the inner margin and enclosing a somewhat darker median area. Hindwing blue, spotted black, pale yellowish at the inner margin and anal angle, marked with red stripes. — The young larva is green or brown, with a pink horn, in the adult stage brownish, without a horn, with thickened 3rd and 4th segments, the latter with an ocellus, the young larva with 6 green oval lateral spots, the adult with a blue, dentately bordered dorsal band terminating on the 11th segment in an ocellus instead of the horn. On *Vitis* and *Ampelopsis*. Very widely distributed from Canada to Patagonia, but only as a migratory insect in the northernmost and southernmost districts.

Tribe: *Nephelicae*.

51. Genus: **Ampeloecca** R. & J.

The genus contains only 2 medium-sized, moderately slender *Sphingidae* from North America. Haed with a rounded tuft, eyes ciliated; antenna rather long and slender with a short terminal segment; pulvillus and paronychium present. Wings entirely margined. Costal margin of hindwing not produced.

Type: *A. versicolor* Harris.

- versicolor*. **A. versicolor** Harris (98 D c). Olive green with 2 whitish tripartite antemedian and postmedian lines, the latter only tripartite below the costal margin, and with an oblique dark green median band and a small discal dot. Hindwing light reddish cinnamon. Easily recognizable beneath by the very bright yellow postmedian colouring in both wings. — ab. **lutescens** Clark is yellow on the forewing, hindwing lemon-coloured, slightly darkened at the anal angle. 1 ♂ from Long Island. — Larva green or brown with light subdorsal lines as far as the 4th segment and 7 light oblique bands behind them; horn long with a black dorsal stripe. On *Cephalanthus*, *Nesaea*, *Hydrangea*. Canada to Maryland; to the west as far as the Mississippi basin.
- myron*. **A. myron** Cr. (98 D b). Ground-colour olive grey, mostly with a feeble reddish tinge and olive green antemedian and postmedian transverse bands, and a thick discal dot. The nomenclatural form is distinctly marked and of contrasting colours. — **cnotus** Hbn. (= pampinatrix Abb. & Sm.) is the form from Florida to Mexico with a much duller and more monotonous colouring, more brownish. — subsp. **texana** Clark, from the Gulf States as far as Texas and New Mexico, is somewhat larger and of a much lighter colouring, light brown, with darker brown markings, but less contrasting than the nomenclatural form. — ab. **lutescens** Clark is yellowish on the forewing, lemon-coloured on the hindwing. — Larva green or brown with light subdorsal lines extending to the horn and oblique lateral stripes, the dorsum with light spots centred with dark brown. On vine.

52. Genus: **Darapsa** Wkr.

This genus containing but one species is separated from the preceding *Ampeloeca* by spined tibiae. Veins 6 and 7 of hindwing are stalked. Otherwise very much like the two preceding species in the exterior.

D. pholus Cr. (= *azaleae* Abb. & Sm., *chlorinda* Martyn, *choerilus* Cr.) (98 D d). Light reddish-brown *pholus*. with a faint lilac pink shine and a darker brown distal half; in which there is an irregularly undulated subterminal line; apex and the upper three fourths of the margin of the light ground-colour. Hindwing cinnamon-red. The form — **flavescens** Closs, from Canada, has yellowish-grey forewings and reddish-yellow hindwings. — *flavescens*. **brodiei** Clark, from Manitoba, Ottawa and New Scotland, the larva of which lives on *Viburnum opulus ameri-* *brodiei*. *canum*, is somewhat smaller than typical *pholus*, more distinctly marked, therefore more variegated, the lines in the postmedian area are less distinct, the median line often absent. Apex more produced, the discal margin more concave in the upper half, the lower more convex. — The light lines on the thorax are more distinct. — The larva resembles that of *A. myron*, but the dark-centred dorsal spots are absent, and the light subdorsal line extends to the head, whilst in *myron* it begins only at the 4th segment. It lives on *Ampelopsis* and *Vitis*.

53. Genus: **Gurelea** Ky.

It is a most remarkable fact that two Mexican representatives have been discovered of this otherwise Indo-Australian genus (cf. Vol. X, p. 554 and Vol. II, p. 254), one representative of which, *masuriensis* Bltr., extends into the palaearctic region. Small Sphingids with dentate distal margins; eyes ciliated, head with a parted tuft with 2 ridges. Antennae short, filiform. Tibiae spined.

Type: *G. hyas* Wkr.

G. muelleri Clark. Antennae brown above, grey below, palpi grey, strewn with brown, like the body; *muelleri*. ventrum grey, the segments dark red beneath, strewn with yellow, one white dot on each side of these 3 segments. Forewing above bluish-grey, marked darker than in *sonorensis* Clark, the contrasts between light and darker more distinct than there; stigma very narrow, crescentiform, convex basally; a dark dentate band in the centre of the wing, the tip on vein 4. Hindwing bright yellow with a black marginal band, narrower than in *sonorensis*. Anal angle grey, enclosing a black line. Length of forewing: 21 mm. Guerrero.

G. sonorensis Clark (98 D b). Similar to *muelleri*, forewing light brown, the oblique median line not *sonorensis*. dentate on 4; some dentate lines near the anal angle. Hindwing yellow, the brown distal margin not sharply defined, the whitish anal spot enclosing a dark line. Sonora, taken in August.

54. Genus: **Sphecodina** Blch.

This very peculiar genus containing only 2 species shows a peculiar range, one species occurring in Eastern Asia (*caudata* Brem. & Grey, Vol. II, p. 252 and pl. 39 e), the second just at the opposite coast of America, only in the Eastern States. Abdomen flattened, with lateral hair-tufts and a tripartite anal tuft in the ♂. Shape of wings narrow, distal margin angularly dentate.

Type: *S. abbotti* Swains.

S. abbotti Swains. (98 D c). This quite unmistakable species exhibits violettish-black forewings with *abbotti*. light brownish-grey oblique lines in the distal area, with very long black sagittal streaks. Basal part of hindwing light lemon-coloured with a broad black distal part. — Larva green or brown with large green spots above and on the sides. It lives on *Vitis* and *Ampelopsis*. Canada to Georgia and the Mississippi.

55. Genus: **Deidamia** Clem.

The only species resembles species of *Hemeroplanes* in its exterior. Head tufted, palpi small, coarsely haired, eyes ciliated, antennae long filiform. Abdomen with a small triangular anal tuft. Tibiae spineless. Pulvillus and paronychium present. Distal margin of forewing strongly and irregularly dentate.

D. inscriptum Harr. (98 D c). This pretty light grey species marked with dark brown is much bred. *inscriptum*. Forewing light violettish-grey with a brown curved antemedian line with a darkened brown distal part which remains light grey above vein 6, a white triangular spot below the apex, and small dark brown spots before it. Hindwing cinnamon-red with a dark brown submarginal line and white fringe. — Larva green with light subdorsal lines terminating into the granulated horn. On *Vitis* and *Ampelopsis*. Canada to Virginia, to the west as far as the Mississippi.

56. Genus: **Arctonotus** Bsd.

Three species remarkably similar to *Geometridae* and very closely allied to the following two genera *Euproserpinus* and *Proserpinus*, but separated by the peculiar woolly hair. Antennae thinner basally and apically, strongly compressed. Palpi short; tibiae with long spines, a short apical spine at the end of the anterior tibia. Pulvillus absent, paronychium rudimentary.

Type: *A. lucidus* Bsd.

lucidus. **A. lucidus** Bsd. (98 D d). This peculiar and rare species has a dark olive green body and a similarly coloured basal and median band of the forewing, the latter band not reaching to the costal margin, because a more greyish antemedian band is united here with a similar postmedian band, so that the dark median band ends rounded here; the two said bands are finely edged with whitish, the posterior one is traversed by a yellowish-white stripe on vein 4; marginal area broad light olive grey. Hindwing reddish cinnamon, darker towards the margin, with a blackish-brown marginal band and broad light fringe. Early stages unknown. The imagines fly in early spring, from January to March, and come to the lantern late at night. From Washington to Arizona.

terlooi. **A. terlooi** Edw. is very similar to *lucidus* from which it only differs in claret-coloured hindwings and the absence of the green basal band on the forewing. Apparently extremely rare, hitherto only known from Mazatlan (Mexico).

vega. **A. vega** Dyar is only known to me from the very insufficient description in Dyar's List of N. A. Lep.: forewing as in *terlooi*, but with a dark green basal band, thus probably as in *lucidus*. Hindwing as in *P. juanita*, of a bright orange with a sharply defined black marginal band. Expanse of wings: 54 mm. New Mexico.

57. Genus: **Amphion** Hbn.

The porrect palpi end taperingly; eyes ciliated; antenna filiform, slightly thickened behind the middle with a long thin hook at the end. Anterior tibiae finely spined; paronychium present. The abdomen ends in a tripartite anal tuft in the ♂, more truncately in the ♀. Distal margin of forewing with a round convexity in the middle, concave below and above it. Only 1 diurnal species:

nessus. **A. nessus** Cr. (= oecypete Houttuyn) (98 D d). Forewing brown with a blackish-brown narrow oblique band in the middle, with fine light transverse lines before and behind it, the posterior one angular in the centre and crossed here by a dark blotch, similar spots subapically and before the anal angle. Hindwing rusty red, yellowish-white at the costal margin, with a blackish-brown marginal band and yellowish-white fringe crossed by dark. Abdomen with a yellowish-white belt at the distal edge of the 4th segment, ventrum with 2 yellow belts on the 5th and 6th segments. Southern specimens are coloured darker than northern ones. — *floridensis* Clark is a still darker and more monotonous summer breed from Florida with a narrower band of the hindwing. — Larva brown, with darker dorsal spots and oblique brown lateral bands, the 1st to 3rd segments with dark brown dorsal and subdorsal lines; horn pointed and short. It lives on *Epilobium*, *Vitis* and *Ampelopsis*. Atlantic States from Canada to Florida, to the west as far as the Mississippi.

58. Genus: **Proserpinus** Hbn.

Very similar to *Amphion*; distinguished by the more clubby antenna with a short, suddenly thinned terminal hook, more strongly spined tibiae, the anterior tibia with an apical spine, and an obliquely placed cross-vein on the hindwing, whilst it is rectangular to the two cell-veins in *Amphion*. The type of the genus: *P. proserpina* Pall. is palaearctic, America has 4 similar species in its northern part.

gaurae. **P. gaurae** Abb. & Sm. (= *circae* Edw.) (98 D d) has narrow slender wings and is light olive green with an oblique dark median band and a likewise darkened marginal area; apex crossed by light. Hindwing orange-red, more brownish basally with a dark red-brown marginal band. Ventral side and base of hindwing beneath likewise cinnamon-red. — Larva green with red interrupted subdorsal lines and similar oblique lateral bands and sublateral spots. Horn short and pointed, black. It lives on *Gaura biennis*. Georgia to Texas.

juanita. **P. juanita** Stkr. (= *gaurae* Clem.) (98 D d) is very similar to *gaurae*, but larger and of a much brighter green and orange colour, with broader wings, the median band broader. Hindwings with a sharply defined black marginal band. The basal area of the forewing beneath is orange, whilst that of the hindwing is olive green like the ventral side. Texas, Colorado. — *oslari* R. & J. is the lighter subspecies from Arizona, the green

colour of the forewing as well as the orange colour of the hindwing is paler; stigma of forewing smaller, fringe more distinctly speckled. — Larva red with two whitish lateral lines, the upper one of which is traversed by oblique stripes. Likewise on *Gaura*.

P. clarkiae *Bsd.* (= *victoria* *Grt.*) (98 D e) resembles *gaurae* in colouring and marking, but it has less *clarkiae*. long wings with a more convex distal margin, especially of the hindwing, and the anal angle is not produced; median band of forewing broader, more rounded distally and not so oblique. Hindwing lighter yellow than in *juanita*. The whole lepidopteron looks more Bombycid-like by the stouter abdomen, like the species of *Haemorrhagia*. — Larva not described, but it is reported to live on *Clarkia*. In the Pacific States: British Columbia to California.

P. flavofasciata *Wkr.* (98 D e) differs from the other species in the black body on which only the head *flavo-* and thorax above as well as the apex of the abdomen are straw-coloured. Forewing olive brown with a scantily *fasciata*. grey-scaled postdiscal band; hindwing yellow with a black basal and marginal band. Eastern Canada and New England. — **ulalume** *Stkr.* (98 D e) has almost entirely black hindwings in the typical form with a traceable *ulalume*. triangular yellowish-grey postdiscal band which becomes broader and more yellow in transitional specimens, but never reaches the inner margin as in the typical form. Oregon, British Columbia. — **rachel** *Bruce*, founded *rachel*. upon one specimen, seems to be an intermediary form with a brighter and broader band on the hindwing than in *ulalume*. The larva is said to resemble that of *Sph. abbotti* and to live on *Epilobium*. Colorado.

59. Genus: **Euproserpinus** *Grt. & R.*

Very similar to the preceding genus, only separated by the absence of the paronychium and pulvillus. Moreover, the terminal hook of the antenna is somewhat more suddenly bent down and thinner. Only 2 species:

Type: *E. phaeton* *Grt. & R.*

E. phaeton *Grt. & R.* (= *erato* *Bsd.*) (98 D e) to a certain degree resembles *P. flavofasciata* externally, but the under surface and the hindwing are white. Forewing scantily scaled olive grey, more densely scaled in the basal part and marginal area, with a discal streak at the cell-end and a postmedian transverse line indicated by vein-dots. Hindwing with an equably broad black marginal band. Abdomen with yellowish-white lateral tufts. South California.

E. euterpe *Edw.* has similar whitish lateral tufts on the abdomen. Ground-colour more brown, not *euterpe*. blackish, the marginal band less contrasting and cut in deeper than in *phaeton*, and the marginal band of the hindwing is convex in the middle. Antennae scaled white, otherwise very similar to *phaeton*. It appears to be extremely rare. Likewise from South California.

Subfamily: *Choerocampinae*.

60. Genus: **Xylophanes** *Hbn.*

This naturally composed genus contains an immense number of very slender, mostly rather large Sphingid species with narrow pointed forewings and a long, pointedly ending abdomen. Antenna slender, not thickening towards the end, with a long thin terminal hook. Eyes mostly ciliated. Tibial spurs unequally long, the exterior ones short; pulvillus and paronychium present. The larvae are thinner in front, generally with ocelli on the thoracic segments; they mostly live on Rubiaceae.

Type: *H. anubus* *Hbn.*

X. depuiseti *Bsd.* (98 D e). Olive green; abdomen with two rows of very faint brown dorsal dots on *depuiseti*. each side of which there is a row of light golden dots. Forewing with two antemedian and 3 postmedian oblique transverse lines, the 2nd postmedian line being feeble, the 3rd bearing fine vein-dots; a black stigma at the cell-end; the feeble subterminal line ends at the anal angle. Hindwing with a blackish median and marginal band and white-speckled veins. Brazil (Espírito Santo, Sa. Catharina).

X. adalia *Drc.* (98 D f) is very similar to the preceding species, but the lines of the forewing are stronger, *adalia*. and a black subterminal patch is between the veins 4 and 5; the fringe of the forewing are here also distinctly speckled white as far as the apex, in *depuiseti* only a little near the anal angle. The apex of the forewing is not so sharply falcately produced. Under surface distinctly golden yellow. Panama (Chiriqui).

X. ploetzi *Mschlr.* (= *drucei* *Rothsch.*) (98 D f). Likewise very similar, but the subterminal black spot *ploetzi*. on the forewing is absent, the stigma at the apex of the cell is white and the fringe of the forewing speckled white between vein 4 and the anal angle; the transverse bands are as strong as in *adalia*, excepting the most exterior one. Under surface yellowish green; abdomen with a fine dark median line. Surinam; British Guiana.

- pluto.* **X. pluto** *F.* (= *boerhaviae F.*, *croesus Dalm.*, *eson Wkr.*, *thorates Hbn.*) (98 D f) is easily recognizable by the orange hindwing with a black base and a blackish-brown marginal band (no other species has orange hindwings). Forewing olive green with a violettish-grey median band and a crescentiform marginal spot in the upper half of the distal margin. Abdomen with golden spots. — The larva (a dark form and a light one) shows a large ocellus on the 4th segment. It lives on *Erythroxylon coca*. Mexico and Florida as far as Southern Brazil; Antilles and Bahamas.
- tyndarus.* **X. tyndarus** *Bsd.* (98 D f). This rare and beautiful species is light green above with 3 faint antemedian lines and 4 postmedian ones, the first of them very strong, distally shaded with dark; a dark antemarginal patch before the centre of the margin. Hindwing black with a green band. Mexico to Southern Brazil. — **marginalis** *Clark* (98 D f) is smaller with shorter wings, the green colour more yellowish; the 3 antemedian lines are very indistinct, the first postdiscal one distally with a scarcely darker shadow which is not gradually brightened distally, but uniformly and distinctly defined. The green colour on the hindwing is much more extensive, so that only a narrow blackish marginal band remains. Rio Grande do Sul.
- pistacina.* **X. pistacina** *Bsd.* (= *diogenes Maass.*, *jocaste Drc.*) (98 D g) is somewhat like *tyndarus*, but duller olive greenish with a feeble reddish-yellowish shine, the 3rd and 4th postdiscal lines distinctly undulate-dentate, intensified by vein-dots; an oblique darker patch before the centre of the margin, distally bordered by the continuation of the distinct dark apical line. Hindwing extensively blackish, the light green band darkened brownish. Mexico to South Brazil and Paraguay. — **reussi** *Closs* (98 D g) is a loamy brown form with a dark brown postdiscal band and a dark grey, darker speckled marginal area. Hindwing dark brown with a yellowish band. Under surface yellow, speckled brown. Mr. GEHLEN had the kindness to lend the only type from Brazil (?) for having it figured.
- mossi.* **X. mossi** *Clark* (98 D g) is a beautiful large species resembling the following *rufescens*. Forewing reddish loamy brown, yellowish-white and black at the base of the inner margin; a tiny black dot at the cell-end and two feeble blackish postdiscal lines, the distal subterminal line intensified by black vein-dots; a small blackish spot 7 mm before the apex at the costal margin. Hindwing black with a feeble yellowish-white submarginal band, and a yellowish-white spot at the anal angle, continued at the inner margin almost to the base. — The larva is bright red-brown, with black subdorsal lines on the 5 first segments and yellowish-white lateral lines ending on the 4th segment in the yellowish ocellus which is edged with black; the 6th to 10th segments exhibit bright green lateral spots, and a yellowish-white oblique line extends from the 10th segment to the very short and thin small horn. Another form is greyish-green, brownish on the dorsum, with 5 yellowish lateral stripes. It lives on *Pagamea guianensis* (Rubiacea) and is very frequently set with Diptera. Pará.
- rufescens.* **X. rufescens** *Rothsch.* (98 D g). The reddish-yellow ground of the forewing is densely dusted and strewn with rust-brown, very similarly marked as the preceding species. Hindwing black, with a yellowish-white submarginal band not reaching the costal margin and widened towards the inner margin, another yellowish-white spot behind it at the anal angle. Both wings beneath rusty reddish. British Guiana, Amazons, Peru.
- irrorata.* **X. irrorata** *Grt.* (98 D g) is a monotonously dark cinnamon-brown species with but one darker, almost straight postdiscal line which is finely bordered with light grey inside; tegulae and head as far as the apex of the palpus outside bordered with white. Hindwing blackish-brown, lighter olive basally. — Larva not described: it is said to live on *Psychotria*. Cuba, Bahamas, Haiti.
- gundlachi.* **X. gundlachi** *H.-Sch.* (98 E a) is a smaller, beautifully green species with but one postdiscal transverse line as in *irrorata*, terminating at the inner margin in a brown spot; costal margin and fringe reddish, the latter analwards brownish intermixed with some white scales; the small stigma at the cell-end is black with a white centre. Hindwing blackish-brown, somewhat lighter mottled with yellowish-white fringe. Cuba.
- rhodocera.* **X. rhodocera** *Wkr.* (98 E a). Head and tegulae olive brown, the rest of the body and the forewing more violet-brown, the forewing similarly marked as in *porcus*, but without the subterminal row of vein-dots, the distal margin much more convex than in *porcus*; a darker, slightly curved postdiscal line; an olive brown spot is behind the cellular stigma, another spot occasionally also in the centre of the cell; the anal area at the margin is usually dusted with a darker brown. Hindwing black, light yellowish-white in the anal half of the margin. Abdomen with a large black lateral spot at the base. Antennae scaled pink. Haiti.
- porcus.* **H. porcus** *Hb.* Wings falcately produced at the apex. Forewing olive brown, prothorax somewhat more olive greenish, feebly marked; the nomenclatural form has a distinct black stigma, an olive green spot behind it, then an indistinct curved transverse line, a submarginal row of vein-dots. Hindwing blackish-brown lighter brownish-yellow anally. Only from Cuba. — **continentalis** *R. & J.* (98 E a) is the common continental form with much less distinct markings; stigma much smaller, the olive spot behind it scarcely traceable, but the subterminal vein-dots somewhat better marked. From Mexico to Sa. Catharina. — Larva green, with yellowish-white subdorsal lines on the thoracal segments, blue ocelli on the 5th segment, the other segments

with 7 yellow oblique stripes bordered with bluish-green and extending across 2 segments each; horn reddish. It lives on *Palicourea grandifolia* (Rubiacea), the Cuban form, according to GUNDLACH, on *Hamelia patens*.

X. hannemanni *Closs* (98 E a) may be only a form of *porcus* with somewhat differently shaped wings, *hannemanni*. a more falcate apex and a produced anal angle. Forewing reddish olive brown without markings, tegulae not bordered with white; but with red-brown; the forewing only exhibits the small stigma and a submarginal row of dots, the marginal area is dusted with grey. Hindwing with traces of a reddish transverse band. Described according to 1 ♂ from Mexico.

X. schausi *Rothsch.* (= *arpi* *Schs.*, spec. *B. Bönningh.*) (98 E a) is larger than *porcus*; tegulae and head *schausi*. as far as the tips of the palpi laterally bordered with white; distal margin of forewing much more convex than in *porcus*; the 4 postdiscal lines are undulate-dentate, very feeble, the last marked by vein-dots; a small, distinct, dark apical crescentiform spot, from which a feeble line is continued to the dark olive green submarginal spot above the centre of the margin. Hindwing similar as in *mossi*, the light band dusted with olive. Brazil (Rio de Janeiro, Espiritu Santo). — **serenus** *R. & J.* shows but very faint traces of the olive green submarginal spot of *serenus*. the forewing. From the Amazons (Rio Madeira) and Venezuela.

X. germen *Schs.* (98 E b) is near *schausi* and also *pistacina*, but not green as the latter, but brown. *germen*. Forewing with two indistinct antemedian lines, the postdiscal lines undulate-dentate, but not very prominent. Hindwing darker brown, lighter anally, with white fringe speckled dark on the veins; tegulae bordered with reddish towards the head; antennae reddish, laterally black. Margin of forewing feebly dentate, with a pointed apex. Mexico, Colombia, Venezuela, Ecuador.

X. hojeda *Gehlen* (98 E b) has broader forewings than *germen*; body and forewing from sepia to olive *hojeda*. greyish brown. Apex of forewing pointedly produced; marking as in *germen*, but the lines are more distinct, straighter and not so strongly notched, the distal one is only marked by vein-dots; discal area broader, stigma larger. A lustrous light reddish-brown submarginal spot between the veins 4 and 5. Hindwing as in *germen*. but the distal margin is not speckled on the ends of the veins. West Colombia.

X. brevis *Clark* (98 E b) has shorter wings than *germen*, with relatively broader forewings. More *brevis*. contrastingly marked, the median undulate double line distinct; another double line proceeds from the inner margin 1 mm before the anal angle and reaches the first double line midway between the inner margin and costal margin, so that a triangle is produced, the base of which is at the inner margin. Length of forewing: 27 mm. Described from an unknown habitat.

X. juanita *R. & J.* (= *mexicana* *Schs.*) resembles *brevis*; abdomen with two dorsal rows of dark dots; *juanita*. tegulae anteriorly bordered with reddish as in *germen*. Forewing with traces of one or two antemedian lines, 4 postmedian lines, the two first being undulate-dentate, the 4th intensified by vein-dots, a dark spot behind it on vein 5, an indistinct line in the apex. Hindwing darker brown than forewing, lighter anally, the white fringe with tiny dark spots on the veins. Vera Cruz (Mexico).

X. fusimacula *Fldr.* (98 E b). Head, collar and tegulae green, mesothorax grey, abdomen reddish-brown with 3 dark longitudinal lines. Forewing green, with black undulate-dentate lines and reddish-brown spots at the cell-end, in an oblong-quadrangular spot before the centre of the inner margin, between the 2nd and 3rd postdiscal lines and in the antemarginal area, especially broad in the anal half. Hindwing black with a reddish median band and greenish margin. Brazil and Peru. — **niepelti** *Gehlen* has somewhat broader wings *niepelti*. and a less produced apex; the reddish-brown areas are mouse-coloured here, the light inner-marginal spot is triangular and much smaller, the light cellular spot surrounding the stigma is much smaller, too. Band of hindwing more distinct and lighter anally. West Colombia.

X. zurcheri *Drc.* (98 E b) resembles *fusimacula*, but the distal margin of the wings is distinctly dentate *zurcheri*. as in the following *undata*, but the ground-colour is a brighter green here and the markings are rather like those of *fusimacula*. Hindwing with a distinct yellow band through the centre. A rare species from Costa Rica.

X. undata *R. & J.* (= *irrorata* *Rothsch.*) (98 E c). Margin of forewing and of hindwing distinctly dentate. *undata*. Forewing greyish-green, reddish ash-grey in the whole submarginal area and in the basal inner-marginal area; undulate lines similar as in *zurcheri*, but rather indistinct, somewhat darker olive-brown than the ground-colour; the most distinct line is the submarginal line intensified by vein-dots, with a roundish black spot before the anal angle at the inner margin. Hindwing blackish-brown with a reddish olive postdiscal band. Peru (Chuchuras).

X. rhodina *R. & J.* Margins of wings not dentate; forewing greenish olive with a black stigma; basal *rhodina*. area violettish-grey with a reddish tint, of the same colour is the subterminal area near the inner margin; lines similar as in *undata*, but still more indistinct and less dentate, the submarginal line scarcely stronger than the others. Hindwing somewhat greyer than the forewing, with an indistinct lighter reddish postdiscal band and a brown extinct line in it. Under surface rusty red. Very rare and hitherto only known from Panama (Chiriqui).

godmani **X. godmani** Drc. (98 E c) is near *rhodina*, forewing more falcately produced at the apex, the distal margins dentate as in *undata*, the transverse lines still more indistinct than in *undata*, the first of the postdiscal lines removed farther basad at the inner margin, the anal angle itself much more produced. Hindwing narrower, the light anal spot parted by a transverse line which is continued for a little distance. The chocolate-brown submarginal band beneath is broadly confluent with the similarly coloured basal part, whereas it is separated from it in *rhodina*. Panama, Chiriqui.

falco. **X. falco** Wkr. (= *fugax* Bsd., *mexicana* Ersch., *talco* Mschlr.) (98 E c) is a very peculiar species owing to the characteristic wing-contours. Apex falcate, anal angle very much produced downwards. Forewing brownish yellowish-grey, costal margin and distal area light ash-grey; two very indistinct and oblique antemedian lines; the space between the 3 first postdiscal lines is filled with dark ash-grey; besides three delicate grey parallel lines in the marginal area. Hindwing yellowish-grey, the costal-marginal part yellowish-white, basal part blackened, containing 2 or 3 partly spotted transverse lines; the margin is dove-coloured behind the black submarginal band. Fringe white, traversed by black. Mexico to Guatemala and Honduras.

xylobotes. **X. xylobotes** Burm. (= *xylobates* Ky., *ceratomioides* Drc.) (98 E c). This species and the 3 next are very near to each other. Lighter than the very common *ceratomioides* Grt. & R., the dorsal lines on the abdomen always coherent; the 3 dark costal-marginal spots in the middle and before the apex are very small and indistinct; the subbasal shadowy line extends along the lower cell-margin to the lower cell-angle; the postdiscal lines are not dentate; distal margin not undulate, without the small dark internerval spots. Hindwing similarly coloured with a blackish median and marginal band and a black inner-marginal area interrupted by light. — Larva green with an interrupted dorsal line and darker green subdorsal lines forming the upper border of a white oblique stripe between the 10th segment and the horn; traces of 5 darker green oblique bands, a small white ocellus on the 4th segment. Peru; Argentina; South Brazil.

media. **X. media** R. & J. (98 E d) is extremely similar to *ceratomioides*, recognizable by the 3 fine dorsal lines on the abdomen being convergent towards the proximal margin of each segment; the 4th postdiscal line is also very distinct in the light area of the wing and undulate-dentate. The light parts of the hindwing are smoky brownish, the black median band narrow and distinct. Under surface uniformly reddish cinnamon. Venezuela and Peru.

ceratomioides. **X. ceratomioides** Grt. & R. (= *anubus* Wkr., *capreolus* Schauf., *minos* Mén., *xylobates* Bönningh.) (98 E d) is the most intensely coloured and marked species, the 3 dorsal lines on the abdomen parallel, forming black spots at the distal margin of the segments. The subbasal shadowy line on the forewing only extends a little beyond the origin of vein 2; all the 5 postdiscal lines are distinct, the most distal one is dentate; the proximal one of the two subapical costal-marginal spots is very large and black. The space between the postdiscal lines on the under surface is distinctly rusty red. — Larva brown, darker dorsally, irrorated darker laterally; subdorsal line black, a small light brown ocellus on the 4th segment. Mexico to South Brazil.

guianensis. **X. guianensis** Rothsch. (98 E d). Distal margin deeply concave at the spaces between the veins, otherwise very much like *ceratomioides*, the light antemedian area tapering towards the inner margin where it ends pointed; the exterior postdiscal lines somewhat dentate only above the inner margin and less curved, distinct also in the light subterminal part which is darker than in *ceratomioides* and not so sharply defined. The black median band of the hindwing is broader than the light postdiscal band. British Guiana; Ecuador. — Young larva green, with yellow longitudinal stripes, adult larva brown, darker above with traces of lighter oblique stripes and a light brown ocellus on the 4th segment; horn crenulate like a saw. On *Palicourea grandifolia*.

anubus. **X. anubus** Cr. (= *alcides* Bsd., *miradoris* Bsd., *nitidula* Clem., *laevis* Grt. & R.) (98 E d) is one of the largest species and most variable, mostly yellowish-grey with an olive tint and 7 postdiscal parallel oblique lines, the first and the 4 last being strongest, the submarginal line intensified by black vein-dots. Hindwing black with a light yellowish-grey median band, mostly parted by 3 thick black veins. — ab. **infernalis** Gehlen *infernalis*. has almost quite black hindwings, only the anal area is light. From Sa. Catharina. The species is distributed from Mexico to Southern Brazil. — Young larva green with a red ocellus, adult larva brown with a black ocellus in a fine blue ring, with 7 fine moss-green lateral lines. It lives on *Palicourea* (Rubiaceae).

docilis. **X. docilis** Btlr. (98 E e) may be only a form of *amadis*; abdomen with a distinct median line. Distal margin of forewing straighter than in *amadis*, the oblique line also straighter; a submarginal row of vein-dots, and traces of a dentate light subterminal line. The brown marginal band of the forewing beneath is narrower. Ecuador and Bolivia.

amadis. **X. amadis** Stoll (= *thalassina* Clem.) is a most variable species, forewing varying from olive green to red-brown, with a strong black, slightly curved oblique line to the apex, proximally bordered with yellowish-white; 2 curved antemedian transverse lines, and a more or less distinct shadowy spot behind the small black discal dot; a submarginal row of vein-dots, occasionally connected by feeble arcuate lines. Hindwing blackish with a yellowish-grey median band, which is not interrupted by black in the nomenclatural form from Guiana

and intensely smoked dark. — **meridanus** *R. & J.* is very similar to *X. amadis*, but the band of the hindwing is lighter and interrupted by black on 3 veins. The proximal border of the oblique stripe on the forewing is not so purely white. Venezuela. — **cyrene** *Drc.* (= *drucei* *Ky.*, *epaphus* *Schs.*, *docilis* *Drc.*, *staudingeri* *Rothsch.*) the northern race from Mexico to Colombia has generally less distinct submarginal vein-dots, and the light band on the hindwing is not interrupted on the veins, but of a duller and darker colour and less sharply defined. — In **stuarti** *Rothsch.* the light colour along the oblique line of the forewing is of a purer white and very broad, the light band of the hindwing as in *cyrene*, but more distally removed. Peru. — **goeldi** *R. & J.* is olive green, tegulae bordered with white, the oblique line of the forewing likewise broadly bordered with pure white, still broader apically. The light band of the hindwing is green, triangularly interrupted on the veins. From Para.

X. epaphus *Bsd.* (= *böttgeri* *Rothsch.*) (98 E c) is very similar to *amadis*, especially the form *cyrene*, but of a much more reddish tint, the two antemedian lines much more separated, the oblique line does not extend so obliquely into the apex, but only bends towards it shortly before the costal margin; the postcellular shadowy spot is smaller. Hindwing with a broad reddish median band. Guiana; Peru; Brazil (São Paulo).

X. acrus *R. & J.* is allied with *amadis*. Apex of forewing long and pointedly produced; as in *amadis*, a strong greenish-black line runs from the apex to the basal third of the inner margin and it is bordered inside with light greenish-yellow, 3 fine lines intensified on the veins are before it; costal-marginal area olive green, 2 curved dark antemedian lines do not reach the inner margin; a faded blackish shadowy spot is behind the black stigma; the wing is so densely dusted with dark olive green behind the oblique line, that only a submarginal row of vein-dots is visible, slightly connected by feeble arcuate lines. Hindwing black with a light reddish-yellow band traversed by 2 black veins, notched by 2 other black veins; margin light greenish olive; fringe reddish-yellow with 3 black vein-dots. Length of forewing: 49 mm. Panama (Chiriqui).

X. alegrensis *Closs* (98 E c) is a distinct species according to GEHLEN. Separated from *amadis* by its much smaller size; the reddish-grey forewing lacks the light line, the dark line dividing the wing into two areas is distally bordered by a green wedge-stripe; the shadowy spot behind the apex of the cell is absent. The ground-colour is a velvety reddish-grey, the costal-marginal part is green. The light band of the hindwing is parted by 3 black veins, the costal margin is black. The light edging of the head as well as the black dots on the abdomen are absent. Length of forewing: 36 mm. From Porto Alegre (South Brazil). Mr. GEHLEN had the kindness to put the type at our disposal for having it figured.

X. belti *Drc.* (98 E c). Thorax and forewing dark green, shoulders, sides of head, and palpi brick-red like the under surface. The green ground-colour exhibits scarcely darker transverse lines, between which the ground-colour shows a peculiar bluish silvery grey reflection, particularly in the median area and in a dentate submarginal band. Hindwing black with a proximally dentate yellowish-grey median band which, however, may be also greenish or reddish. Mexico to Panama (Chiriqui).

X. rothschildi *Dogn.* Forewing green with an olive green basal shadow, a small black cellular dot and, distally to it, another olive green shadow; a dark green oblique line extends from the centre of the inner margin to the costal margin close before the apex, the inner margin being reddish-pink before the beginning of this line; 5 small black submarginal vein-dots. Hindwing black with a reddish tint, brightening distally as far as the narrow green marginal line. Colombia, Ecuador. — **fassli** *Gehlen* is somewhat lighter green, abdomen with a fine though distinct median line, forewing with a distinct second oblique line behind the discal dot; proximal half of inner margin not pink but white, the submarginal vein-dots connected by very fine crescents. Hindwing deeper black, with a yellowish-white anal brightening. Bolivia (Rio Songo). — **bitineata** *Gehlen* (98 E e) is larger than typical *rothschildi*, forewing with the same second line as in *fassli*, the following line meets the inner margin at $\frac{2}{3}$. Stigma much larger, the shadow behind it has almost disappeared. Hindwing black excepting the green distal margin, with a slight pink anal brightening. Peru (Chanchamayo).

X. cosmius *R. & J.* (98 E f). Body as in *amadis*, the basal spot on the sides of the abdomen less distinct, strewn with brown on the dorsum, without lines. Forewing concave below the apex, the margin obtusely dentate; brownish wood-coloured with a green tint, the costal-marginal area, a triangle distally to the oblique line between the apex and vein 5, and the anal angle are of a clearer green; the basal part with 3 greenish-brown curved lines not reaching the inner margin, the two exterior ones near together; stigma black, a greenish black spot behind it; an oblique line from the apex to the centre of the inner margin is continued at the inner margin to the base; a submarginal row of vein-dots, the fringe speckled black. Hindwing black with a reddish olive band, somewhat indented on the veins, margin green. South-Eastern Peru. — **obscurus** *R. & J.* (= *pizarro* *Gehlen*) has a much thicker black shadowy spot behind the stigma, the antemedian lines on the median vein, not angled subcostally, the oblique line in the disc basally convex; fringe not speckled. Margin of hindwing quite black, the median band less green. Amazons (Rio Madeira).

X. ockendeni *Rothsch.* Forewing green like thorax, with three spots of a diameter of 3—5 mm, one being subbasal, the 2nd behind the apex of the cell, the 3rd near the anal angle; stigma small, black; a fine

curved black line extends from the subbasal spot to the costal margin, a dark green short line in the centre of the cell, and a feebly dentate dark green line behind the spot at the apex of the cell; another line from behind the centre of the inner margin to the costal margin is distally broadly bordered with dark green; a submarginal dentate line intensified by vein-dots; small dark marginal spots at the ends of the veins. Hindwing brownish-black with a reddish distal band terminating at the anal angle in a loamy yellow spot; margin green with black marginal dots. South-Eastern Peru.

mirabilis. **X. mirabilis** Clark (= *venator* Niep.) (98 F e) resembles both *adalia* and *ockendeni*. Forewing olive green with three black spots, one at the base, another spot behind the cell-end and the 3rd at the anal angle; some indistinct antemedian lines, 2 strong dark brown parallel postmedian lines and a dentate light bluish submarginal line with vein-dots; fringe speckled dark at the ends of the veins. Hindwing blackish-brown with a light brownish subterminal band and margin. Abdomen olive green, laterally scaled white, the last segments edged with white. The green antennae are red beneath. Antioquia, Colombia.

macasensis. **X. macasensis** Clark is near *ockendeni*. Body olive yellow above, dorsum of abdomen with 2 rows of dark dots, light yellow beneath. Forewing yellowish olive with the 3 black spots of *ockendeni*, and a small black stigma; a fine black irregularly curved line extends from the distal side of the subbasal spot to the costal margin; 2 dark yellowish-green slightly dentate lines from the centre of the inner margin to the distal margin below the apex and from here in two black lines to the costal margin; a dark green line from the apex to the inner margin 1 cm before the anal angle, and behind this line a row of dark vein-dots. Hindwing blackish-brown above with an indistinct reddish median band ending in a spot at the inner margin; margin narrow yellowish olive, fringe white, dotted dark at the ends of the veins. Length of forewing: 40 mm. Macas, Ecuador.

chiron. **X. chiron** Dru. (= *sagittata* Goeze, butus F.) (98 E f) is an unmistakable beautiful species varying from green to rusty brown, with one loamy brownish area each traversed and bordered by brown and black dentate lines subterminally in the anal half as well as at the costal margin, with a blackish-brown discal and basal spot, base of inner margin pale yellowish sulphur-coloured with white hairs. Hindwing black with a pale sulphureous black-veined median band. The nomenclatural form from Jamaica is more frequently rusty brown than green with rather indistinct postdiscal lines and very indistinct loamy yellowish subterminal spots. Under surface

nechus. more yellow. — **nechus** Cr. (= *chiron* Wkr., *haitensis* Btlr., *chironnechus* R. & J.) (98 E f) is the continental form distributed from Mexico to Uruguay, but it occurs also in Haiti, Porto Rico and the Bahamas. It is mostly green and but very rarely rusty brown, with very distinct loam-coloured apical and anal spots. — **lucianus** R. & J. has broader forewings, a green apical line and, proximally to it, blackish-brown vein-dots; a large blackish-brown triangular spot in the distal third of the inner margin; the 2 loamy yellow spots are absent altogether. Hindwing with only 3 distinct discal spots, a fourth being feebly marked at the costal margin. Sa. Lucia. —

cubanus. **cubanus** R. & J. is smaller, with shorter forewings, the loam-coloured spots small, also the discal spots of the hindwing smaller and of a more reddish tint; antennae reddish-pink. Body beneath more red-brown. Cuba. — The larva of *nechus* is green with an interrupted black dorsal line, one white ocellus each in red and black rings on the 4th and 5th segments, often yet a yellow ocellus on the 6th segment, feebly lighter oblique stripes in the sides and a black subdorsal line bordered with yellow and white below, on the two penultimate segments; pectoral legs red. On various Rubiaceae and Icacinaceae.

crotonis. **X. crotonis** Wkr. (= *viridescens* Btlr., *aristor* Btlr., *virescens* Ky.) (98 E f). Upper surface varying from green to rusty brown, under surface from ochre to rusty yellow; forewing with 7 postmedian oblique lines, the 4th being the strongest, the 6th often provided with vein-dots. The black hindwing shows 5 wedge-shaped postdiscal spots besides the large yellowish-white longitudinally parted anal spot. The nomenclatural form *aristor* has no longitudinal lines on the dorsum of the abdomen, whereas — **aristor** Bsd. (= *hortulanus* Schauf., *crotonis* Wkr., *nechus* Btlr.) (98 F a) has a light whitish-grey longitudinal stripe across the thorax and abdomen, edged by two fine darker lines. Both the forms and all kinds of transitions occur beside one another from Guatemala to Venezuela and Colombia.

zikani. **X. zikani** Clark (98 F a) is smaller than *crotonis* and *aristor*, of a brighter green than *aristor*; transverse lines distinct, the 1st and 4th stronger and broader than the others, straighter than in *aristor*; tegulae of a purer white, less pink. Length of forewing: 35 mm. Passa Quatro, Minas.

schreiteri. **X. schreiteri** Clark (98 F a) is very near to *zikani*, but darker, the apex of the forewing more produced; the space between the lines 1 and 2 is filled with dark and darker than the rest of the wing, the space behind the cell-end and the costal margin darker, too; lines 1 and 2 somewhat undulated, all the lines more sharply bent towards the apex. Hindwing as in *zikani*. The yellow basal tufts on the abdomen are smaller. Under surface marked as in *nabuchodonosor*, but the lines not black but rusty red. Tucuman (Argentina).

rhodochlora. **X. rhodochlora** R. & J. (98 F a) is somewhat smaller than *crotonis*, bright dark olive green, more rusty red beneath. Shape of wings shorter and broader, the oblique lines of the forewing quite indistinct except the first and fourth, the latter proximally lighter whitish-green, line 6 with vein-dots. South-Eastern Peru.

X. eumedon *Bsd.* (= *ortospina* *Drc.* (98 F a) is similar to *crotonis aristor* in the marking, smaller, of a *eumedon*. more brownish olive colour, the first postdiscal oblique line very strong, confluent with the second, the space between the lines 1 and 3 very light, bone-coloured. The 3 upper subterminal spots on the forewing are more or less confluent. Mexico to Brazil.

X. rhodotus *Rothsch.* (= *rhabdotus* *Oberth.*) is very similar to *eumedon*, the grey abdominal stripe broad, *rhodotus*. parted by a scarcely darker colour, subdorsal ochreous spots at the base. The lines 1 and 4 of the forewing are strong and black, line 4 proximally bordered with yellowish-white. All the spots on the hindwing are separated. South America.

X. nabuchodonosor *Oberth.* (98 F b) has the same ochreous basal tufts on the abdomen as *rhodotus*; *nabuchodonosor*. line 1 is thin, the space behind it as far as line 3 darker green, darkened into a blackish triangular spot at the inner margin, line 4 strong, the space between 3 and 4 dingy yellowish-grey, the following lines very feeble except the last, 1, 3 and 7 slightly undulate-dentate. Hindwing as in *rhodotus*. Bolivia.

X. titana *Drc.* (= *aristor* *Burm.*) (98 F b) is smaller and more slender than the preceding species, of a *titana*. more brownish tinge, the space between the 2nd and 4th oblique lines on the forewing forms a bone-white band which is feebly parted by grey, the space between the 1st and 2nd lines very dark, almost black. Hindwing very pointedly produced, the spots somewhat confluent towards the apex. Mexico to Sa. Catharina. — f. *indistincta* *Closs* shows all the light markings of the body and of the forewing very feebly marked, especially *indistincta*. the double line extending across the thorax and abdomen. According to a ♀ from Sa. Catharina. — Larva brown, more yellowish on the dorsum, the first segments inflated, a black white-ringed ocellus on the 4th ring, somewhat lighter oblique stripes on the other segments. On *Spermacoe*.

X. muelleri *Clark* is allied with *eumedon*, *resta* and *tersa*; body above olive brown with red-edged tegulae, *muelleri*. a red ventrum, thorax beneath orange. Forewing with a dark brown, slightly curved line from the inner margin. 7 mm behind the base, to the apex, proximally bordered with light; the cell before it and an area below it tinted red; a finer parallel line behind the line, and 2 fine lines before the margin. Hindwing as in *eumedon*, but the light submarginal band extends to the anal angle, and the dark marginal band is narrower. Length of forewing: 32 mm. Mexico (Misantla).

X. resta *R. & J.* (98 F b) is very similar to a large *tersa* and intermediary between *tersa* and *crotonis*. *resta*. The grey dorsal band of the abdomen is only distinct on the first segments and parted by dark, light yellow tufts at the base, then a large black lateral spot, the segments 3—6 laterally ochreous. Shape of wings broader than in *tersa*, line 1 of forewing strong, 2 fused with it, 3 and 4 close together, the strongest line is the fifth. expanded into a spot at the inner margin. Spots of hindwing larger than in *tersa*. Venezuela, Peru, Argentina.

X. tersa *L.* (98 F b) is one of the commonest *Sphingidae*, rather small and slender. Forewing mono- *tersa*. tonously brownish, line 1 is the strongest, the space between lines 3 and 5 somewhat lighter. Spots of hindwing well separated, the uppermost small. Tegulae inwards with a rusty yellow stripe, the abdominal sides quite golden ochreous as far as the anal apex, with 3 feeble longitudinal lines above. Widely distributed from Canada to Argentina. — *tristis* *Closs* is an insignificantly darkened form. — Larva with strongly inflated thoracal seg- *tristis*. ments, the brown or blackish body with 7 black, white-ringed ocelli subdorsally, the first on the 4th segment being the largest, the ocelli are situated on a yellowish-white line, blackish oblique lines below it. It lives on *Spermacoe* and *Manettia*. Bahamas.

X. suana *Drc.* (= *evana* *Hmps.*) (98 F b) is more monotonously coloured than *tersa*, more ash-grey, *suana*. or brown, abdomen not yellowish-red laterally. Wings not so elongated, the spots of the hindwing are much smaller and reduced in number.

X. turbata *Edw.* (98 F c) is likewise very similar to the preceding species, the white stripe of the tegulae *turbata*. is inwardly bordered with dark olive. Forewing coloured as in the preceding species, the 1st and 2nd lines forming a broad band towards the apex, lines 3—7 very fine, 4 slightly stronger than the others. Mexico and British Honduras.

X. fosteri *R. & J.* (98 F c) is allied to *turbata* and *robinsoni*. Body above olive with a pinkish-grey *fosteri*. lateral stripe on the thorax and a brownish-grey median stripe; abdomen wood-coloured brown, grey at the base, with 3 indistinct dorsal lines. Forewing brown, dusted darker; lines 1 and 2 strong, more or less confluent, the 3rd fine, the 4th with vein-dots, 4 and 5 especially distinct between vein 4 and the apex; the two distal lines feeble; a brown shadow behind the small black stigma. Hindwing blackish-brown with a dingy pink post-discal band which is brownish towards the costal margin, lighter analwards. Length of forewing: 30 mm. Paraguay.

X. ferotinus *Gehlen* (98 F c) likewise belongs to the *tersa*-group, but it differs in its purer olive green *ferotinus*. colouring, the antennae being much thinner than in *tersa* and not white, but dark grey. Head and thorax dark green, laterally dark grey as far as the apex of the palpus. Abdomen marked as in *tersa*. Forewing with 6 distinct oblique lines, lines 1 and 4 being the strongest, the space between 1 and 4 light brownish. Hindwing less slender and pointed, the postmedian spots small, not yellow, but smoky brownish. Sa. Catharina.

- dolius*. **X. dolius** *R. & J.* Body as in *fosteri*, shape of forewing as in *hydrata*. Forewing brownish, dusted with olive; lines as in *hydrata*, the 4th fine, deeper brown in the upper half, the 5th is only indicated and ends in a brown apical dot; the apical part of the marginal area is lighter than the rest of the wing; stigma large and black. Hindwing blackish-brown with a narrow reddish-yellow postmedian band which is shaded with brown towards the costal margin. Length of forewing: 31 mm. Zamora, Ecuador.
- elara*. **X. elara** *Drc.* (= *elicius* *Mschlr.*, *perviridis* *Rothsch.*) (98 F c). Body and wings above yellowish olive green, more yellowish ochre beneath, ventral side whitish grey; abdomen above with a fine olive green median line. Forewing with a black stigma; lines straight, 1—3 feeble, 4 much thicker, but narrower than in *hydrata*, 5 and 6 quite indistinct; distal margin deeply concave below the apex. Base of hindwing black. Guiana and Venezuela to Paraguay.
- isaon*. **X. isaon** *Bsd.* (= *olivacea* *Rothsch.*) (98 F c). Thorax with a grey median line continued across the abdomen by two bands distantly separating analwards, each of them bordered dorsally by a row of dots. The 1st and 2nd lines of the forewing are confluent forming a strong band, the 3rd thin, the 4th very thick, the space between the 2nd and 4th lighter. Hindwing with a faded reddish postmedian band. Brazil (São Paulo to Espiritu Santo).
- hydrata*. **X. hydrata** *R. & J.* (= spec. *A. Bönningh.*) (98 F d) is very similar to *elara*; fresh specimens green, but they turn very quickly yellowish ochre or even reddish-brown; thorax always without light stripes, abdomen with a fine dorsal line and, on each side of it, a somewhat broader dark line. Forewing with a black stigma, 7 oblique lines behind it, the 4th being the strongest, the 6th broad though feeble, the 7th intensified by fine vein-dots; apex pointed and produced. Hindwing blackish-brown at the base, with a brownish postmedian band which is redder apically. Brazil. CLARK considered *elara* and *hydrata* to be one species, *hydrata* being the redder southern form; but GEHLEN examined the genital organs and found them to be different. There are no transitions whatever between the two species' according to GEHLEN to whom we are indebted for supplying the two specimens figured.
- robinsoni*. **X. robinsoni** *Grt.* (= *curvata* *Btlr.*, *falco* *H.-Sch.*) (98 F d) is a somewhat smaller species; forewing tinted olive, lines 1—3 together form a dark band feebly S-curved and not reaching the apex; 4 is very fine, 5 somewhat stronger, terminating together with 6 into the apex, all the lines except 1—3 dying away towards the inner margin. Hindwing black, the light postmedian band interrupted by the black veins. Abdomen above brown with a fine darker median line, sharply bordered laterally with a lighter colour. Only from Cuba.
- josephinae*. **X. josephinae** *Clark* resembles *damocrita* in the colouring so much that it could be easily confounded, but it is very different; shape of wings longer, lines of forewing straighter; the shadowy postcellular spot is less distinct; the first line proceeding 5 mm behind the base is the strongest, the next 3 lines are fine and light, line 5 is broader and extends from the centre of the inner margin to the apex, the next 3 lines are less distinct again; the colours do not contrast so much as in *damocrita*, the band of the hindwing is more remote from the margin at the costal margin. Length of forewing: 40 mm. Cayuga, Guatemala.
- damocrita*. **X. damocrita** *Drc.* (98 F d) is easily discernible from the preceding species by the thick blackish shadowy spot behind the stigma: lines 1—3 feeble, not reaching the costal margin; 4 very strong, 5 close behind it, but obliterated below 4 and replaced by rusty reddish spots. Hindwing blackish-brown with a dark reddish-yellow postmedian band. Under surface rusty red with a sharply defined greyish-brown marginal band entering in a pointed dent between 4 and 5. Abdomen laterally, between the 3rd and 7th segments, with a rusty red stripe mixed with yellow. Mexico.
- maculator*. **X. maculator** *Bsd.* (98 F d) is larger than the preceding species, otherwise similar, but at once discernible by a black stripe of the tegulae extending across the head to the palpi. Abdomen with 3 fine dark longitudinal lines and on each side a broad one; forewing very similar to that of *damocrita*; inner margin blackened between the lines 4 and 6. Band of hindwing interrupted by veins. The nomenclatural form from Venezuela and
- wolffi*. Colombia. — In *wolffi* *Drc.* the longitudinal lines on the abdomen as well as the spot behind the stigma of the forewing are obliterated; there are 4 lines instead of 3 before the strong line, the first being somewhat dentate. Hindwing with a broader and a less reddish band which is not dentate. Ecuador and Peru.
- aglaor*. **X. aglaor** *Bsd.* (= spec. *A. Bönningh.*) (98 F d). Brownish olive, thorax above mixed with grey, without the dark stripe of the tegulae of *maculator*; abdomen with a fine olive median line, somewhat darker subdorsally and below it on each side with a reddish ochreous longitudinal stripe. Forewing olive grey, lighter at the cell-end and before the apex; the first 6 lines are close beside each other, the 5th being the strongest, besides two other lines behind them parallel to the margin. Hindwing black with a reddish-yellow, not dentate band. Brazil (Espiritu Santo, Rio de Janeiro).
- libya*. **X. libya** *Drc.* (= *aglaor* *Schs.*, *neoptolemus* *Bsd.*) (98 F c). This species and the following *loelia* are very closely allied and often difficult to distinguish. Forewing brown, the first 4 lines arranged in 2 pairs, feeble, 5 stronger, often marked by vein-dots; a black dot at the cell-end, another one also before the apex at the costal margin. Hindwing black with a reddish band which is not broader than the black margin. Under

surface intensely marked, the brownish-grey marginal band forms a sharp inward angle between 4 and 5. Mexico to Peru and Surinam. — **pallescent** *Closs*, according to GEHLEN who possesses the type, is a slight *pallescent*. deviation with more uniformly brown lines and a darker under surface, hindwing with but one broad discal band beneath. Described from Peru (Pozuzo).

X. loelia *Drc.* (= *aglaor* *Schs.*, *laelia* *Drc.*, *neoptolemus* *Bönnigh.*) (98 F c) is extraordinarily near *loelia*. to *libya* and forms a transition to the following *neoptolemus*. The forewing (mostly) lacks the cellular dot as well as the subapical black dot at the costal margin. Hindwing somewhat narrower with a more reddish median band, the black margin more regular and invariably narrower than the reddish band; the vein dots beneath are much less distinct, the marginal band is less distinct and much less angled. Mexico to the Amazons. — **heinrichi** *Closs*, according to GEHLEN, is only a form of *loelia* with differently shaped wings which are somewhat *heinrichi*. shorter with a straighter distal margin; the dark areas of the wings exhibit a greenish tinge: Abdomen with a bright yellow lateral stripe. Described from the Amazons. — Young larva green, adult larva brownish ochreous, with a series of darker dorsal spots, blackish-brown subdorsal lines, a black, white-ringed ocellus on the 4th segment and dark brown lateral oblique stripes. It lives on *Spermacoce* (*Rubiaceae*); it conceals itself by day.

X. neoptolemus *Stoll* (= *trilineata* *Wkr.*) (98 F e) is similar to *loelia*. Forewing more monotonous and browner. Band of hindwing of a much deeper and brighter red, broader than in *libya* and *loelia*, reaching to the costal margin, the proximal margin convex, more sharply defined than in *loelia*. Much redder beneath than the said species. From Mexico to Surinam. — **trinitatis** *Closs* is smaller and has shorter wings of a darker *trinitatis*. colouring; the red band of the hindwing is narrower and not so carmine, but more yellowish-red, the black basal area and the distal band not deep black, but browner. Described from Trinidad.

X. pyrrhus *R. & J.* (98 F f) is very closely allied to the following *thyelia*, but much larger; the light band *pyrrhus*. with the double line on the forewing is broader, the line distally bordering on this band gradually widens from the apex to vein 4; the distal margin is less rounded. Merida (Venezuela), South-Eastern Peru.

X. thyelia *L.* (= *eson* *Mkr.*, *theylia* *L.*, spec. *A.* *Bönnigh.*) (98 F f) is a very characteristic smaller *thyelia*. species; forewing brownish-yellow, the costal-marginal half except the light apex more rusty brown with two slaty black lines from the base of the inner margin to the apex, the space between them filled with rusty brown, a light longitudinal band below them with 2 indistinct lines; hindwing grey with 2 postmedian rows of vein-dots. This nomenclatural form flies from Ecuador to South Brazil and Paraguay. — **salvini** *Drc.* was examined *salvini*. by GEHLEN and M. HERING; it is the northern form from Mexico to Colombia. Wings more slender, the double line, which mostly shows a tendency to coalesce in *thyelia*, is distinctly separated, the light band narrower; the costal-marginal half is darker, more monotonous, the light apical area beneath more distinctly defined, the two longitudinal lines confluent and indistinct.

X. jordani *Clark* (98 F f) is a peculiar small species near to the preceding ones, at once recognizable *jordani*. by the brownish-black basal area being sharply cut away, the whole costal part remaining light yellowish; the double lines of *thyelia* do not terminate at the base, but behind the first third of the inner margin, behind which there are 2 subterminal lines parallel to the margin, the distal third of the inner margin very dark. Hindwing light grey. Costa Rica.

61. Genus: **Phanoxyla** *R. & J.*

Very near to *Xylophanes* and separated by a large tuft of scales on the 2nd palpal joint inside, which only occurs in palaearctic species. Distal margin of forewing irregular, indented between 5 and 3. Only 1 species:

Ph. hystrix *Fldr.* (98 F f) is a quite unmistakable species with crenulate wings. Ground-colour olive *hystrix*. black with lighter olive green areas, a yellowish-white basal inner-marginal spot and a similarly coloured oblique line from the first third of the inner margin towards the apex; the line turns more reddish behind the lower cell-end to the costal margin, broader, notched and traversed by blackish notched lines; a black triangle before the anal angle, distally bordered by a short white notched line. Hindwing black with 6 small light yellowish sulphur-coloured postmedian spots and an inner-angular spot. Mr. GEHLEN had the kindness to give us 1 specimen of this extremely rare species for having it figured; only known from the Amazons.

62. Genus: **Celerio** *Oken.*

This well-known genus containing the palaearctic *Cel. euphorbiae* and *gallii* chiefly differs from the preceding genus in the antennae not being uniformly thin, but distally thickened. Generally of a stronger build, abdomen not so long and slender as in *Xylophanes*. Distal margins of the wings entire. Five representatives in America, two of which have to be considered as forms of palaearctic species.

Type: *C. gallii* *Rottenbg.*

intermedia.

C. gallii Rottenbg. (Vol. II, p. 255, pl. 41 d) occurs in the form — **intermedia** Ky. (= *epilobii* Harr., *chamaenerii* Harr., *galii* Wkr., *oxybaphi* Clem., *canadensis* Guen.) in the nearctic region from Canada to Colorado and Georgia. It differs from the palaearctic *gallii* in the more extensive red colour of the hindwing; base and margins beneath darker brown; the light distal margin of the hindwing is generally somewhat narrower.

euphorbiarum.

C. euphorbiarum Guér. & Perch. (= *celeno* Bsd., *spinifascia* Btlr.) (98 F f). Abdomen with 4 blackish-white lateral spots, the two first of which are mostly jet-black, the next being generally somewhat duller black. Forewing with an olive brown costal-marginal band which looks dentate behind the cell between the veins 4 and 6, owing to deeply entering light veins; no dark spot behind the cell-end; the olive brown subterminal band is widened so much at the inner margin that it is only about 1 cm distant from the base. Hindwing red, the base and a narrow premarginal band black, a quadrangular white spot in the black inner-marginal part. — Larva varying from greyish-green to black, with a light dorsal line and black round subdorsal spots in light yellow rings; on *Mirabilis jalappa*, *Cestrum*, and other plants. From Rio de Janeiro, Argentina and Chile.

annei.

C. annei Guér. (98 F g) is superficially similar to *euphorbiarum*, but it lacks the sharply defined olive brown costal-marginal stripe, the costal-marginal part is only dusted with a slightly darker olive colour and shows indistinct darkening before and behind the cell-end; the subterminal band is much less widened at the inner margin. The black premarginal band of the hindwing is more irregularly defined inwards. Abdomen with 5 black lateral spots. From Peru and Bolivia to Chile.

lineata.

C. lineata F. (= *vitis* Houttuyn, *daucus* Cr., *linearis* Luc.) (98 F g) is a well-known species of an immense range, occurring also in the Old world as *livornica* (Vol. II, p. 256, pl. 41 c). Easily discernible by the white-striped thorax and the white neuration of the forewing; separated from the palaearctic form by a white median stripe on the tegulae and a less white-dotted abdomen which therefore looks less speckled. From Canada to Argentina. — The larva is somewhat less variegated owing to its being less spotted yellow and black.

calverleyi.

C. calverleyi Grt. is a very rare species from Cuba, very similar to *gallii* on the forewings, but with a white-striped thorax as in *lineata*; separated besides from *lineata* by the light band of the forewing not being sharply defined proximally, moreover the abdomen is not dotted white dorsally and without the double row of small black spots of the *lineata*-forms.

Alphabetical List

of the original descriptions of the forms of the American *Sphingidae*.

* signifies that the form is also figured at the place quoted.

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 lieaon Ph. *Cr. Pap. Exot.* 1, p. 86, 1775. *
 liehenea Prot. *Burm. Sphing. Brasil.*, p. 67, 1856.
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15. Family: Notodontidae.

This very large family has not been equably defined by various authors. Especially in recent years attempts were made to separate different groups from this family and to range them under the *Eupterotidae*; sometimes also the *Phalera*, *Rosema* and other genera were given the name of the *Eupterotidae*, and instead of it some genera from this old family were united under another name. Moreover, the name of the family itself has been changed into '*Ceruridae*'. We do not, in a manual, see sufficient advantage in such a schematism to make it worth while going into all the inconformities with the entire previous lepidopterological literature.

The subdivision of the family into several is urged by a certain heterogeny which seems to separate several groups from this union which exhibits the most variegated shapes. If we compare the most homogeneous *Sphingidae*, the *Geometridae* which are quite similarly organised as larvae, the *Zygaenidae* which are in no way connected with any other large family, with the *Notodontidae*, we notice an almost unique variety of shapes even in the larvae of the latter. There are no hairy Sphingid larvae, no bare Lasiolepidid larvae, no Geometrid larvae with more than 12 feet at most, or 10 feet at least, etc.; all these are strikingly contrasted with the *Notodontidae* which sometimes have 14 feet, sometimes 16 feet, and are either hairy or bare. Yet, if we study them more minutely, we find numerous characteristics which are common to all or nearly all the *Notodontidae*. An extremely perfect adaptation to the surroundings both in colour and shape, which is otherwise only peculiar to the older lepidopterous groups, such as the *Geometridae*, many *Noctuae*, and some microlepidoptera, but which is entirely absent in the modern groups, such as the *Zygaenidae*, *Arctiidae*, *Lymantriidae* etc., occurs in nearly all the *Notodontidae*, both in the larval stage and in the imago, whereas the mimetic adaptation to other animals in the perfect insect is not to be found in any *Notodontidae*. Nor can the strange fact that some larvae, for instance those of *Stauropus*, copy spiders and bugs, be attributed to mimicry, since no definite model could yet be ascertained in any case *). In *Aegeria apiformis* we can positively declare a *Vespa* to be the model copied, on account of its dangerous stings, while the larva of *Theretra lucasi* most certainly copies a viper for the same reason. We can even sometimes easily determine the species that has served as its model, and can say that, for instance, the Erycinid *Apodemia stalachtoides* copies the *Stalachtis phlegya*, the *Pseudosphex rubripalpus* the *Polistes ruficornis*, the ♀ of *Chalcusia trepsichrois* the *Euploea (Trepichrois) mulciber*. But we cannot ascertain a definite model of the larva of *Stauropus fagi*, and although the larva of a *Cerura* may appear as a small monster which might seem to be dangerous to animals of a lizard-like size, yet it is not the copy of a certain armed or poisonous insect, of a reptile, a mouse, or any other creature that bites.

The geological age of the *Notodontidae* can also be inferred by considering their geographical distribution. In the warm and temperate regions they are only absent in the Islands of New Guinea, which however are also neglected by all the other families of Macrolepidoptera with the sole exception of the *Noctuae* and *Geometridae*. But though they are not altogether absent in the southern cooler parts of the Earth, in Cape Colony and Patagonia, yet they are of a remarkably rare occurrence there, whereas in the neighbouring countries of the more temperate south, as for instance North Argentina and South Brazil, they appear in great numbers.

If by having recourse to the introductory geographical sketches which we provided for the palaearctic Ethiopian and Indo-Australian *Notodontidae* in other volumes **), we try to form a general survey of the distribution of the family on this earth, we arrive at the following results.

*) Some authors have considered the birch-bug, *Syrphoctonus marginatus*, to be the model, which has an offensive smell and is certainly also scorned by insectivorous animals for this reason. But this resemblance is only noticeable when the insect is approached from behind, and disappears as soon as the animal moves. We must therefore consider this resemblance to be merely accidental.

**) Vol. II, p. 283; Vol. X, p. 605; Vol. XIV, p. 401.

Of the 2300 species known the greatest number occur in America, i. e. about 1400 species. The palaearctic region hardly harbours one tenth of the entire number of species known; the Ethiopian region hardly one sixth, and the Indo-Australian region about one fifth of the whole number. This vast legion of *Notodontidae*, however, is very unequally distributed in America. Most of them occur in the tropics which — as we stated in Vol. X — scarcely excel the temperate northern region on the eastern hemisphere in the number of species; in Asia — especially in the east — we may even meet more *Notodontidae* in the warmer countries of the palaearctic region, than in the plains of Tropical India; in America, on the contrary, the species prevail in the tropical countries.

The peculiar habit of most of the *Notodontidae* living on trees, is of the greatest influence on the distribution of the family in certain regions. The fact that certain districts, also of America, may be entirely devoid of trees, prevents the *Notodontidae* from penetrating to these parts of the country. In Egypt, where many districts even lack the scanty Nile-Acacia, so that there are no trees whatever to be found, except palms and wood-plants introduced from foreign countries, it is useless to search for any *Notodontidae*; only in mountainous North Africa, where wooded valleys occur, do we meet *Cerura*, *Pygaera*, *Hoplitis* etc. Similar regions are found in America, where with an east wind continually blowing the Cordilleras, on their dry side, allow no moisture to fall. The saltpetre district of Iquique where it never rains at all is a good example. Nor could any *Notodontidae* develop in isolated districts of Mexico where there is no timber, and in the southernmost, open country of Chile and Patagonia where the unceasing, roaring wind that tears every tiny plant up by the roots or covers it with sand the moment it appears, the same situation prevails, for no woody plants can thrive; so the *Notodontidae* as well as most of the other *Heterocera* families are conspicuous for their absence.

On the contrary, the number of *Notodontidae* known in the tropical, rainy, wooded districts of America is enormous and increasing continually. The number of (about 30) species newly described in this chapter points to a further increase. The boreal parts of America to the north of Mexico, however, are not much favoured; only 80 species being known from there up to now. The distribution of the family in Mexico itself exhibits the very same fluctuations in the different districts as the timber does.

The concentration of some genera in particular districts is also obviously connected with the vegetation. The fact that some genera are confined to quite definite districts is also distinctly due to the vegetation. Thus we meet an amassment of species of the genus *Schizura* in the northeastern parts of the U. S. A., between Portland and Philadelphia, where 6 of the 8 nearctic *Schizura* are found, whereas PACKARD could identify there scarcely half of the North-American *Datana* which are widely distributed over the whole continent; the species of the genus *Ichthyura* (*Melalopha*) are accumulated in Colorado, near the Springs and in Denver. We must, however, consider that some of these results are to be attributed less to a really abundant occurrence than to the fact that some very zealous collectors were at work in certain districts, who succeeded in tracing the rarer species as well.

From Mexico, from where about 180 species are known, down to the northern parts of South America, the number of known *Notodontidae* increases to such an extent that the number of species yielded by collectors from one single town of Brazil sometimes doubly and even trebly exceeds those found in the U. S. A. In favourable weather, two or three dozen Notodontid species are often captured on the lanterns of Rio de Janeiro or on the large arc-lamps which have been introduced of late even in the remote towns of Central Brazil. A great many members of this lepidopteral family come to the light from afar, and most of them remain fascinated by it, and are unable to leave, whereas Geometrids and, above all, Noctuids are rather frequently able to leave the flame again after having flown around it for a short time.

There is hardly any other way of collecting *Notodontidae* in the tropics but by capturing them at the light. In the temperate zone, where access to the foliage of the trees is easy, most of the members of this family found in collections had been bred from larvae. The success of this method of collecting, however, is not very great. Breeding American species may be just as easy and safe as breeding European species, but the larvae are more difficult to capture when unfamiliar with their habits. Some are polyphagous, but many, as also some Europeans (*Ptilophora plumigera*, *Notod. dromedarius* etc.) entirely or almost exclusively depend on a single food-plant. Others again are confined to a single family of plants, as for instance the *Ichthyura* on Salicaceae; whilst others live only on trees, though they attack lofty-growing wood-plants of various families. Thus breeding is rather difficult owing to this limitation to one or few species of food-plants, since, even if the name and appearance of the plant be well known, it is sometimes very hard to discover an easily accessible specimen for feeding the larvae. And even if the food-tree has been found close at hand, it is sometimes only with great difficulty that fresh twigs can be fetched down from such a height, so that it is then more advisable to shoot fresh branches down with a rifle. In this case, however, another drawback has to be considered, i. e. that freshly broken twigs dry up very quickly, so that the transport from the often distant spot, where the food-plant grows, to the breeding-place of the larvae mostly results in very insufficient sap for feeding them. — It is hardly possible to-day to estimate the geological age from the feeding-conditions,

because owing to the habit of living on trees, the larval stages of but very few species of the enormous number of neotropical *Notodontidae* have been ascertained.

On the whole the *Notodontidae* are regarded geologically as a rather old group from which the more modern *Sphingidae* and *Ceratocampidae* have probably sprung. We have already stated their extremely minute adaptation in Vol. X, p. 607, and Vol. XIV, p. 401. It refers to both the larvae and the imagines and is perfected to such a degree that the absence of any protection by internal saps, smells or acid-bearing organs. There are but few genera that have hairy larvae (such as the *Melalophinae*), most of which are green, smooth, or with a minimum of bristles, but somewhat disguised by their shape; this disguise is often enhanced by a strange quiescent position. A red larva from the genus *Crinodes* bends its head upwards with the first segments in a Sphingid-like way, and at the same time it raises its anal part which is thick and swollen and covered with a peculiar yellow plate, in such a way that its brightly coloured upper surface stares backward like a second head. The larvae of the genus *Datana* bend very similarly, whereas the *Schizura* bend their heads downwards, so that a protuberance on the 5th segment with a sting, which is more than a centimetre long in South-American species, projects in front beyond the larva. The shape of the *Cerura* and *Harpyia*, which is likewise raised in front and behind, is known to us from the European species which are exactly like the American ones in this respect.

The varied shapes of the Notodontid larvae by no means correspond to those of the imagines. More than 90 per cent of these lepidoptera are of a very common, inconspicuous shape, the only — though by no means general — peculiarity being the previously mentioned little lobe or hair-tuft at the inner margin of the forewing, from which the whole family derives its name. On examining the sides of the abdomen, an organ was discovered on the 4th segment, which was named *Cteniophore* by its discoverer (K. JORDAN). It is a kind of movable sting which is supposed to serve for impregnating the long hairs on the hindlegs or also the peculiarly transformed scales on the hindwing beneath with the secretion of an invariably present gland, presumably emitting a certain smell. But these are most inconspicuous formations; the shape of the members of different Notodontid genera does not vary nearly so much as, for instance, the Sphingid genera *Harmorrhagia* and *Celerio*, *Amorpha* and *Deilephila*, or even the *Saturnidae* do, which are sometimes without tails, sometimes with the apices of the hindwings as long as a hand, or the *Mimallonidae* in which, for instance, *Mimallonia amilia* exhibits wings with gnawed-out distal margins, while *Adalgisa croesa* has a long falcated apex of the forewing, and *Tarema macarina* has quite regularly shaped wings.

A striking peculiarity of the *Notodontidae* is the fact that quite similar larvae which are sometimes hard to differentiate, yield most dissimilar and very distinctly separated imagines, while on the other hand imagines which might be regarded as very closely allied come from absolutely different larvae. The former case — along with which a real larval polymorphism as in *Pheosia* — is known to us in Europe from the species *Notodonta ziczac* and *torva* which as imagines are quite dissimilar, while their larvae are only separated by a slight difference in the shape of the middle protuberances. In the same way as the larva of the quite differently coloured European *Not. dromedarius* may, by a frequent violet-brown variation, become more similar to larvae of *ziczac* and *torva* than to its own brothers and sisters, also American larvae of *Dicentria* may resemble certain *Schizura* in their early stages to such a degree that even an expert will find it difficult to identify them. This is the case for instance in the species *Schizura concinna* and *Dicentria lignicolor* which represent regular zigzag-larvae in their early stages having tubercles on the 4th and 11th segments which, by an angular position, reproduce the image of a larva of *Not. torva* or *phoebe*. The growing larva gradually loses every resemblance to the latter, the posterior protuberances increasing in the *Schizura*, while they are reduced in *Dicentria*.

In contradistinction to this peculiarity, the great difference of the Notodontid larvae is not only noticed in the colouring, but still more in the shape of species the developed imagines of which are evidently very closely allied. Thus for instance the North-American *Pheosia rimosa* resembles most minutely the palaearctic *Pheosia tremula* (Vol. II, pl. 45 f). But the American larva has a caudal horn like a Sphingid larva, whereas the European species has a pyramidal elevation on the 11th segment *).

We have already mentioned in Vol. X (p. 606) that the Notodontid larvae, many of which are of a very strange shape, do not always put up with their terrifying positions, but often defend themselves very rigorously. The American species even surpass the European ones considerably in this habit; for while the palaearctic *Dicranura* are only able to spurt fine drops from the slit in the neck towards their foe, the larva of the neotropical species *Anurocampa mingens* receives its enemy with a well-aimed jet of caustic liquid; for

*) PACKARD mentions this case in his monography of the North-American *Notodontidae* comparing it with the behaviour of the larvae of *Acrionia psi* and *A. occidentalis*, where likewise quite different larvae yield very similar imagines, as it also occurs in the palaearctic species *Acrion. psi* and *tridens*. PACKARD mentions that the European adult larva of the Notodontid genus *Pheosia* has a shape similar to that exhibited by the young larva of the American species.

this habit it is named "myador" ("urinator") in its patria — a verbal translation of the scientific name of the species.

The largest *Notodontidae* of the American faunistic region are the *Naprepa* which genus contains the *N. cyllota* that look like a gigantically enlarged *Lophopteryx camelina*. These enormous *Bombyces* are very frequently captured on the lantern. Owing to their resemblance to a dry leaf it is almost useless to search for them in their hiding-place during the day.

The transformation of the exterior of the quiescent imago into a shapeless or puzzling entity is still more extensive in the American *Notodontidae* than in the palaearctic ones, though many species of the former are also only adapted to their surroundings by bark-like or lichenous markings (as in Europe for instance the *Notodonta*, *Dicranura*, *Exaereta* etc.), such as the genus *Heterocampa* comprising hundreds of forms. In the palaearctic region *Stauropus jagi* disguises the exterior of the quiescent insect past recognition by projecting its very hairy tibiae and by advancing the likewise fringed costal-marginal area of the hindwing, whereas some neotropical *Notodontidae* disfigure themselves in repose by an apparently affected and uncomfortable position of their wings and body, to such an extent that it is utterly impossible to discover the insects. Certain *Hapigia* keep their wings still more vertically raised in repose than, for instance, the palaearctic *Pterostoma*; the distal margins of the forewings are closely pressed together, and beside the very sharply projecting "dorsal tooth" the tornus of both the forewings, being tightly folded up, also looks like another hump or splinter.

These *Hapigia* are interesting in more than one respect. Another species, *H. nodicornis* Gn., exhibits transverse stripes similar to the ribs of a leaf, traversing the forewing in parallel rows, but in an opposite direction to that of nearly all other lepidoptera with a similar scheme of markings, i. e. not parallel to the distal margin, but vertical to it. In this way the insect, whose colour is similar to that of a rotting leaf, makes a picture in which the head-end of the resting lepidopteron corresponds to the tip of the leaf, not to the stalk-end. Somewhat allied to this genus is the genus *Antaea*, where the most common species, *A. juturena* Cr., exhibits the veining of a leaf in the usual, normal direction, but the stripes are so much shaded with light and dark on both sides that they have a most strikingly plastic effect, so that even the most expert eye would take them to be erect layers of scales.

The adaptation to broken off pieces of branches which we know from the palaearctic genus *Phalera*, is very common in the American faunal region and appears in various modifications. We find a light yellow luniform spot in the apical region of the forewing of *Navarcostes limnatis* Schs. which is a very rare species. In the neotropical region we meet much more frequently with species in which the light spot representing the place where the copied piece of wood is broken off is removed into the anal angle of the forewing. The lepidoptera which are thus disfigured put their hindwings still more closely together at the margins, when at rest, than the European *Phalera bucephala* do, and usually do not sit transversely or obliquely like the latter, but mostly with their heads up, and appear quite narrow owing to their slender abdomen, the spectator's eye being directed to the anterior surface of the thorax over which the almost nose-like prolonged palpi project like a broken splinter.

Only comparatively few genera exhibit a metallic gloss, such as we notice in the palaearctic *Spatalia* and the *Tarsolepis*. Bright golden magnificent spots distinguish the fairly large species *Chliara croesus* Cr. which frequently comes to the arc-lamps of the towns and of the pleasure-grounds of the Organ Mts. A very large reflecting silvery spot is exhibited by the smaller *Notoplusia clara* Cr., the shape of its spot on the forewing resembling that of *Tarsolepis javana* (Vol. X, pl. 79 a). Otherwise, there are only single metallic lines to be noticed, as in many *Calledema* (*plusia*, *plusioides*, *argenta*, and other species).

We have met a peculiarly coloured type already in the Indian *Notodontidae*, in which the costal area of the forewing is in striking contrast with the rest of the wing. Some forms (*auritractata* Mr., *affinis* Roths., *costalis* Mr.) of the Eastern Asiatic *Spataloides* Mats. show a bright yellow costal-marginal area standing out sharply against the dark brown anal-marginal half of the forewing. We also find in tropical America quite a similarly coloured type: *Lirimiris truncata* H.-Schäff., showing the same distribution of colours. Then again, on the other hand, a dark stripe along the costa may stand out against the otherwise light surface of the often silvery shimmering wings, as for instance in *Lirim. lignitecta* Wkr., where the costal margin of the forewing looks as if it were charred.

The above-mentioned bark-colour which, as in numerous palaearctic *Notodontidae*, conceals the lepidopteron by the adaptation of its vestiture to the rimose bark of various wood-plants is extremely common. The names of the species *xylinoides* (*Dicentria*), *lignicolor* (*Janassa*), *lignaris* (*Arhacia*) and others, intimate this protective colouring, and some resting lepidoptera of this group, such as *Arh. meridionalis*, look like a gigantic projecting chip of wood. There are even species (from the genus *Gisara*) that look like a piece of bark which has been struck by an axe, the distal surface of the wings representing the intact bark, whilst the basal areas represent the chip which has been laid bare by the stroke of the axe.

When early stages come to be better explored, a large number of American Notodontid larvae will presumably prove to feed from Monocotyledons. The colouring and marking of some species, such as *Pronerice disjuncta*, is so peculiarly adapted to the stalk of a reed that only a Typhacea or Graminea can serve these lepidoptera as its place of repose, if not as food. This would only correspond to the cases mentioned in the Indian part of this work, where the *Norraca* were stated to be adapted to a bamboo-leaf and the *Dinara* (*Anticyra*) to a broad blade of grass or reed, to such a degree that one may readily assume a connection of the lepidopteron with these plants.

The *Notodontidae* generally vary little geographically, nor does the seasonal dimorphism noticeably occur in many double-breeding species, and the sexes are generally more alike than in most of the other *Heterocera*-families. Nevertheless there are some of the American *Notodontidae* which also exhibit very strange sexual differences. For instance, the ♀ of the species *Antiora subfulva* Wkr. (*ochromixta* H.-Schäff.) differs so much from the small ♂ that it seems to belong to quite a different genus, i. e. the genus *Lobeza* which is very widely separated from the *Antiora*.

As to the system of the *Notodontidae*, i. e. the grouping and order of the genera, the various authors deviate considerably from one another, which fact is due to the different genera being rather closely allied. In those cases where the larvae are particularly much alike, the imagines, as we mentioned above, exhibit little conformity, and vice versa. Yet we do not meet with many gross errors in ancient literature. *Colax apulus* Cr., for instance, was sometimes mistaken for a *Sphingida*, probably owing to the approximate habitus of a *Parum colligata* (Vol. II, pl. 38 b); this does not appear to be such a great mistake, since the *Sphingidae* have presumably sprung from this very group. The *Nystalea virgula* Fldr. shows an exterior, shaped somewhat like the Sphingid group of *Chaerocampinae*. Moreover, the vast genus of *Hemiceras* (containing more than 150 forms) was assigned to the *Noctuae*, probably chiefly owing to the strongly developed proboscis. Nearly all the *Notodontidae* exhibit the beginnings of a proboscis, but in most of the American forms it is, as in all the boreal and European species, without any function, mostly only a stunted, feeble thread. That is also the reason why, owing to the impossibility of taking food, the species lacking a proboscis have a very short life as imagines, limited to a few days which are entirely spent in copulating and depositing eggs.

The lack of an internal protection which, on the one hand, has led to almost fantastic adaptations to the surroundings, on the other hand also forbids, of course, glaring colours whereby the lepidopteron would only be disclosed to its enemies as a savoury prey. We therefore find, for instance, orange colours but very rarely in the *Notodontidae*, and then only in the hindwing (of the genus *Ruda*) which, however, is covered by the forewing when the lepidopteron is in repose. Sometimes the protection is more important for the ♀ for the sake of preserving the species — as it is also better developed in the whole insect kingdom — than in the ♂; for instance in the common *Dicentria xylinoides* the ♀ of which, resting on dry leaves or old wood, is hardly to be recognized.

1. Genus: **Calledema** Btlr.

A small number of well characterized species which are mostly distinguished by a silvery streak on the forewing in the upper half of the postmedian or subterminal area. The long antennae are tuftedly ciliated, the porrect palpi long, especially the second joint. The forewing has a pointed, often almost falcate apex; distal margin rounded in the upper half below which it extends obliquely to the inner angle. Vein 6 from the upper cell-angle, the 3 median subcostal branches arise on a joint stalk. 3 and 4 of hindwing arise from the same place at the lower cell-angle, 6 is stalked with 7.

Type of genus: *C. marmorea* Btlr.

C. marmorea Btlr. (143 a) is irregularly watered on dark blackish brown forewings; the markings are somewhat like those of the other species; transverse lines whitish, rather indistinct and irregular, a somewhat oblique white longitudinal streak extends from the cell-end to the margin, whereby the species also resembles certain species of the genus *Pseudantiora*. Hindwing brownish-grey. Colombia, Brazil.

C. sodalis Btlr. (143 a) approximates the next group of species. Forewing light red-brown, with fine silvery white veins in the marginal area, interrupted by a white band which is curved S-like and is broad in the upper half, narrow below; a silvery white streak from the cell-end to the centre of the margin; a narrow brownish reniform macula at the cell-end. Hindwing brownish-grey, lighter towards the base. Brazil.

C. plusia Fldr. (143 a) is darker purple brown than *sodalis*, with distinct blackish antemedian and postmedian transverse lines; the lower half of the median area before the postmedian line is darkened blackish; the silvery white subterminal band is narrower on the whole, removed more inwards and double in the upper half, the silvery longitudinal stripe also parted by a black longitudinal line. Hindwing brownish-grey. Brasil.

- plusioides*. **C. plusioides** *Fldr.* resembles the preceding species; forewing light red-brown, much lighter in the distal half of the inner margin, the absent transverse lines are replaced by a yellowish spot before the middle below the cell, bordered on both sides by erect silvery scales; the silvery white subterminal band is threefold in the upper half, the 3 parts being divided and terminating into the margin on the 3 lower veins. Hindwing brownish-grey. Colombia to Brazil.
- arema*. **C. arema** *Schs.* (143 a) is somewhat smaller than *plusioides*, but very similarly marked. Forewing violetish brown, reddish in the costal-marginal area, with a lilac tint at the inner margin, veins 2—4 speckled grey and black, with a yellowish silvery antemedian spot below the cell, parted by dark and distally bordered by erect brown scales; a dark brown spot at the cell-end, a silvery stripe extends from this spot to the yellowish-brown subterminal area as in *plusioides*. Hindwing whitish at the base. Costa Rica to Guiana.
- argenta*. **C. argenta** *Schs.* is a much larger species. The violetish brown forewing shows lighter veins in the median area; an olive brownish antemedian line bordered with silvery crosses the cell, a fine silvery dent extends to the base; a silvery line distally along vein 6 as far as the white submarginal line which is bordered with yellow in the upper half; this colouring is strongly widened apically, oblique yellow streaks extend from the lower half to the margin. Hindwing brown. Expanse of wings: 43 mm. French Guiana.
- sura*. **C. sura** *Schs.* is the smallest species of all, with brown forewings which are tinged reddish-yellow towards the costal margin, more lilac towards the inner margin; the cell and a shadow behind it are darker brown, a broad whitish subbasal area is divided by a greenish-yellow line; a white transverse streak is in the cell, a silvery white line behind it extends to the broad white submarginal band which is traversed by a grey and yellowish line and narrows down below the centre to a white line. Hindwing violetish-brown. Expanse of wings: 26 mm. Brazil.
- jocasta*. **C. jocasta** *Schs.* (143 a) almost looks like a species of *Pseudantiora* with light olive grey forewings transversely watered with white, an indistinct double red-brown basal transverse line and a red-brown and black longitudinal line from the basal third of the costal margin through the cell between 5 and 6 to the distal margin; a red-brown spot is below the median vein at the place from where the lower branch arises, another quadrangular subapical spot at the costal margin. Hindwing brownish-grey. Brazil.

2. Genus: **Drastoma** *Schs.*

The only representative of this genus is a large, quite uncommonly coloured lepidopteron with long narrow forewings and a slight angle at the distal margin between the upper radial branches; vein 5 of forewing arises from the upper cell-angle, 6 arises before the end of the accessory cell; the two lower subcostal branches on a joint stalk. Hindwing as in *Calledema*.

Type of the genus: *D. dardania* *Drc.*

- dardania*. **D. dardania** *Drc.* (143 b). This unmistakable, most conspicuous insect is dark cerise in the costal-marginal part of the forewing, yellowish below it; described from Honduras and Costa Rica, occurring as far as Colombia.

3. Genus: **Pronerice** *Schs.*

Palpi especially long in the first and second joints, ♂ antennae pectinated. Forewing similarly long and narrow as in *Drastoma*, but the costal margin much more convex; the stalk of the two lower subcostal branches is much longer than in *Drastoma*, accessory cell very long and narrow, 6 and 7 arise from its end. All the branches on the relatively large hindwing arise without a stalk. Only two species.

Type of genus: *P. disjuncta* *Dogn.*

- disjuncta*. **P. disjuncta** *Dogn.* (143 b). Forewing yellowish-grey, traversed by a black longitudinal line on the border between the upper and middle thirds, this line being slightly shaded above and bordered with whitish below, and showing a roundish convexity downward at the cell-end. Colombia, Bolivia, Ecuador.
- cymantis*. **P. cymantis** *Schs.* is much smaller than *disjuncta*, the brown forewing shaded with blackish and strewn with grey except the distal margin, with a black cellular dot and a velvety black cross-vein; a postmedian row of black vein-dots, the veins before and behind them dusted with light brown; black marginal dots between the veins, fringe black, spotted brown on the ends of the veins. Hindwing dark brown, almost black distally. Expanse of wings: 38 mm. Guiana.

4. Genus: **Tagela** *Schs.*

Palpi more erect than in *Pronerice*, antennae tuftedly ciliated; forewing broader, with a straight costal margin; vein 6 arises before the end of the accessory cell, the two lowest subcostal branches not stalked. Veins 6 and 7 of hindwing on a short stalk. Three species have been described so far.

Type of genus: *T. dentata* Schs.

T. dentata Schs. (143 b). Exterior somewhat like that of *P. disjuncta*, but smaller and darker brown, *dentata*. the whole basal half of the costal margin black, more reddish-brown distally. Hindwing brown. Brazil (Rio de Janeiro).

T. cayuga Schs. has dark brown forewings strewn with blue and traversed by numerous black undulate *cayuga*. lines which are broad light brown at the inner margin and in the apical half of the costal margin, the black undulate lines on this light area are likewise only somewhat darker than the ground; black spots before the centre and at the lower cell-end, and a dark streak below the middle radial branch to the undulate line. Hindwing dark greyish brown. Expanse of wings: 46 mm. Guatemala.

T. noctuidiformis Dogn. (= *cossula* Rothsch.) (143 b) deviates somewhat from the diagnose of the *noctuidiformis*. genus, since the antennae are only finely ciliated, the legs more thickly haired, vein 5 of forewing arises a little below the upper cell-angle. Forewing brown, strewn lighter and mixed with yellowish in some places, with a light, strongly dentate anterior transverse line which is partly bordered with black, and a broad black postmedian line bordered with light on both sides and extending from the costal margin almost straight to the anal angle; a light-centred discal spot at the cell-end is encircled with black; instead of the undulate line there are light small spots partly shaded with black inside, an irregular black marginal line behind them. Hindwing white, brownish at the margin. Peru.

5. Genus: **Dyasia** Schs.

This genus has much shorter palpi, the last joint being entirely hidden in the hair. ♂ antennae tuftedly ciliated. Wings short and broad; vein 6 of forewing arises from the centre of the accessory cell, the two lower subcostal branches arise not stalked from the end of this cell. Hindwing almost like that of *Calledema*. The ♀♀ are much larger.

Type of genus: *D. viviana* Schs.

D. viviana Schs. (143 b). Basal third of forewing whitish, scantily strewn with brown, reddish yellowish *viviana*. brown in the median area, the distal margin lilac with velvety brown spots in it, the two former colours defined by a curved black line; a yellowish-white spot at the cell-end encloses a reniform macula which is surrounded with brown; the posterior transverse line is steel-grey, deeply dentate, a brown dentate line behind it, and yellowish-white vein-spots. Hindwing white with a brown marginal line. The violettish-grey marginal colour extends to the median area in some specimens. French Guiana.

D. juvencula Dogn. Base of inner margin, interior area and marginal area of forewing whitish, scantily *juvencula*. strewn with brown, the rest, also the inner margin, more intensely brownish, with a blackish-brown apical spot and chocolate-brown transverse lines, the anterior ones pointedly broken basad in the cell, in the shape of the point of a lance, the posterior one double, filled with white and more intensely marked in some places. Hindwing white, brownish on the veins and at the margin. Expanse of wings: 29 mm. Amazons.

D. punctata Rothsch. (143 c) has brownish forewings dusted with lilac pink, with 2 broad brown *punctata*. shadowy bands and brown irroration; transverse lines composed of small round black spots of various sizes; 2 large black subapical spots. Hindwing light brown, darkened at the margin. Amazons.

D. stigmatica Rothsch. (143 c). Forewing sooty brown with a purple tint, rusty brown in the basal *stigmatica*. third and streaked black, a broad red-brown, black-spotted antemedian band; these striae are very scanty in the two marginal thirds, a postmedian row of small red-brown, black-centred spots, a large rusty red subapical spot encloses a broad blackish-brown band. The whitish hindwing is slightly tinged grey at the margins. Amazons.

6. Genus: **Antioira** Wkr.

Only one species with broad wings; ♂ antennae pectinated. Vein 5 of forewing arises from the centre of the cross-vein, 6 from the upper cell-angle, the 4 lowest subcostal branches on a joint stalk from the end of the accessory cell. 3 of hindwing stalked with 4, and 6 with 7, 5 arises near the upper cell-angle.

Type of genus: *A. subfulva* Wkr.

A. subfulva Wkr. (= *ochromixta* H.-Schäff.) (143 c) is sexually very dimorphous, the ♂ small with *subfulva*. narrow wings, the ♀ very robust; both are similarly coloured and marked, ash-grey, finely strewn white and orange, with black notched transverse lines and a whitish discal line; the whitish sinuate undulate line is shaded darker inside. Hindwing light grey, the ♂ blackish and thinly scaled. Brazil.

7. Genus: **Anurocampa** H.-Schäff.

The typical representative of the genus is presumably the largest Notodontid known, a somewhat smaller species was described of late beside it. It chiefly differs from the preceding genus in the non-stalked

veins from the lower cell-angle of the hindwing, and beside vein 5 of forewing arises a little above the centre of the cross-vein.

Type of genus: *A. mingens* H.-Schäff.

mingens.

A. mingens H.-Schäff. (143 d). This gigantic well-known species has greyish-white forewings strewn with blackish, with 2 broad greenish-grey transverse bands; hindwing blackish, the basal portion and inner margin bright ochre; the black abdomen shows yellow bands. It is widely distributed in Colombia, Brazil and Argentina. Larva thick, green, increasing in thickness on the 3 first segments and forming a transverse protuberance on the third segment, and with a broad white subdorsal line. On being touched, it spirts out a water-like liquid as from a syringe, for which reason it is called "myador" (= urinator) by the natives.

albifasciata.

A. albifasciata Schs. is much smaller with blackish-brown forewings, a yellowish-white dot at the base of the cell and two whitish transverse bands, the anterior one of which is divided into spots, the posterior one broader, especially in the middle, and traversed by the dark veins. Hindwing unicoloured blackish-brown. Abdomen with yellow transverse lines on the black ground. Expanse of wings: 50 mm. Argentina.

8. Genus: **Nadata** Wkr.

Antennae pectinated to the tips, palpi short. The thorax bears a rather high sharp dorsal ridge. Forewing with a notched distal margin, neurulation similar as in the preceding species, but vein 7 of forewing free and not stalked with the higher ones. Hindwing as in *Anurocampa*. America has but one typical representative, but there are several other species occurring in the eastern palaearctic region.

Type of genus: *N. gibbosa* Abb. & Sm.

gibbosa.

N. gibbosa Abb. & Sm. (143 c) has light ochreous forewings with 2 brown transverse lines convergent towards the inner margin, and a whitish discal streak. The species is found from Canada to California, Florida, and Texas. The dull green larva with a whitish dorsum, a yellow lateral stripe and red stigmata lives on oak,

behrensi.

but also on other foliaceous trees, such as maple, birch and plum. — f. **behrensi** Edw., which is hardly worth being denominated, is somewhat larger, forewings lighter and more pointed on an average; it is the form

double-dayii.

from the western coast. — The type of the form **doubledayii** Pack. shows the palpi beneath and the front legs somewhat darker, whilst other specimens lack the mostly double white discal dot which is then replaced by

rubripennis.
oregonensis.

a darker blotch. — f. **rubripennis** Neum. & Dyar is the name of darker rusty reddish specimens. — f. **oregonensis** Btlr., however, denotes dark blackish-brown specimens with more brownish-grey hindwings. From Oregon.

9. Genus: **Cargida** Schs.

Distinguished from the preceding genus by more smoothly margined forewings; vein 3 of hindwing arises separated from 4, and vein 6 is not stalked with the subcostal branch. The genus contains but one species from Mexico.

Type of genus: *C. pyrrha* Drc.

pyrrha.

C. pyrrha Drc. (143 d). The whitish-grey species exhibits two sharply notched transverse lines and almost black hindwings; it is particularly distinguished by the orange abdomen. The ♂ is much darker and smaller. The species is known from Mexico, but it has also been reported from Arizona. — f. **intensa** Rothsch. is the name of this latter form which is much darker with more distinct markings than those of typical specimens.

10. Genus: **Minara** Wkr.

Antennae of ♂ pectinated, of ♀ plain, the hairy palpi straightly porrect, with a rather long terminal joint. Vein 5 of the relatively broad forewing arises from the centre of the cross-vein, 6 from the upper cell-angle; veins 8 and 9 on a short stalk at the end of the long accessory cell. The two branches on the hindwing arise separately from the lower cell-angle, those from the upper one being stalked. The only South-American species resembles an Arctiid.

Type of genus: *M. histrionica* H.-Schäff.

histrionica.

M. histrionica H.-Schäff. (= *pardalina* Wkr.) (143 d) has a blackish-brown body with a yellowish-curved abdomen and light yellowish-brown forewings with irregular black spots assuming the shape of longitudinal stripes in the distal half. Brazil.

11. Genus: **Nerice** Wkr.

The only American representative of this genus which occurs also in the eastern palaearctic region has a structure similar to that of *Minara* from which it chiefly differs in vein 6 arising from the end of the accessory cell, and a shorter terminal joint of the palpus.

Type of genus: *N. bidentata* Wkr.

N. bidentata Wkr. (143 e). This well-known, very characteristically coloured species the forewing of *bidentata*, which is grey at the inner margin, lighter silvery white towards the brown costal-marginal part, chiefly occurs in the northern and eastern parts of the U.S.A. and in Canada, and seems to be absent in the west. The larva is whitish bluish-green on the dorsum, darker beneath, with strong two-pointed dorsal humps which are turned forward and excellently protect the larva resting on its food-plant, the leaf of an elm-tree.

12. Genus: **Nystalea** Gn.

A very well characterized genus resembling the *Cucullia*, with long, narrow, pointed forewings. ♂ antennae more or less tuftedly ciliated, palpi rather short, very hairy, with long erect tufts of scale-hairs. Neuration chiefly like that of the neighbouring species, mainly distinguished from the preceding ones by only 7 and 8 of forewing being stalked and vein 6 generally arising near the proximal beginning of the accessory cell; the costal branch on the hindwing arises near the cell-end. — The larvae, as far as they are known, are exactly like those of the palaearctic *Notodonta* (*ziczac* etc.).

Type of genus: *N. ebalea* Cr.

N. julitha Schs. (143 e). Head and prothorax brownish-black, the rest of the body like the forewing *julitha*, light wood-coloured, with the beginnings of double lines at the costal margin; cellular fold and veins behind the cell finely striped dark; a double angular line in the centre of the inner margin, and a fine streak at the cell-end; traces of a postmedian line and of an undulate line above the anal angle. Hindwing brownish-grey, darker at the margin. Expanse of wings: 60 mm. Brazil, Rio.

N. ebalea Cr. (= *conchyfera* Gn.) (143 e) is the oldest and most widely distributed species known with *ebalea*, a wood-coloured brown forewing which is darkened deep blackish-brown in the costal-marginal part, especially towards the apex, with small light brown, darker centred spots in the centre of the costal margin and at the apex, indistinct deeply notched transverse lines, and a thick black dot above the centre of the inner margin. Hindwing diaphanous whitish, with darker veins and a blackish-brown marginal band. From Mexico to Brazil and Colombia.

N. eutalanta Dyar is very similar to *ebalea*, somewhat smaller and of a more compact structure, the *eutalanta*, light costal-marginal spot is whitish and much larger so that it includes the reniform-macular spot, the marginal area is lighter. Described from Florida, in March.

N. porgana Schs. (143 e), likewise allied to the two preceding species, has brown forewings, strewn *porgana*, darker brown and grey in the cell and on the veins, with indistinct double transverse lines and a large olive brown costal-marginal spot at the apex, enclosing a black streak and edged with white and reddish-yellow; the veins 4—6 are shaded with dark brown on both sides. Hindwing light brown, darker at the distal margin. From Guiana.

N. parsoni Schs. (143 f) is smaller than the similar *porgana* and more variegated, the light apical spot *parsoni*, is longer and narrower. Forewing purple brown, inner margin and distal margin reddish-olive excepting the area between 4 and 6, the markings blackish-brown; a black and white streak on the base of the median vein, the three transverse lines double, filled with light reddish-brown; a long narrow reniform macula at the cell-end is reddish with black lines, a curved black line behind it with a brown spot at the submedian fold; the postmedian line is scaled white distally, a sinuate light brown line is behind it; subterminal red-brown lunules are white distally, small dark marginal spots above the anal angle. Hindwing brown, lighter towards the base. Expanse of wings: 65 mm. Bolivia.

N. amatura Schs. is very similar to the ♂ of *marmorea* (143 f); forewing darker and more uniformly *amatura*, brown, the light apical spot shorter, bordered below with a white line which does not reach the margin; reniform macula vertical, bordered by dark lines and without any white; hindwing white, dusted somewhat brown, the margin and veins darker brown. Expanse of wings: 52 mm. British Guiana: Amazons.

N. difficilis sp. n. (143 f) is very closely allied to *ebalea* and also *amatura*, at once separable from these *difficilis*, two species by dark greyish-brown hindwings as well as by two thick black spots above the anal angle. Colouring very similar to that of a very dark *ebalea* (143 d), but much more monotonous: transverse markings only visible with the aid of a magnifying glass, the reniform macula is entirely absent, only the fine postmedian white oblique streak between 4 and 5 is distinct; veins finely strewn black and white; apical spot shaped as in *porgana*, but much darker, greyish-brown with a yellowish tint, enclosing a short thick black longitudinal streak; the anal region is somewhat lighter and more brownish, with 2 thick black submarginal crescents in it. Hindwing dark greyish-brown, feebly lighter towards the base, with brownish-white fringe. According to 1 ♀ from Teffé (Amazons); type in the Berlin Museum.

- marmorea*. **N. marmorea** Schs. (= *mocotana* Schs.) (143 f) has dark greyish-brown forewings with indistinct transverse lines and a dentate brown subterminal line behind which there is a row of small velvety brown, light-edged spots; large whitish spots more distinctly showing the transverse markings are in the centre of the costal margin, at the apex and interior angle. Hindwing diaphanous white in the basal half, blackish-brown at the margin. Trinidad; Venezuela, Colombia.
- idonea*. **N. idonea** Wkr. (143 f) and the two following species form a group of closely allied forms which are distinguished by 2 large round subterminal spots from a whitish to a reddish-yellow colour on the forewings; these spots may also disappear, and the species seems to be rather variable, on the whole. Forewing olive greyish-brown, irrorated darker and whitish, with indistinct double dentate transverse lines and an almost cordiform reniform macula, the point of which is turned inward. Hindwing greyish-brown. Head and collar from reddish-yellow to blackish-brown. Colombia, Bolivia.
- guzmani*. **N. guzmani** Schs. (143 f). Forewing olive brown with fine undulated transverse lines; a whitish cellular spot before the centre and a costal-marginal streak above it; a dark brown oblique stripe behind the double median line extends from the costal margin to below the median vein; the large irregular discal spot is surrounded with white, and dusted with white on both sides; the large white apical spot extends to the posterior transverse line and encloses a short black streak. Hindwing brownish-grey, lighter towards the base. Costa Rica to Colombia.
- albipicta*. **N. albipicta** Schs. (143 g) is similar to the two preceding species, but easily separable by the white head and palpi as well as the orange brown tuft of the vertex and the collar; the double transverse lines are also partly filled with orange; the white median spot is larger and reaches the interior lower end of the apical spot the centre of which is slightly strangulated; small white spots are also in the centre of the subterminal line. French Guiana.
- marona*. **N. marona** Schs. Forewing light brown, strewn with darker brown, black and grey, so that all the markings become very indistinct, with double brownish transverse lines and a double velvety black cell-end streak which is closed above; the posterior transverse line is black between the veins, a thick black crescentiform line behind it, being broadest on vein 5; the submarginal line is also velvety black, bordered with grey distally. Hindwing dark brown, lighter in the basal half. Expanse of wings: 51 mm. French Guiana.
- multiplex*. **N. multiplex** Dogn. (143 g) has a greyish-brown ground-colour, marbled olive and yellowish in the cell, in the median area, apically and in the inner-angular third, traversed by numerous irregular olive transverse markings; renimacular spot olive, bordered with black, a black transverse bar before it is bordered with light inside; 2 large olive subterminal spots above and below the centre are bordered with black inside and often with white outside, followed by a yellowish-white and, behind it, a black undulate line. Hindwing whitish, broadly bordered with blackish-brown. French Guiana.
- sequora*. **N. sequora** Schs. Forewing grey with double black transverse lines, the posterior line treble, followed above the centre by a black line, below it there are brown spots and a series of steel-grey subterminal spots; reniform macula darker grey, bordered with velvety black. Hindwing brownish-white, darkened at the margin. Expanse of wings: 54 mm. British Guiana.
- corusea*. **N. corusca** Schs. (= *nigriplaga* Roths.) (143 g) is a very large species with relatively broad wings; forewing olive brownish, lighter in the basal third, with darker longitudinal stripes between the veins, with notched blackish transverse lines, a thick black cell-end dot and a black stripe before it; a broad slate-blackish shadowy stripe extends from the third quarter of the costal margin to the distal margin below the apex, a darker triangular spot is above it before the apex. Hindwing brownish, lighter towards the base. Brazil.
- zeuzeroides*. **N. zeuzeroides** Roths. is stated to be nearest to *discalis*, the silvery mouse-coloured forewing exhibits numerous brown and white transverse striae partly representing notched transverse lines; a grey spot finely surrounded with brown is at the cell-end, a brown subcostal streak is postdiscally. Hindwing dark brown, lighter towards the base. Expanse of wings: 66 mm. Amazons.
- lineiplena*. **N. lineiplena** Wkr. (= *cucullia* Fldr., *congrua* Dyar) (143 g). Forewing brownish, with darker longitudinal stripes and a deep brown shadow along the median vein to the distal margin, widening from the cell-end to the upper radial branch, a black discal dot in the lower cell-angle. Hindwing whitish with a narrow dark brown distal margin. Brazil.
- malga*. **N. malga** Schs. (143 g) is somewhat similar to *lineiplena*, but much smaller, likewise light brown, the dark brown longitudinal stripe much broader from the base, terminating at the distal margin between 4 and 7, with black longitudinal streaks between these veins; two indistinct spots surrounded by light brown are in the cell; double transverse lines only at the costal margin, only the posterior one is also distinct at the inner margin. Colombia, Rio de Janeiro.
- nigritorquata*. **N. nigritorquata** Dogn. (= *alba* Dogn.) (143 h) has greyish-white forewings with very feeble, brownish, oblique shadowy transverse lines proceeding from darker brown costal-marginal spots which are double distally; the median vein and veins 4 and 5 are fine black, a double, very oblique black line from the lower cell-end to the base on the submedian fold; a thick black spot above the anal angle. Hindwing diaphanous white with fine brown veins and margin. Colombia, Brazil.

N. scarra Schs. also has whitish-grey forewings with a broad brown costal margin as far as the double *scarra*. antemedian line which proceeds from a deep black costal-marginal spot, with black dots and streaks before it; cross-vein shaded brownish with black scales behind it; then follows a curved brown shadowy stripe with a black dot below the cell; the veins behind the cell are striped black as far as a straight blackish-brown double line behind which a narrow brown shadow follows, enclosing white and black vein-dots; a black subterminal spot between veins 4 and 5, and a black line above the anal angle. Hindwing greyish brown with white fringe. Expanse of wings: 45 mm. Guatemala. Probably the ♀ of the following *postpuncta*.

N. postpuncta Schs. is a smaller species also with whitish forewings which, however, are strewn with *post-* light brown, the marginal area dusted light brown, with double brown transverse lines, the median line treble, *puncta*. partly shaded with ochre; an irregular brown spot on the cross-vein, the cellular branches are black as far as the posterior transverse line behind which there are black and white vein-dots, and a round black spot between 4 and 5; the velvety black undulate line is irregular and interrupted. Hindwing whitish, veins and margin greyish brown. Guatemala. Expanse of wings: 42 mm.

N. indiana Grt. (= *guttulata* Schs.) (143 h). Forewing light grey, somewhat brownish behind the *indiana*. anterior double transverse line, dusted with reddish yellow in the marginal area; behind the large cellular spot, which is bordered by velvety black, follows a dark transverse line widened at the inner margin, and behind it a fine straight red-brown line; behind the double postmedian line, which is filled with dark grey, follows a row of reddish-brown spots, behind them double black dots and larger dark brown marginal spots. Hindwing whitish, blackish-brown outside. Florida, Cuba.

N. eastmani Schs. is somewhat similar to *indiana*. Basal part of forewing greyish-white, bordered by *eastmani*. the fine, partly double antemedian line, median area light reddish-brown, bordered by a double dark line which is angled on 3 and undulated below the cell; 7 black dots along the centre of the cell; a white postmedian area, strewn with dark, is traversed by a fine dark line, and a brown and black line between 4 and 5; distally bordered by a double dark undulate line, then follows a cinnamon-brown shadow with darker brown spots; marginal area reddish-brown, distally strewn with white, with dark brown lunules. Hindwing greyish-white, veins and margin brown. Expanse of wings: 49 mm. British Guiana.

N. plumipes Schs. (143 h) has grey forewings strewn with reddish-brown and partly shaded with green, *plumipes*. with undulated brown transverse lines, a broad brown and grey shadow behind the distal line; a series of black dots in the cell. Hindwing brown, whitish towards the base. Venezuela.

N. biumbrata Schs. is nearest to *plumipes* in its marking. Forewing silvery grey, dusted darker before *biumbrata*. the centre and in the marginal area; the antemedian area, behind the fine irregular black transverse line, is bordered by a double reddish orange brown line which is sinuate at the costal margin and on the median vein, with small black spots at the indentations; discal line whitish, scaled black, a dark crescentiform line behind it; postmedian line double, blackish-brown, undulated in the lower portion, a dark brown crescentiform line behind it; deep black internerval dots subterminally, blackish-brown marginal dots behind them. Hindwing white, veins and margin narrowly blackish-brown. Expanse of wings: 50 mm. Argentina (Tucuman).

N. olivescens Schs. (= *obliquata* Schs.) (143 h). Forewing light grey below the base of the cell and *olivescens*. at the inner margin, strewn darker, brown at the costal margin with a green longitudinal stripe, snow-white below it from before the cell-end to the submarginal line, strewn with brown and green towards the costa, bordered below by a fine black line; below and behind it the wing is dark green, traversed by the undulate-dentate black submarginal line. Hindwing reddish-brown, darker violettish-brown at the margin. French Guiana.

N. folia Jones. Forewing brownish ochre mixed with green and strewn with black and brown, black *folia*. at the base with green hair; behind the indistinct anterior transverse line follows a dark shadow forming a spot in the cell; a very dark postmedian shadow towards the apex is much narrower above the centre, bordered distally by a dentate line. Hindwing yellowish brown. Rio de Janeiro (Corcovado).

N. forfex Dogn. (143 h). This species, described as a *Tachuda*, is one of the smallest; brownish-grey, *forfex*. partly dusted with green and strewn with brown, marked like the preceding species, with a large brown spot before the double anterior transverse line at the inner margin, a double red-brown transverse shadow behind the cell, followed by two blackish-brown spots, the upper one being much larger. Hindwing brownish, lighter towards the base. French Guiana.

N. lophocera Dyar is somewhat larger than *forfex*, with narrower wings and similarly marked as the *lophocera*. preceding species, grey with green spots, brown in the basal area at the costal margin, with black dots in the cell and spots at the inner margin, the distal transverse line quite indistinct, brownish, a blackish subapical spot behind it at the costal margin. Hindwing greyish-brown, lighter towards the base. Expanse of wings: 44 mm. Panama.

N. longicornis Fldr. (= *picta* Dogn.) (143 h). Basal half of forewing greyish-green, white behind it, *longi-* brownish at the apex, with double antemedian and median transverse lines, and rusty yellow spots between *cornis*.

- griseescens*. them. Hindwing whitish-grey, veins and margin brownish. — f. *griseescens* Dogn. lacks the rusty yellow colour on the head, collar and metathorax, and at the inner margin of the forewing. Expanse of wings: 43 mm. French Guiana.
- ocellata*. **N. ocellata** Rothsch. (143 i) is presumably the most gaudy species. Forewing brown, with red-brown, reddish-yellow and violet transverse striae, a red-brown transverse shadow in the centre, and two violettish-pink lines at the end, followed by a light blue spot, with 3 or 4 dentate dark transverse lines; a round velvety black subapical spot looks like an eye in a reddish-yellow corona, a submarginal row of small slaty blue spots. Colombia, Guiana, Peru.
- scintillans*. **N. scintillans** sp. n. (143 i). Palpi brownish black; head and thorax deep blackish-brown, intermixed with silvery blue scales and hairs, abdomen dark greyish-brown, darker analwards with single silvery blue hairs; ventrum yellowish-grey. Forewing deep brownish-black, strewn with silvery blue, with velvety black markings consisting of a thick oval spot in the base of the cell and longitudinal stripes as far as the antemedian line which is situated almost in the centre and is undulate-dentate, followed by a twice as thick black dentate line between the costal margin and vein 2; behind it there is an irregular reniform macula, followed by the indistinct postmedian line which extends obliquely towards the anal angle between veins 3 and 1; the notched subterminal line is shaded dark red-brown inwards; a blackish-brown submarginal dentate line forms two thick black lunular spots bordered with silvery blue outside, between veins 2 and 1. Hindwing blackish-brown, yellowish-white basally and at the inner margin. This uncommonly beautiful species was captured by WERNER HOPP on the Rio Dagua (West Colombia), at an altitude of 1000 m, in May. Type in the Berlin Museum. Veins 7, 8 and 10 of forewing not stalked.
- squamosa*. **N. squamosa** Btlr. (143 i) forms the transition to the next species; forewing greyish-brown, transversely irrorated dark especially behind the centre of the costal margin, with very indistinct transverse lines, only the very deep notches of the anterior one are somewhat more distinct; from a lighter reniform macula at the cell-end a light longitudinal patch extends into the apex; undulate line irregular, lighter, shaded with dark inwards; feeble dark internerval dots before the margin, a larger round black subapical spot. Hindwing brownish-grey. Brazil.
- virgula*. **N. virgula** Fldr. (143 i). Forewing densely dusted with steel-black and violettish-red on the yellowish-grey ground; thus the ground-colour remains only below the lower cell-end and at the apex and it is connected with a basal spot below the median vein, forming a longitudinal patch which traverses the whole wing as far as below the apex; all the other markings are rather indistinct except a very pointedly notched anterior and a flatly undulate posterior transverse line; the latter is followed behind the cell by a black lunula, with a red-brown lunula above and below it, with fine white vein-dots below the centre. Hindwing yellowish, grey at the margin. Larva exactly like a *ziezac*-larva, grey with longitudinal lines directed obliquely forward below, and slender humps, the two posterior ones of which are orange-brown like the last segment; it lives on oaks. Most widely distributed from Mexico to Argentina and Paraguay.
- superciliosa*. **N. superciliosa** Gn. (143 i) is also very widely distributed and common, coloured somewhat like *virgula*, but larger and with broader wings, without the light longitudinal patch, transversely watered with numerous fine black and brown postcellular lines, with a black dot in the lower cell-angle. Mexico to Brazil and Colombia.
- drucei*. **N. drucei** Schs. (= *sabella* Dre., part.) (143 i) has light grey forewings, darker in the basal half, and with scanty darker transverse striae; the double black median line is most distinct below the cell; its interior portion is stronger, the posterior transverse line is dentate, with black vein-dots behind it; a small reniform macula, finely surrounded with dark, is at the cell-end, a black lunar line is before the margin. Hindwing whitish, smoky at the margin. Panama.
- nyseus*. **N. nyseus** Cr. (= *guttiplena* Wlr.) (144 a) is one of the best known species of a wide range. The whitish-grey ground of the forewing often shows a violettish-blue tint, dusted with red-brown, especially at the inner margin and subterminally, densely strewn with white and black on the veins, with indistinct double transverse lines which begin with intense red-brown double streaks at the costal margin, with a thicker black short transverse streak in the median line below the cell, black and white vein-dots behind the postmedian line, and 3 black dots below each other in the long narrow reniform macula which is basally extended into a fine streak. Head and thorax ochreous, hindwing iridescent diaphanous whitish, with a broad brownish-grey band at the margin. A most variable species from Mexico to Brazil. — f. **collaris** Schs. (144 a) has a dark brown or blackish-brown head and prothorax. Described from Costa Rica, but some specimens are also from Mexico.
- quaesita*. **N. quaesita** n. sp. (144 a) is very similar to *nyseus*, but it has much narrower wings of a yellowish-grey ground-colour without any violettish-grey tints and without the blackish-white irroration of the veins, whereby it is much more regularly marked; the red-brown inner-marginal colouring is entirely absent and is only feebly visible in the interior border of the light subterminal line; all the transverse markings are very feebly darker yellowish-grey, the brown double beginnings at the costal margin finer and more distinct, the black transverse spot below the centre of the cell is very prominent, also two spots below and above vein 3 in the

centre of the treble postmedian line; the distinct and small steel-black submarginal spots of the preceding species are much larger here, but of a duller colour. Hindwing yellowish-grey with a broad dark marginal band, not whitish, iridescent. Head and prothorax light yellowish ochre. According to 1 ♂ from Misantla (Mexico), taken in June 1809; type in the Coll. DRAUDT.

N. discalis Schs. (144 a) resembles very light whitish-grey specimens of *nyseus*, with finer and clearer *disca* markings, especially the reniform macula is composed of a very fine black line shaped like a triangle with a fine appendage towards the base. Hindwing much darker, only a small basal area somewhat lighter. Costa Rica.

N. kayei Schs. (144 a) is likewise allied to the preceding species, but smaller, darker, more intensely mixed *kaye* with brown, and more extensively reddish-brown at the inner margin, with a black transverse spot in the centre of the cell, a brown line bordered with black behind it; a double row of white dots behind the postmedian line; a large irregular spot surrounded with grey is at the cell-end; the black undulate line is strongest at the interior angle, before which, at the costal margin, there is a large reddish-yellow spot enclosing a velvety black streak. The whitish hindwing is brownish-black in the distal half. British Guiana. — f. **flavescens** Dogn. shows a *flavescens* brownish ochreous ground-colour strewn with olive with markings of the same colour, excepting the lighter yellow subapical spot with a very distinct black streak in it. Brazil.

N. striata Schs. (144 b). Forewing dark violet-brown with a silky gloss, darker brown internerval *striata* streaks, the threefold transverse lines are only distinct at the margins, an irregular brown spot is in the cell-end; a long light brown subapical spot, striped reddish, is at the costal margin. Hindwing brownish-grey, lighter towards the base. Costa Rica.

N. inchoans Wkr. (144 b) is very similar to *striata*, but much smaller and of a duller greyish-brown *inchoans* colour, the inner margin of the same colour, not lighter reddish-yellow; the beginnings of the threefold transverse lines are more distinct at the costal margin, the other scheme of markings is the same; the light, oblong, apical costal-marginal spot is not defined inwards, but gradually vanishes in the somewhat lighter costal-marginal area; submedian fold brown, narrowly edged with yellowish-white on both sides. Hindwing much more extensively whitish, narrower brownish-grey at the margin. Panama (Chiriqui).

N. analeptis sp. n. (144 b) is also allied to the preceding species. Forewing much lighter red-brown, *analeptis* especially light in the inner-marginal half, scantily strewn with black and white on the veins, with somewhat darker stripes between them; transverse markings only visible at the costal margin, very long pointed dents of a reddish-brown antemedian line are very feebly marked in the inner-marginal area; the basal half of the costal margin is very dark brown, it encloses, 3 mm behind the base, a very conspicuous yellowish-white longitudinal spot of 3 mm length; a black dot behind the lower cell-angle and double black antemarginal dots. Hindwing light yellowish greyish-brown, somewhat darker at the margin. According to 1 ♂ in the Senckenberg Museum; habitat unknown.

N. arimathea Schs. (144 a) differs considerably from the other species and copies certain species of *arimathea*. *Dasylophia*; forewing cinnamon-reddish with a yellowish tint, a fine dark line on the distal half of the median vein, and a black dot at the origin of vein 2; the cell is shaded darker, a curved whitish postmedian shadowy stripe is edged with ochre distally, another fine white line farther towards the margin, the apex behind it blackish-brown, traversed by a chestnut brown line edged with reddish-yellow inside, with whitish-grey outside. Hindwing greyish-white, broadly darkened at the margin. A small species from French Guiana.

13. Genus: **Pentobesa** Schs.

Rather near to the preceding genus and chiefly separated by the longer abdomen with a bipartite fish-tail at its end. Head behind with a tuft of hair-scales; vein 5 of forewing arises from the centre of the cross-vein. Only 2 species are known:

Type of genus: *P. xylinoides* Wkr.

P. xylinoides Wkr. (= pinna Drc.) (144 b) is a well known and very widely distributed species of a most *xylinoides* variable colouring. The light yellowish-grey ground-colour of the forewing shows more or less a reddish tint and is strewn with brown, especially in a longitudinal shadow through the centre; below and above it the ground-colour is purest; rather indistinct double dentate antemedian and postmedian transverse lines are filled with light, a blackish dot is in the lower cell-angle. Hindwing yellowish-grey. Tegulae whitish-grey, mesothorax red-brown. The ♂ exhibits an area of modified scales in the lower half of the median area. From Mexico to Brazil and Colombia.

P. valta Schs. (= placida Schs., roberto Dyar) (144 c) is smaller than *xylinoides*, lighter, greyer, scantily *valta* strewn with black, without the transverse lines, instead of which there is a subterminal row of black dots, the black discal streak is very prominent. Hindwing white, narrowly smoky at the margin. Mexico to Colombia.

14. Genus: **Heorta** Wkr.

Distinguished from the preceding genus by the shorter and broader wings with a rounded distal margin and sharp apex; the neuration is the same as that of *Pentobesa* except vein 6 arising a little above the upper cell-angle from the accessory cell, and besides the costal branch of the hindwing arises from the centre of the subcostal branch; in *Pentobesa* farther at the cell-end.

Type of genus: *H. roseoalba* Wkr.

roseoalba. **H. roseoalba** Wkr. is a pure white insect, the marginal area is slightly tinged with pink, the veins finely striped pink, and two notched broad pink transverse stripes, the anterior stripe is distally angular in the cell and on the submedian fold. Hindwing white with pink fringe. This pretty and considerably deviating Notodontid species has been described from Brazil.

cilla. **H. cilla** Dogn. (*oculata* Dogn., *mitis* Schs.) (144 c). The olive green ground-colour is dusted with red-brown in some places, the ♂ is more intensely strewn with black, with double black transverse lines, the posterior one being dotted white: a blackish oblique shadow extends from before the centre of the costal margin towards the anal angle which it does not reach, stopping before a thick black dot. Hindwing greyish-brown, lighter and more yellowish towards the base. Colombia, Bolivia, Brazil.

viridans. **H. viridans** Dogn. (144 c) is very similar to *cilla*, slightly larger on an average, with broader wings, lighter olive green, less intensely strewn with dark, with more scanty and finer markings, so that the black dot above the anal angle is more conspicuous. Hindwing somewhat lighter. Bolivia, Brazil.

carema. **H. carema** Schs. is smaller than *viridans*, the reddish-yellow ground is mixed with olive green and shows a large triangular brown area mixed with lilac, green and white, edged by the two velvety brown double transverse lines which are united above the centre of the inner margin; two dark brown spots are before the upper distal angle of this area; a black subterminal shadow is dusted with white distally. Hindwing dark brown. Expanse of wings: 27 mm. French Guiana.

15. Genus: **Theroa** Schs.

This genus had been originally established for the only species *zethus*, but it was cancelled again, and *zethus* ranged with the genus *Litodonta*; I leave the genus in its original form and range *zethus* as the type of it. Vein 6 of the forewing arises from the upper cell-angle, in *Litodonta* from the centre of the areole; the two lower subcostal branches arise on a rather long stalk from the end of the areole; vein 5 arises far above the centre of the cross-vein, about midway between the upper cell-angle and the centre of the cross-vein, in *Litodonta* rather exactly from the centre of the cross-vein. The lower larger half of the cell is quite open, only the upper short portion is closed and extends rectangularly to the subcostal vein; the costal vein arises directly from the upper cell-angle; vein 3 arises separated from 4, 5 is very feeble, 6 on a long stalk with the subcostal vein. The cross-vein on the hindwing of *Litodonta* is closed altogether, although the lower, very oblique part is feeble, the costal branch arises far before the cell-end. Only 1 species:

Type of the genus: *Th. zethus* Drc.

zethus. **Th. zethus** Drc. (144 c) is light whitish lilac grey on the forewing, strewn with brownish, the two median transverse lines are marked by rows of vein-dots edged with whitish, a red-brown reniform macula centred with reddish-brown is at the cell-end, and an antemarginal row of small red-brown internodal spots edged with reddish-yellow distally, then narrowly with red-brown. Hindwing of ♂ whitish, smoky at the margin, of ♀ brownish-grey, somewhat more whitish towards the base. Mexico.

16. Genus: **Euhyparpax** Beut.

This genus contains but one North-American species the ♂ of which has the antennae not pectinated to the tips and very short palpi. Forewing very slightly concave in the middle of the costal margin, the areole is very narrow and short, the other neuration very similar to that of *Heorta*. The costal branch of the hindwing arises near the cell-end. Only one typical species.

Type of the genus: *E. rosea* Beut.

rosea. **E. rosea** Beut. (144 c) is easily recognizable by yellowish pink forewings with a very indistinct darker curved postmedian line; traces of a yellowish spot are at the cell-end. Hindwing pink with lighter fringe. This rare species is only known from Colorado so far.

17. Genus: **Bardaxima** Wkr.

Antennae of ♂ tuftedly ciliated, the third joint of the palpus long. Distal margin of forewing dentate; areole long and narrow, the two lowest subcostal branches not stalked from the end of it.

Type of the genus: *B. lucilinea* Wkr.

B. lucilinea Wkr. (= *fulgurifera* Wkr., *demea* Drc.) (144 d) is a large, common and well-known species *lucilinea*. with greyish-brown forewings which are transversely irrorated in a darker colour, a jet-black longitudinal streak on the discal fold extends to the margin and is interrupted in the middle by a silvery white streak; a dark brown posterior transverse line is more or less completely marked, above the inner margin, near the base, there is a brown spot which is distinctly bordered by a twice angular velvety brown line distally; a spot of whitish clouding is above the anal angle. Hindwing brownish-grey with lighter yellowish fringe. Mexico to Brazil and Bolivia.

B. hippoides Schs. is much smaller than *lucilinea*, dark violet-brown, dull brown towards the base, a *hippoides*. short, dark velvety brown streak edged with white below the cell near the base, a greenish spot behind it before the brown anterior transverse line; a dark velvety brown lunar spot is in a brown spot at the cell-end, a similar, wedge-shaped spot behind it, a white streak above the latter spot along vein 5, bordered by a short white line, both bordered by dark brown, the apex is parted by a light brown oblique shadow. Hindwing brownish-grey. Expanse of wings: 45 mm. Costa-Rica.

B. perses Drc. (= *demera* Schs.) (144 d). Forewing grey, shaded with brown subterminally and at the *perses*. costal margin, with darker grey double transverse lines, the posterior one with lighter spots bordered with black, followed by a series of black spots; a velvety black strigiform spot at the cell-end, a grey spot below it; a black strigiform spot is in a whitish apical spot which turns reddish-brown distally. Hindwing brown with lighter fringe. Guiana, Amazons.

B. belua sp. n. (144 d) is a large species with broad wings; the whitish ground-colour of the forewing *belua*. is reddish-violet at the inner margin and behind the lower cell-end, otherwise light green, broadly dusted with olive green and strewn with blackish at the costal margin, the double transverse lines are blackish, undulate-dentate, rather inconspicuous; a blackish-brown crescentiform spot is at the cell-end, before it, from the costal margin, a broad curved olive green shadow which extends to vein 2 down to the posterior transverse line, behind which — between the costal margin and vein 4 — a broad blackish-brown shadow is situate, forming a broad distal concavity between 5 and 7, a greyish-brown spot is below it before the undulate-dentate subterminal line; the anal-marginal half is purer whitish. Hindwing greyish-brown, fringe whitish, speckled blackish-brown on the veins of the forewing. Abdomen brownish-grey with a broad light grey dorsal stripe. 2 ♀♀. 1 ♂ from Pachitea, Eastern Peru, and Santarem. Types in the Berlin Museum.

B. molossus Rothsch. is a very large species, peculiar for the double preapical excision of the costal margin *molossus*. of the forewing; forewing greyish-brown, densely transversely striated darker, the distal three fifths of a more yellowish tinge, the striae arranged in such a way that, especially in the distal half, they make the impression of dentate transverse lines; a double, slightly bent blackish-brown median line extends through the centre; a large chestnut-brown subapical spot. Hindwing greyish-brown with lighter fringe. Expanse of wings: 73 mm. Amazons.

B. marcida Fldr. (144 d). Forewing dark brownish-grey, dusted with white behind the centre towards *marcida*. the inner margin, with double dark transverse lines, the anterior line strongly curved, the posterior line dentate, with a black cellular dot and discal streak. Hindwing greyish-brown with lighter fringe. Colombia and Brazil.

B. terminalba Jones (144 e). The brownish ochreous forewing dusted with dark grey is greyish-white *terminalba*. at the base and in the lower two thirds of the marginal area; the double transverse lines are reddish-brown, the anterior line is darker; a subterminal row of black internodal dots, and two short black streaks at the cell-end. Hindwing yellowish-brown. South-Eastern Brazil.

B. dissona sp. n. (144 e) has narrow wings. Basal area of forewing narrowly yellowish-grey, spotted *dissona*. reddish-yellow towards the black defining subbasal line, a glaring silvery white crescentiform spot distally bordered with black behind this line below the cell; light greyish-brown and irrorated with blackish-brown as far as the posterior transverse line, a reddish-yellow spot behind the anterior transverse line at the costal margin, a black streak at the cell-end; posterior transverse line black, undulated, projecting far distally behind the cell; the distal part of the wing is densely strewn with brownish-black on the white ground, a black lunular line before the margin. Hindwing greyish-brown. 1 ♂ from Iquitos; type in the Berlin Museum.

18. Genus: **Phedusia** Mschlr.

Distinguished by uncommonly long antennae which may be almost as long as the forewing, provided with terminal bristles in the male; palpi long, also the third joint, and densely clad with short hair. The long abdomen exhibits an anal tuft; the legs, inclusive of the tarsi, are densely haired. Neuration of forewing like

that of the preceding genus, but vein 5 arises much nearer at 6; the cell of the hindwing despatches all its branches without a stalk. Only two species are known.

Type of the genus: *P. turbida* *Mschlr.*

turbida. **P. turbida** *Mschlr.* (= *apicenotata* *Dogn.*, *castaneobrunnea* *Rothsch.*) (144 e) has yellowish-brown forewings densely strewn and dusted with red-brown, with indistinct double transverse lines and a greenish spot before the anterior one below the cell; a double reniform-macular streak at the cell-end is closed above, a large dark red-brown subterminal crescentiform spot near the costal margin encloses black longitudinal striae, a small light reddish-yellow subapical spot at the costal margin is bordered with deep velvety brown distally. Hindwing dark brown. Guiana.

riachuela. **P. riachuela** *Jones* (144 e) is much smaller than *turbida*, brown, with double darker transverse lines filled with ochre, the posterior line quite indistinct, the upper distal half of the median area strongly darkened in a triangular shape, enclosing 2 yellowish-white triangular spots which are similarly shaped as in the very well-known *Didugua leona* (146 a), but somewhat larger. Hindwing brown with lighter fringe. Brazil, Bolivia.

19. Genus: **Elymiotis** *Wkr.*

Structure very similar to that of the preceding genus, but with shorter antennae and also shorter palpi. Neuration almost the same, but vein 5 arises somewhat deeper, but above the centre of the cross-vein.

Type of the genus: *E. notodontoides* *Wkr.*

notodontoides. **E. notodontoides** *Wkr.* (= *sericea* *Wkr.*, *phaleroides* *Wkr.*) is similar to the two next species, but considerably larger; forewing somewhat more brownish, without the intense transverse speckling, the double dentate transverse lines are more distinct; the black transverse streak below the cell is absent, but there is more blackish shading in the median area; a plain reniform macula in a somewhat lighter ring is in the cell-end, followed by dark longitudinal lines between the darkened veins; the silvery white longitudinal streak is absent. Hindwing greyish-brown. Brazil.

attenuata. **E. attenuata** *Wkr.* (= *ancora* *Fldr.*) (144 e) is a very common, widely distributed species with greyish-brown forewings with darker transverse speckling, indistinct double dentate transverse lines which begin more distinctly and very obliquely at the costal margin; a very characteristic jet-black transverse streak below the cell is slightly interrupted by the submedian fold and bordered on both sides by erect, partly lighter scales; one black dot in a somewhat lighter ring at each cell-angle, some fine blackish-brown longitudinal lines behind it, the lowest being interrupted in the middle by a silvery white longitudinal streak which bifurcates a little distally. Hindwing greyish-brown. Mexico to the Amazons.

corana. **E. corana** *Schs.* (144 f). This species is found in the collections partly as *longara* *Stoll* which, according to the figure and description, has pectinated antennae, or as *attenuata* *Wkr.*, or *ancora* *Fldr.*, both of which are smaller species. Forewing silvery greyish-brown, the markings blackish-brown; transverse lines double, the anterior one angled on the median vein, where it is defined inwards, with erect velvety black scales as far as vein 1; a velvety black spot in the lower cell-angle, a smaller one above it farther outside; median vein and vein 4 shaded with dark above, with whitish beneath; a small triangular white postmedian spot between 4 and 5; marginal area between 4 and 6 brownish-grey, veins 5 and 6 and the space between them, as well as above and below them striped black; a black undulate-dentate line before the margin. Hindwing brown, lighter towards the base with white fringe and a small double anal spot. The ♀ is more monotonously greyish-brown with less prominent marking. Expanse of wings: 48—54 mm. Mexico to French Guiana.

alata. **E. alata** *Drc.* (144 f) is differently coloured and marked; smaller and lighter coloured, especially the inner-marginal area is lighter, more yellowish, less marked, all the transverse markings finer, the black antemedian streak below the cell distinctly double; a distinct whitish patch before that streak to the base; the light forked longitudinal streak in the lowest longitudinal line before the margin is not white, but contrasts only slightly with the yellowish ground-colour, another similar streak is above it. Hindwing greyish-brown with light yellowish fringe. Distal margin of forewing less strongly notched. Honduras, Panama.

purpurascens. **E. purpurascens** *Btlr.* (144 f) is very similar to *attenuata*, but decidedly darker and more red-brown on the whole, the black antemedian streak below the base is much less prominent, the fine longitudinal linear marking in the subterminal area is less pronounced owing to a dark brown shadowy blotch above it; the lower one of the two discal dots is much thicker, spot-shaped and in a distinct lighter ring, the posterior transverse line is more distinct, more spotted, especially strong at the costal margin. Hindwing darker brown. From Panama to the Amazons.

plechelm. **E. plechelm** *Schs.* is somewhat similar to *purpurascens*, from which it differs in the absence of the white forked longitudinal streak: the ground-colour is more cinnamon reddish grey, but much lighter, Isabel-coloured

on the median vein, in a basal area below the cell, in a spot below the lower cell-angle and along the costal margin, the shadow behind the cell as far as the margin purple brown, a whitish line dusted orange is subapically above it. The hindwing is white in the basal half, cinnamon-brown with a bronze gloss outside, with white fringe. Peru.

E. audax *Drc.* is much lighter yellowish bay on the forewing, yellowish at the inner margin, the black *audax*. spot at the lower cell-end very large, the transverse line behind it composed of black dots; the cell is traversed by a white longitudinal streak; otherwise similarly marked as *plechelm*. Hindwing light yellowish-brown, darker outside. Expanse of wings: 40 mm. Described from Panama.

E. morana *Schs.* (144 f). Head and thorax red-brown, abdomen brownish-grey. Forewing brownish *morana*. sand-coloured, the base and the discal veins strewn with greenish and black, light greenish scales are also below the distal half of the cell; transverse lines double, the anterior one velvety black, interrupted below the fold, a triangular dark shadow before the middle line in the lower half; a round velvety black spot is in the lower cell-angle and a smaller streak bordered with white above towards the base, and a vertical streak above it; a black longitudinal line with a fine short silvery white Y-mark extends through the cell and behind it; the double posterior transverse line is brown, filled with a lighter colour, a white line is before it at the inner margin; blackish-brown subterminal streaks above 5 and 6. Hindwing brown, whitish towards the base with a small double anal spot. Expanse of wings: 42—50 mm. Mexico to French Guiana and Colombia.

E. glaucula *sp. n.* (144 f). Head, collar and mesothorax rusty yellowish, tegulae light violet-grey, border *glaucula*. of collar and metathoracal tuft more blackish-brown; abdomen brownish-grey. Forewing brownish-grey in the basal half — in the anterior half as far as the cell-end, below the median vein only as far as the strong antemedian double streak — covered with light greenish-grey scales behind the subbasal area, the distal half of the wing light violet-grey, more greenish at the costal margin and in the proximal half of the median area; a whitish patch behind the submedian red-brown double streak; the two black fine dots at the cell-end, a fine black longitudinal streak between these dots extends to the very fine arcuate submarginal line, interrupted on the posterior undulate-dentate transverse line, but not white; a double row of black dots behind the transverse line; subterminal line feebly shaded with rusty brown inwards; fringe rusty brown. Hindwing light brownish, broadly darkened at the margin. Type: 1 ♀ from Mexico (Colima) in the Coll. DRAUDT; 1 ♂ from Guatemala in the Berlin Museum.

E. lupicina *Schs.* Forewing light brownish-grey, the veins strewn with black and white, double undulate *lupicina*. transverse lines, a whitish brightening behind the anterior line between the cell and the inner margin; a short vertical line before the median line is composed of erect velvety black scales, with an appendage towards the base on the fold; a large round velvety black spot; in the lower cell-angle, and a smaller one above it; the posterior transverse line is punctiform with an indistinct undulate line behind it between the costal margin and 5, and a triangular silvery spot between 5 and 4; blackish-brown velvety subterminal spots below 7 and 6, and a large duller spot below 5 at the silvery spot. Hindwing white, veins and margin brown with an anal double strigiform spot. Expanse of wings: 39 mm. Paraguay.

E. donatian *Schs.* Head and shoulders whitish, thorax brown, abdomen brownish-grey. Forewing *donatian*. brownish cinnamon-coloured, suffused with grey, basal area and costal margin lighter; a vertical velvety black antemedian line between the cell and the inner margin; median line in the cell light brown, silvery white scales behind it above the median vein as far as the cell-end, a small black spot on the cross-vein; end of median vein black, continued along 5 as far as the margin, interrupted by a silvery white streak behind the double postmedian line, a brown shadow behind the latter between the cell and the inner margin; the whole forewing is transversely striated darker. Hindwing white, narrowly brownish at the margin. Expanse of wings: 46 mm. British Guiana.

E. complicata *Dogn.* was described as *Gisara*, but it belongs near to *donatian*. Forewing earth-brown, *complicata*. yellowish-white in the basal and anal areas, watered violet or greenish along the costal margin, on the submedian vein and behind the cell as far as the margin, traversed by indistinct double blackish-brown transverse lines which are edged with yellowish ochre, the posterior line forms a yellowish inward point between 4 and 5, black longitudinal streaks are behind it; two black dots at the cell-end, the lower dot is much thicker, two more dots before the upper dot in the cell. Hindwing blackish, lighter towards the base, with whitish fringe and a black anal spot divided by light. Expanse of wings: 51 mm. French Guiana.

E. longara *Stoll* has not yet been undoubtedly diagnosed, but according to SCHAUS it is to be ranged *longara*. here; it almost resembles a *Dasylophia*, forewing yellowish-grey, darkened grey in the marginal area, broader towards the apex, with fine brownish double transverse lines, the posterior line surrounding the cell-end in a large bow, a fine black dot in its lower angle; veins finely striped darker, dark longitudinal streaks between them in the marginal area. Hindwing brownish-grey. Surinam.

E. cretosa *Dogn.* Forewing light yellowish, strewn with red-brown, with double chestnut-brown trans- *cretosa*. verse lines proceeding from intense costal-marginal streaks, a black double streak at the end of the cell which is dusted with brown; the double subterminal line filled with white forms a bow from near the apex to the anal angle, one white dot or streak each is before and behind it. Hindwing red-brown, base and fringe yellowish-white. Expanse of wings: 46 mm. Ecuador.

boisil. **E. boisil** Schs. Head and thorax blackish-brown, only the collar and metathorax brownish cinnamon-coloured. Forewing light brownish cinnamon-coloured; dark undulated double antemedian lines, a thick velvety black line behind them at the inner margin, bent up to the cross-vein and extending along 5 almost to the margin, where two small black spots are above it; the line has yet a triangular continuation downward across the median fold, and a tiny silvery white spot near the end with a continuation towards the base; discal veins strewn with black and white; white marginal dots on the ends of the veins. Hindwing white, broadly cinnamon-brown at the margin. Expanse of wings: 45 mm. French Guiana: Amazons (Teffé).

20. Genus: **Ctianopha** Schs.

Structure like that of *Elymiotis*, but with broader wings which show a distinct angle at the somewhat dentate distal margin on vein 3. The second joint of the palpus is longer than in *Elymiotis*, and the collar exhibits tufts of scales. The neuration is the same, but vein 6 of hindwing is always more distinctly stalked with 7. 4 species are known so far.

Type of the genus: *C. argyria* Btlr.

argyria. **C. argyria** Btlr. is similar to the species of the genus *Calledema*; forewing reddish-brown, with indistinct darker double transverse lines, a dark dot at the cell-end in the lower angle, a silvery stripe extends from this dot to the centre of the distal margin and cuts the lighter undulate linear shading which comes down in 3 inwardly curved bows; the latter shading despatches downward three branches to the 3 lowest marginal veins. Hindwing brownish-grey. Brasil.

argenti-linea. **C. argenti-linea** Schs. is yellowish bay on the forewing, strewn with darker brown, dusted with green at the costal margin, in the distal half of the cell and in a spot before the centre below the cell; transverse lines marked darker; a streak on the distal half of the median vein and the cross-vein are silvery white, a submarginal row of black spots, brown internerval streaks on the margin. Hindwing red-brown, lighter towards the base with a black anal spot which is parted by white. Expanse of wings: 32 mm. French Guiana.

serena. **C. serena** Schs. is similar, with the same green spots, but the ground-colour is lilac grey, only the brown cross-vein is narrowly bordered with silvery white outside, with yellow inside; the transverse lines are much less distinct, only formed of darker strewing; a brown spot is before the lowest black submarginal spots. Hindwing as in *argenti-linea*. Expanse of wings: 32 mm. British Guiana.

lilacina. **C. lilacina** sp. n. (144 g). Forewing light lilac grey, strewn with blackish-brown, double undulate-dentate transverse lines are marked by denser strewing, the posterior line is followed by black and white vein-dots; a narrow, brownish-grey reniform macula bordered with white is at the cell-end, a darker spot before it in the cell; dense blackish-brown strewing before the undulate line; a fine light crescentiform line in the marginal area which is more densely strewn with blackish-grey. Hindwing greyish-brown, a black spot parted by white is at the anal angle. 1 ♂ from Thomar: Berlin Museum.

21. Genus: **Proelymiotis** Schs.

Separated from the closely allied *Elymiotis* by a very high tuft of hair-scales on the frons; palpi porrect, with a longer middle joint. The neuration scarcely differs from that of the two preceding genera. A number of species with a very different exterior have been described.

Type of the genus: *P. aequipars* Wkr.

aequipars. **P. aequipars** Wkr. (= *seminiva* Wkr., *divisa* Mschlr.) (144 g) is a very characteristic, common and widely distributed animal with yellowish whitish-grey forewings, dark blackish-brown in the basal half and a costal spot behind the centre, the distal portion traversed by numerous double fine dark transverse lines; a finely margined irregular reniform macula; small slate-black spots before the margin. Hindwing brownish, dark brown on the margin and veins. Mexico to Peru and Brazil.

similis. **P. similis** sp. n. (144 g) is exceedingly similar to *aequipars*, easily discernible by the white, thinly scaled hindwings with a narrowly smoked margin and veins; basal area mixed with a somewhat lighter reddish-brown colour, the border-line distally extending more vertically to the inner margin; distal area purely silvery white, scantily strewn with blackish, with a narrow reniform macula which shows three distal notches, at the cell-end; a fine notched white subterminal line is before the very distinct fine black submarginal line, fine black pointed arrow-shaped spots are on its proximal side, similar pointed spots are before the fringe, the points extending into the fringe. 1 ♂ from Petropolis, type in the Berlin Museum.

severina. **P. severina** Schs. Frons white, spotted black, thorax black except the collar, which is cinnamon-brown in front, and the similarly coloured basal tuft of the antenna. Basal half of forewing of a deep slaty brown

colour, the black linear markings in it are finely edged with a brownish sand-colour, costal margin black with a fine double white antemedian line; a small reddish cinnamon spot at the inner margin in the dark basal part; distal half reddish, turning cinnamon-brown at the margin, an oblong brownish-black spot at the costal margin, from a black dot before it a reddish-yellow line extends to the inner margin; 3 fine indistinct postmedian lines, the first undulate-dentate, all of them with dark vein-dots; subterminal line whitish, edged with cinnamon-brown, a small dark spot behind it at the anal angle. Hindwing reddish-yellow, apex and margin suffused with a brownish cinnamon-colour, with a small dark anal spot. Expanse of wings: 63 mm. Brazil (Rio Purus).

P. nystalina *sp. n.* (144 g). Wings shaped exactly like those of *Nystalea*, but according to the neuration *nystalina*. it is a *Proelymiotis*. Head and thorax light reddish yellowish-brown; collar light dove-coloured, abdomen brownish-black, creamy beneath. Forewing light dove-coloured at the base, in the distal half of the costal margin and in a broad transverse band through the cell-end, the rest reddish-yellow, with extraordinarily high pointed notches of a red-brown double antemedian line; double red-brown transverse lines before the cell-end border on the light grey median band, a narrow reniform macula feebly filled with yellowish, a blackish line above it and below it; the grey band is distally defined by a thick double red-brown line, black-white vein-streaks are behind it and oblique slate-coloured internerval streaks before the margin. Hindwing scantily covered with whitish scales, veins and margin smoky. 1 ♂ from Blumenau (Brazil), type in the Senckenberg Museum.

P. lignicolor *Mschlr.* (= *exusta* *Btlr.*, *arpia* *Schs.*) (144 h). Colouring and marking very similar to that *lignicolor*. of certain species of *Dasylophia*, as which it was also described. Forewing brown, mixed with olive yellow, inner margin yellowish-white, a dark brown longitudinal stripe above it extends to the margin in a double bow; the clay-coloured area extends between the lower radial branches to the margin, a round blackish-brown spot is below it near the anal angle, the margin is darkened grey in some places. Hindwing brownish-grey, darker at the margin with yellowish fringe. Guiana to Brazil.

P. lavana *Dogn.* is very closely allied to *lignicolor*, the forewing is more light brown, the median area *lavana*. partly shows a reddish pink tint, grey dusting is at the cell-end and behind it, brown at the end of the median vein and below it; brown spots are behind the undulate line, followed by white striae which extend less high towards the costal margin in *lignicolor*. Hindwing blackish, lighter towards the base, with whitish fringe. Expanse of wings: 37 mm. French Guiana.

P. xylophasioides *Btlr.* (144 h) is allied to the two preceding species; forewing bone-coloured white, *xylopha-* striped reddish-brown on the veins and between them, darkened somewhat greyish-brown at the inner margin, *sioides*. the characteristical dark brown longitudinal stripe above it; a contrastingly red-brown undulate linear shading is before the light bluish-grey margin, terminating before the anal angle, where it is replaced by a large, black spot which is encircled with white and yellow. Separable by much lighter, dingy white hindwings. Brazil.

P. joanna *Schs.* (144 h). Forewing grey, reddish-yellow in and behind the cell, the inner margin and *joanna*. distal margin light brown, with darker spots in the centre of the costal margin, at the apex and below the centre of the distal margin; transverse lines double, the two anterior ones indistinct, the posterior one dark brown, filled with a lighter colour; the light brown hindwing is violet-brown at the distal margin, fringe yellowish. French Guiana.

P. serrata *Schs.* Forewing reddish-yellow in the basal half, dusted with brown at the base and margins, *serrata*. with fine grey veins, grey behind them, the darkest area below the cell-end, cross-vein striped white; a fine reddish-brown line before the brown median line, a blackish-brown line behind it; the fine undulate blackish-brown posterior transverse line is followed by a reddish-yellow shadow with black and white vein-dots; the white undulate line is darkened above the centre by dark shading. Hindwing greyish-brown with whitish fringe. Expanse of wings: 42 mm. Guatemala.

P. manacoides *Schs.* Forewing lilac brown. Basal area and basal half of cell white strewn with brown; *mana-* white are besides: a basal streak above the submedian line, the anterior transverse line with a blackish-brown *coides*. cellular spot before it, finally a short thick streak behind the cell, which is continued obliquely towards the apex by a fine line; a dark brown discal shadow extends to the margin; small blackish-brown internerval spots are before the margin. Hindwing light greyish-brown. Expanse of wings: 43 mm. Guatemala.

P. argolarma *sp. n.* (144 h) has metallic brass-coloured forewings finely strewn with brown, some parts *argolarma*. being more densely strewn so that fine notched transverse lines and a narrow reniform cell-end macula are produced which are difficult to distinguish in the strewn ground; costal margin and subterminal area dusted somewhat lilac; a tear-shaped narrow silvery drop bordered with black below is behind the upper cell-angle along the middle radial branch; a fine blackish-brown, scalariformly notched submarginal line, a roundish, purely light yellow subapical spot before it at the costal margin. Wings broader than in the typical representatives of the genus. Hindwing brownish-grey. 1 ♂ from São Paulo de Olivença: type in the Senckenberg Museum.

22. Genus: **Lysana** *Mschlr.*

Distinguished by a long hair-tuft at the base of the antenna, the long erect palpus shows a very short terminal joint, the front legs are very thickly haired. The broad forewing is entirely margined with a rounded

apex and a very slight concavity before it at the costal margin; vein 5 arises above the centre of the cross-vein, 6 from the areole, the subcostal branches from its end; the cellular branches of the hindwing are stalked by twos, the upper ones longer, the costal vein arises near the base of the cell.

Type of the genus: *plexa* *Mschlr.*

plexa. **L. plexa** *Mschlr.* Forewing reddish-brown, shaded with violettish-grey at the inner margin and distal margin, with a white eostal margin; the two broad dark brown transverse stripes are confluent above the submedian fold and together extend from here to the inner margin, producing a Y-shape; a black double dot at the cell-end; the undulate line is only marked by the contrast between the grey marginal area and the reddish interior part; dark internerval streaks are before the margin. Hindwing brownish-grey, a black spot divided by white is at the anal angle. Brazil, Guiana.

parvipuncta. **L. parvipuncta** *Dogn.* has yellowish-brown forewings with somewhat darker veins and a brown oblique line extending from the first quarter of the costal margin to the centre of vein 2, from where irregular, partly double red-brown strigiform spots run to the apex; a white triangular spot is behind the cell, its point showing towards the cell; brown internerval streaks are before the margin. Hindwing blackish with lighter fringe. Expanse of wings: 37 mm. French Guiana.

plusiana. **L. plusiana** *Schs.* (= *postpicta* *Dogn.*) (144 h) differs from the diagnose of the genus in the smoothly scaled anterior legs; a very small species, the forewing lilae grey mixed with olive brown, with an oblique white line from the submedian vein to the cell-end with a copper-brown shading behind it and a golden triangle in the centre of the inner margin, another shorter similar line below it at the inner margin; a blackish stripe extends from the cell to the distal margin, an oblique white stripe is behind it; the distal margin is brownish in the upper two thirds, mixed with eoppery. Hindwing of ♂ white with a brown margin, of ♀ quite brown. Panama; Venezuela; Guiana; Brazil (Goyaz).

minasensis. **L. minasensis** *Schs.* Anterior body white, mixed with a lighter and darker brown. Forewing reddish-yellow with a brownish einnamon-coloured subbasal line, shaded with brown below the median vein, with a fine white line extending through the cell to the base of vein 4; an olive brown double antemedian line from the costal margin to the white cellular line, another line close behind it extends to vein 1, despatching a branch to the white cellular line, bordered with white above inside and below outside; a broad olive brown shadow behind it is partly bordered with blackish-brown, distally with a short blackish-brown line to the lower cell-angle with a dark oblique streak above it, and a velvety black dot in the cell before it, bordered with white; above it, at the costal margin, there is a double olive brown line bordered with white on both sides; the double postmedian line is olive brownish; a white crescentiform line in the centre of the inner margin, and a fine blackish-brown line above vein 4 does not reach the margin; subterminal line white, spotted olive brown on vein 5 on both sides, and with oblique white, brown-edged marginal streaks below it. Fringe spotted dark. Hindwing reddish-yellow, brown at the margin, with a dark anal spot parted by silvery white. Expanse of wings: 52 mm. Minas, Brazil. Larger and lighter than *plusiana*, without its golden brown marking.

23. Genus: **Pseudantiora** *Ky.*

Antennae tuftedly eiliated as in all the preceding genera, the upturned palpi long, the second joint twice as long as the third; long hair-tufts between the antennae on the head as in the preceding genus. The neururation does not differ much from that of the species of *Lysana*.

Type of the genus: *P. contingata* *Mschlr.*

contingata. **P. contingata** *Mschlr.* (144 h). Forewing greyish-white with a slight olive tint and a straight broad blaekish-brown longitudinal stripe from the basal third of the costal margin to the centre of the distal margin, a similar trapezoid spot above it subapically, and two small spots below the centre of the cell; traces of undulate transverse lines. Hindwing light brownish-grey, darkened at the margin. Guiana to Colombia and Brazil.

rufescens. **P. rufescens** *Schs.* (144 h) resembles *contingata*, but it is easily distinguished by the lighter red-brown colour of the longitudinal stripe which widens towards the base to almost the whole width of the wing and is more distinctly separated towards the costal margin by a white line from the light grey ground-colour; another black dot between the subapical costal-marginal spot and the longitudinal stripe. The range is the same.

irregularis. **P. irregularis** *Dogn.* is likewise very similar to *contingata*, the forewing is yellowish-white, the blaekish-brown longitudinal band does not extend straightly and horizontally to the centre of the margin, but from the costal margin, where it occupies the whole basal quarter, obliquely rounded with a very irregular border to the margin between 2 and 4; the spots below the centre of the cell form a branch narrowing down towards the inner margin; another preapical eostal-marginal spot is as large as the first; blaekish-brown internerval spots on the margin. Hindwing blaekish-brown with yellowish-white fringe. Expanse of wings: 38 mm. French Guiana.

P. laurena Schs. lacks the characteristic dark longitudinal stripe through the forewing which is coloured *laurena*. white, strewn with brown, and feebly shaded with greenish at the base of the costal margin, in the cell above the median vein and above the inner-marginal vein; inner margin and costal margin brown in the centre, with numerous transverse lines, the antemedian ones composed of spots, the hinder ones of double rows of lunae, a short double postmedian line above the inner margin, before the double postmedian line there is another single line, two of its lunae above the inner margin are much stronger than the others; apex dusted brown, containing a large black spot at the distal margin, which extends down to vein 5, smaller black spots below it, being strigiform at the anal angle. Hindwing light brown, darkened at the margin, whitish in the disc. Expanse of wings: 35 mm. French Guiana.

P. indiscreta Dogn. has also white forewings densely strewn with brown, more purely white behind the *indis-* centre, with numerous irregular and interrupted double transverse lines, a dentate line behind the postmedian *creta*. line, the dents of which are particularly prominent behind the cell; opposite to them there are black internerval spots on the yellowish-grey ground, above which black shading extends to the costal margin; a longitudinal row of 7 black dots in the cell, cross-vein white, above with a black streak. Hindwing white with a black costal margin and distal margin which narrows down analwards. Expanse of wings: 40 mm. Amazons (São Paulo de Olivença).

24. Genus: **Cottobara** Wkr.

This genus and the following genera are without the vertical tuft: the ♀♀ antennae are finely ciliated, the rising palpi densely scaled with a very small terminal joint. Neuration exactly the same as in *Lysana*, but the costal branch arises near the cell-end. Only 1 species:

Type of genus: *C. concinna* Wkr.

C. concinna Wkr. is a large red-brown insect intensely strewn with whitish, the inner-marginal area *concinna*. shaded with violettish-grey; the two darker brown transverse lines are crenulate, connected by a broad dark longitudinal shadow on the submedian fold; one round dark ring each surrounded by a lighter colour is in the cell and at the end, whereby a Noctuid marking is produced; the sharply notched light undulate line is shaded somewhat darker inside and shows dark internerval streaks behind it. Hindwing dark brownish-grey with lighter fringe. Expanse of wings: 56 mm. Brazil.

25. Genus: **Marthula** Wkr.

Chiefly distinguished from the preceding genus by the longer abdomen with a fan-like or fishtail-like anal tuft in the male. The neuration differs in the vein 5 of the forewing arising from the upper cell-angle, not from the areole, and the veins 3 and 4 of the hindwing arising separately. Numerous similar species are known.

Type of genus: *M. quadrata* Wkr.

M. quadrata Wkr. (144 i) is one of the most insignificant species with brownish, darker strewn forewings *quadrata*. with 3 straight oblique lighter-edged transverse lines, the two anterior ones of which do not reach the costal margin, and a reniform macula at the cell-end above the median transverse line. Hindwing whitish with a narrow dark margin. Collar and mesothorax darker brown, contrasting with the light tegulae and head. Brazil.

M. multifascia Wkr. (= *nora* Schs.) (144 i). Markings similarly arranged as in *quadrata*, but more *multi-* gaudily coloured, forewing brown in the upper half, more lilac grey in the larger inner-marginal half, broadly *fascia*. rusty yellow or chestnut-red in the centre of the costal margin and in a spot in the centre of the distal margin. Hindwing white, brownish on the veins and margin. Brazil.

M. rufescens Schs. resembles *multifascia*, but it is at once separable by the dark, brown hindwings; *rufescens*. forewing brown, dusted with lilac basally, at the inner margin, in and below the centre of the cell, and in the lower half of the distal margin, broadly red-brown at the costal margin, without the red marginal spot, the partly double transverse lines are edged with lilac, small dark internerval spots are before the margin. The larger ♀ is more monotonously dark brown, and not red-brown at the costal margin. Expanse of wings: 35—40 mm. Costa Rica.

M. thoreda Schs. is allied with *quadrata*; forewing rusty reddish-brown, broadly suffused with brown *thoreda*. at the costal margin and distal margin down to vein 3, and also at the inner margin before the lines; the latter are fine, light reddish grey, the antemedian line double, the inner portion in the cell interrupted by a dark round spot, a smaller cellular spot behind the exterior portion; the oblique reniform macula is long and narrow surrounded by light; small black subterminal lunules. Hindwing brown, whitish in the disc. Expanse of wings: 37 mm. French Guiana.

M. cynrica Sch. is similar to *hirsuta*, genitally different. Forewing light reddish grey in the median *cynrica*. area and at the margin downward from vein 3, the margin above it and the costal-marginal area suffused with

orange; the lines are shaded with deep brown inside in the lower half, subterminally with narrow black internerval streaks, bordered with light distally. Hindwing white. veins and margin cinnamon-brown. Expanse of wings: 34 mm. Guatemala.

pleione. **M. pleione** Schs. (144 i) is at once recognizable by the two large yellowish-white costal-marginal spots reticulately marked with red-brown lines, the basal spot being smaller than the one situate in the centre of the costal margin; the inner margin of the brown forewing is broadly dusted with grey; the other marking is the same as that of *cynrica*, but the transverse lines are only distinct at the inner margin. Hindwing brown, somewhat diaphanous towards the base. Brazil (Rio de Janeiro).

grisescens. **M. grisescens** Schs. (144 i) resembles *quadrata*, but the colouring is a purer lilac grey, slightly dusted brown only at the costal margin; transverse lines similarly arranged as in the preceding species, the antemedian line double, convergent towards the inner margin, with small reddish-brown costal spots above it; a large quadrangular blackish-brown spot in the narrow median area at the inner margin; a double row of small dark internerval spots at the distal margin. Hindwing white, narrowly brownish on the veins and margin. French Guiana.

castrensis. **M. castrensis** Schs. (144 i) likewise belongs near to the preceding species; forewing brown, reddish at the costal margin, with a lilac tinge at the inner margin, a round black spot before the cell-end, a dark-edged reniform macula at the end itself; the lilac grey distal transverse line is bordered with ochre inside and arises near the apex, extending obliquely to the centre of the inner margin; the distal margin behind it is intensely dusted with lilac. Hindwing white with a golden brown marginal shadow. Brazil.

hirsuta. **M. hirsuta** Schs. differs from the other species in the marking, the violettish-brown forewing showing a broad red-brown shadowy stripe from the centre of the costal margin to the distal margin near vein 3, bordered with blackish-brown below; the transverse lines, excepting the posterior line, are as usual only visible at the inner margin. Hindwing light gregish-brown, veins and margin darker. Expanse of wings: 34 mm. French-Guiana.

albopunctata. **M. albopunctata** Dogn. on the whole shows the same colouring and marking as the other species, but it is easily distinguished by a subterminal row of white dots which are bordered with black only inwards; the lowest of the 3 black dots at the cell-end, which form a triangle, is also marked white; forewing otherwise chestnut-brown in the costal half, lilac brown in the inner-marginal half, the transverse lines bordered with yellowish ochre. Hindwing blackish with light fringe. Expanse of wings: 28 mm. French Guiana.

luteopunctata. **M. luteopunctata** Dogn. (= *aurea* Drc.) (144 i). Forewing very dark chestnut, more reddish in the costal-marginal half, dusted with lilac in some places of the inner margin, with 4 almost straight oblique somewhat lighter transverse lines and 4 small yellow subcostal spots, two of which are before the anterior transverse line, the two others at the upper cell-end; the small black subterminal internerval spots are partly edged with lilac. Hindwing white, brownish on the veins and margin, quite brown in the ♀. Peru and Bolivia.

minna. **M. minna** Schs. (144 i) is the smallest species known and very different. Forewing orange brown in the costal half, on the head and collar, light brownish-grey below it, dusted with lilac in some places, with light reddish-yellow inconspicuous transverse lines and two small round black spots at the cell-end and one in the centre of the cell. Hindwing blackish-brown. Guiana, Colombia.

26. Genus: **Odoxia** Dogn.

Allied to the following genus from which it differs in a frontal hair-tuft, the antennae being shortly ciliated also in the male, the legs densely haired with a pair of long spurs on the hind tibiae. Wings longer and narrower, vein 5 arises from the upper cell-angle, 6 from the centre of the areole; the cell of the hindwing is uncommonly short. Only 1 species:

Type of genus: *O. concocta* Dogn.

concocta. **K. concocta** Dogn. Forewing chestnut-brown, without any markings except a series of very irregularly shaped darker lunules distally accompanied by a darker shadow; it ends at the inner margin near the anal angle and is dusted somewhat white behind it towards the apex. Hindwing monotonously dark chestnut-brown with lighter fringe. Expanse of wings: 32 mm. French Guiana.

27. Genus: **Antiopha** Schs.

♂ antennae very long, dentate, with long ciliary tufts; palpus erect with a very short terminal joint; legs smoothly scaled. Forewing broad and short with a rounded distal margin and long areole, vein 6 arises from it near the upper cell-angle, the subcostal branches, except the uppermost, from its end. Hindwing: veins 3 and 4 arise from the same place, 6 on a short stalk with the subcostal vein.

Type of genus: *A. multilinea* Schs.

A. multilinea Schs. (144 i) has dark lilac brown forewings dusted with grey, with dark red-brown veins *multilinea*, and internerval stripes; a submarginal row of small somewhat lighter, yellowish spots edged with dark brown inside. Hindwing brown with white fringe. Common and widely distributed from Brazil and Colombia.

A. albolinea Schs. is larger than *multilinea*, forewing dark brown mixed with olive and lilac, broadly *albolinea*, lighter and dusted with lilac at the costal and inner margins; veins and internerval stripes darker, as in *multilinea*, distinguished by a white line extending from the centre of the cell along vein 6 to half its length, and thickened behind; traces of a lighter anterior transverse line, antemarginal and marginal rows of small black spots. Hindwing scantily scaled, brownish. Expanse of wings: 47 mm. French Guiana.

A. excelsa Schs. (144 k) is much larger still than *multilinea* and of a more gaudy ground-colour: two *excelsa*, thirds of the costal margin, the basal area and the basal half of the inner margin are brownish-grey, striped darker, the cell and behind it lilac, striped red-brown, the apical third of the costal margin red-brown, the distal half of the inner margin greyish-brown with oblique red-brown streaks; a blackish-brown shadowy stripe along the median vein and its upper branch to the distal margin, before which there are forked red-brown streaks outside, each of which encloses a white dot. Hindwing brownish-grey, lighter towards the base. Costa Rica.

A. collaris Schs. has reddish-brown forewings, being whitish and strewn with red-brown at the inner *collaris*, margin and from there up to vein 4, with an indistinct double darker brown antemedian and postmedian transverse line filled with a lighter colour, the light marginal part with small brown lunules. Hindwing whitish, red-brown at the margin. Expanse of wings: 38 mm. Brazil.

A. modica Schs. Forewing whitish, strewn with brownish ochre, with white veins and very indistinct *modica*, undulate darker transverse lines and two small dark brown spots above the anal angle. Hindwing dull brown. Expanse of wings: 40 mm. Guatemala.

28. Genus: **Marthantia** Schs.

Very closely allied with the preceding genus from which it chiefly differs in the somewhat shorter and not serrated antennae which are ciliated only to the middle, and in dorsal tufts on the 3 first abdominal segments. The areole of the forewing is considerably shorter and narrower than in *Antiopha*, the other neurulation the same; the cell of the forewing beneath is clothed with long hair, the costal-margin of the hindwing is covered with long erect hair. Only 1 species:

Type of genus: *M. stelligera* Schs.

M. stelligera Schs. (144 k). Forewing dark brown in the basal half, reddish-yellow distally, with dark *stelligera*, veins and a brownish apex, with reddish-yellow transverse lines edged with a darker colour, the posterior line much less distinct and followed by a row of white vein-dots, the upper half of which is situate in a darker brown shadow; a double blackish-brown median shadow is fused in the cell, then it separates again, the interior branch being bent back towards the inner margin as far as the base; rows of white dots at the costal margin and before the distal margin. Hindwing brownish-grey. French Guiana.

29. Genus: **Eragisa** Wkr.

This genus comprises mostly large species with thick woolly hair, tuftedly ciliated antennae, thickly scaled rising palpi with a very short terminal joint and especially thickly haired front legs. The neurulation of the broadly rounded wings is the same as that of the two preceding species; base of hindwing beneath very densely scaled.

Type of genus: *E. lanifera* Wkr.

E. lanifera Wkr. (145 a) represents the genus very well also in the colour and marking; the white ground *lanifera*, of the forewing is densely dusted with a mealy grey; the double notched black transverse lines exhibit a course by which the genus is characterized: the anterior line extending obliquely to the centre of the inner margin, the posterior line returning a little distance between the veins 4 and 5; thick black double dots obliquely arranged in the lower half are before the margin between the veins. Hindwing dark brownish-grey with light fringe. Brazil, Colombia.

E. juvenis Schs. has greyish-white forewings, scantily strewn with dark, with fine dark transverse lines, *juvenis*, the anterior line being dentate with an ochreous dot subcostally, the posterior line introangular on vein 2, with bright yellow spots distally; a small white strigiform spot at the cell-end, a dark spot behind it before the postmedian line. Hindwing brown with white fringe. Expanse of wings: 48 mm. Costa Rica.

E. sabulosa Schs. (= *garleppi* Drc.). Forewing greyish-green with double undulate-dentate transverse *sabulosa*, lines, with black and white vein-dots behind the distal line; a large olive green spot is before the white-edged

reniform macula in and below the cell, behind which there is a black spot strewn with red-brown; a larger black and olive green preapical spot at the costal margin, the white undulate line below it. Hindwing brown with a yellowish base and distal margin. Panama.

barnesi. **E. barnesi** Schs. (145 a) has olive green forewings shaded darker, with undulate-dentate fine transverse lines which are accompanied by rusty brown bands, the distal band extending to the anal angle and partly dusted with white and bordered with dark brown, another dentate dark olive line follows behind the latter; darker vein-streaks are in the dark marginal shadow, the darkest between the veins 4 and 5; the brown marginal line is distally bordered with white. Hindwing brown, distal margin narrowly yellow like the fringe, with a darker median line and a dark anal spot which is parted by white. Costa Rica.

nox. **E. nox** Sch. (= *tenebrosa* Rothsch.) (145 a) is one of the largest species and quite different, with bluish-black forewings, feeble brown transverse lines and small costal-marginal spots, the reniform macula surrounded by light brown; velvety black spots partly centred with brown are behind the centre and at the distal margin. Hindwing brown, with yellow hair at the base and at the inner margin, the anal spot parted by light. The ♀ is browner, more contrasting, the reniform macula ochreous, with a postmedian row of white dots. Costa Rica.

ligata. **E. ligata** Schs. was described as a *Heterochroma* (Noctuid), but it belongs to this genus here. Forewing brown, mixed with a lighter colour and reddish-yellow, and shaded darker brown before and behind the cell-end, the veins strewn grey, with brown transverse lines which are bordered with a darker tint; reniform macula large, crescentiform, distally bordered with white, a whitish twice excurved undulate line before the margin; the marginal line is also white, bordered with brown on both sides. Hindwing brown, reddish-yellow at the base, distal margin and fringe. Costa Rica.

bocra. **E. bocra** Schs. (= *indiscata* Dogn.) has dark brown forewings with lighter transverse lines at the costal margin and distal margin, a broad blackish basal band and a dark brown shadow below the median vein; 3 fine black postmedian transverse lines behind which there are 2 round black spots above and below vein 3; a light brown spot traversed by black is at the cell-end, black internodal spots are before the margin. Hindwing blackish-brown with a black anal spot parted by white, and yellow fringe. Expanse of wings: 40 mm. French Guiana.

fassli. **E. fassli** Dogn. has the broadest forewings, reddish-yellow with 4 lighter, partly pale red transverse lines; the large reniform macula is incompletely surrounded with black and in a white ring, a black quadripartite spot is behind it, a double row of white dots on black veins behind the postmedian line. Hindwing blackish with a narrow yellowish distal margin and fringe. Colombia, at altitudes of 2000 to 2200 m.

viridis. **E. viridis** Schs. (145 a) is a very conspicuous light leek-green species with a white cell-end dot and extremely fine black undulate transverse lines. Hindwing brownish black, lighter at the costal margin. Brazil.

30. Genus: **Crinodes** H.-Schäff.

A number of rather large representatives numbering among the largest *Notodontidae*, with ciliated antennae, short, thickly scaled palpi and a small conical tuft on the frons. Mesothorax with a high tuft, abdomen at the end with a tuft of long spatulate hairs. The neuration differs from the preceding species only in veins 3 and 4 of hindwing arising separately.

Type of genus: *C. bellatrix* Stoll.

bellatrix. **C. bellatrix** Stoll (145 b) is the most variegated species and unmistakable for its reddish-yellow forewings and the defined costal margin which is bent down to the end of the discal cell and terminates in a pointed guttiform spot. Guiana and Colombia.

besckei. **C. besckei** Hbn. (= *abseondens* Dr., *dissimilis* Grt.) (145 b, d) is smaller, violettish-brown with a large crescentiform spot which is concave towards the inner margin and situate above the inner margin, dying away distally and bordered inside above by a yellowish line which terminates into another longitudinal line arising from the basal third of the costal margin and extending to the centre of the distal margin; a dark shadowy stripe above this line cuts the acute angle of a subterminal shadowy band before which 2 parallel lines extend. Hindwing yellowish ochreous with a broad brown marginal band. Mexico to Brazil.

ritsemae. **C. ritsemae** Btlr. (145 b) is much larger than the preceding species and combines sooty blackish-brown colour with the scheme of markings of *bellatrix*, but the guttiform spot at the cell-end is transformed into a small dark brown discal streak bordered with light inside; the angled transverse shadows and lines of *besckei* are marked in the distal part, the subterminal line mostly shows yellowish-white vein-dots. Brazil, Colombia.

schausi. **C. schausi** Rothsch. (145 c) differs from *ritsemae* in the more reddish chocolate forewings, a longer stigma — ROTHSCHILD describes it to be not reniform, but numbers of specimens before me frequently also exhibit a

reniform shape —, and in a more longitudinally striped basal costal-marginal area; moreover, the light reddish wedge at the inner margin is much narrower and longer. Mexico to Costa Rica. — **intermedia** *form. n.* (145 d) *intermedia*. may be a form of it, which is much darker blackish-brown with a coppery gloss; the basal costal area is much darker, red-brown, partly shaded with slaty blackish, with the longitudinal stripes of *schausi*; the light wedge at the inner margin is also long, but decidedly higher than in *schausi*. Abdomen much greyer than in the latter form, where it is distinctly ochreous. Hindwing yellowish blackish-grey with ochreous fringe, broadly ochreous at the margin of the ♀ the ground-colour of which is somewhat more reddish and which has also a more purely ochreous abdomen. West Colombia, Rio Dagua (W. HOPP); and Upper Rio Negro (FASSEL leg.); types in the Berlin Museum.

C. mülleri *sp. n.* (145 c) is a new large species distinctly separated from its allies by the ground-colour *mülleri*. being olive grey and not brown, while the marking is more similar to *besckei*. The light area at the base and costal margin is broad, distally contrasting with the dark median area by a light line; discal spot rather inconspicuous, bordered below by the light basal border-line which is continued at the costal margin; behind the discal spot a dark longitudinal shadow extends above vein 4 to the subterminal line; the shadowy lines which are situated here are similarly shaped as in *besckei*; the light inner-marginal spot is prolonged at the inner margin as far as into the basal area and shows a narrow spur above vein 1 towards the margin. Hindwing yellowish olive grey with a darker postmedian line in a flat W-shape. West Mexico (Colima); types in the Coll. DRAUDT.

C. biedermani *Skinner* is probably only a northern form of *schausi*; the marking is almost the same *biedermani*. in both the species; the large light costal-marginal triangle is of a somewhat greyer tint at the base, not so reddish-yellow, its lower border-line is continued almost to the apex and contrasts with the brown part of the wing by a black line; a dark brown discal streak at the cell-end is bordered with light inside; marginal marking quite similar to that of *besckei*. Hindwing brownish-grey with yellowish fringe. Arizona.

C. guatemalena *Drc.* (145 d) has dark brown forewings thickly strewn and watered with a darker colour, *guatemalena*. with a light brown distal margin narrowly bordered with black; an undulate black postmedian transverse line extends upwards again at the inner margin and towards the base; a black spot is at the cell-end. Hindwing similar to those of the preceding species. Guatemala.

C. striolata *Schs.* (145 c). The brown forewing is striated velvet-like darker, especially in the median area *striolata*. and behind the cell, almost black at the inner margin, lighter brown in the basal area and the basal third of the costal margin, bordered below by a light line which forms 2 long pointed dents at the costal margin, which are pronounced by black bordering; a dark transverse streak is at the cell-end, a darker transverse shadow behind it. Distal margin dusted with violettish-grey. Hindwing light brown with a broad subterminal shadow. Brazil. — f. **fuscipennis** *Rothsch.* differs from the nomenclatural form in darker forewings and monotonously *fuscipennis*. greyish-brown hindwings. Venezuela, Costa Rica, and Peru. — f. **insularis** *Rothsch.*, from the West Indies (Trinidad), is suffused with dark cinnamon brownish and thus makes a damaged impression. *insularis*.

C. alector *Drc.* (= *crenulata* *Schs.*) has been introduced in many genera, but it certainly belongs to *alector*. this genus. It is a small, inconspicuously coloured species with brownish-grey, darker striated forewings, with a black inner-marginal streak near the base, a W-shaped shadow at the cross-vein; a light brown spot at the apex and some blackish spots along the distal margin. Hindwing yellowish-brown with a dark subterminal band and small anal spot. Mexico.

C. nebulosa *Schs.* (145 d) is somewhat similar to *alector* and just as small and inconspicuous. Forewing *nebulosa*. light grey strewn with brownish, darker in the subterminal area, a dentate line before the latter, and some small dark spots in the cell; a larger blackish spot is at the upper end of the subterminal area, but it does not reach the costal margin. Hindwing pale grey with a darker median line and marginal band. Abdomen yellowish. Described from Argentina (Tucuman).

31. Genus: **Strophocerus** *Mschlr.*

This genus which is also known as *Poresta* *Schs.* has ciliated antennae in the male like all the preceding genera, smoothly scaled straightly porrect palpi with a long terminal joint, and a large frontal tuft. The broad forewing has a straight costal margin and a pointed, often almost falcate apex. The venation scarcely differs from that of the preceding genera. Most of the species have red-brown forewings provided with a broad grey inner-marginal stripe.

Type of genus: *flocciferus* *Mschlr.*

S. flocciferus *Mschlr.* (= *striolata* *Dogn.*) is the chief representative of this group: forewing brown, *flocciferus*. with lighter transverse striae and a large darker discal macula; the inner-marginal stripe is pinkish-white, its upper border lilac; the brown oblique line which is edged with yellowish inside extends from the inner margin rather straight upwards, bends distally on the uppermost radial branch and terminates below the apex into

the distal margin which exhibits a series of black, distally white internerval dots. Hindwing brown, fringe white, brown at the anal angle. Guiana.

albo-notata. **S. albonotata** Drc. (145 e) resembles *flocciferus* in the red-brown forewings with yellowish-white transverse striae, though it has no discal spot, but a thick white basal dot; the inner-marginal stripe is grey, the marginal dots are absent. Hindwing red-brown with white fringe. Peru and Bolivia.

striata. **S. striata** Drc. The transverse striae of the dark brown forewing are black here instead of whitish, the inner-marginal stripe and the discal spot are absent, only a light brown oblique line from the apex to the centre of the inner margin is present. Described from Eastern Peru.

thermesia. **S. thermesia** Fldr. Like the following species, it has unicoloured red-brown, not transversely striated forewings with a broad blackish-grey inner-marginal stripe which is bordered with white above and bends upwards at the anal angle; discal macula absent, the fine oblique stripe is rather straight. Guiana.

punctulum. **S. punctulum** Schs. (145 e) differs from the very similar *thermesia* in the black cell-end dot, the inner-marginal stripe is white above and has a greenish tint, the black oblique line is shaded with dark violet distally like the distal margin, which shows black, grey-dusted internerval dots and analwards a curved marginal line distally edged with white and grey. Hindwing blackish-brown with a reddish-yellow inner-marginal stripe. Costa Rica.

sericea. **S. sericea** Schs. is also very similar to the preceding species, but the forewing is lilac brown with a silky gloss, the darker brown costal-marginal stripe is broad, narrower towards the apex; the inner-marginal stripe is light lilac, strewn with red-brown, dark grey at the inner margin itself; a large triangular black linear marking at the cell-end approaches the red-brown oblique line which is edged darker outside, reddish-yellow inside; black, white-centred dots at the margin. Hindwing blackish-brown, yellowish towards the base, fringe white. Expanse of wings: 43 mm. French Guiana.

rectilinea. **S. rectilinea** Dogn. (145 e) resembles *sericea*, but it is more red-brown, the discal spot is much smaller, more quadrangular and remote from the brown oblique line which does not proceed from the centre of the inner margin, but only from the distal second third; the inner-marginal stripe is glossy white, red-brown at the inner margin. Hindwing red-brown, lighter towards the base. French Guiana.

orbipunctata. **S. orbipunctata** Dogn. Forewing rusty yellow as far as the oblique stripe behind which it is dusted with lilac, the inner-marginal stripe is violetish-brown, white above, in its continuation at the distal margin near the anal angle there are two white crescents bordered with red-brown inside, dusted with brown outside, 5 fine black internerval dots above them; a circular red-brown macula in the lower cell-end. Hindwing red-brown, lighter yellowish towards the base. Guiana.

cossoides. **S. cossoides** Schs. (145 e). Forewing dark brown, dusted with olive in the median area, with lilac in the marginal area, reddish-yellow at the base and inner margin, and with a long narrow reddish-yellow area at the costal margin behind the centre; posterior transverse line only traceable; two silvery white spots bordered with brownish-black are below and above vein 2, the upper spot being larger; an interrupted black line is above them. Hindwing dark brown, lighter towards the base. From British Guiana.

chliara. **S. chliara** sp. n. (145 e) represents a very different type. Forewing olive grey with an intense silky gloss, with double subbasal, antemedian and postmedian curved transverse lines composed of blackish crescents, reddish-yellow spots strewn with red-brown below the cell before the antemedian line and in the centre of the inner margin, the former spot being small; a somewhat obliquely W-shaped reddish-yellow reniform macula at the cell-end is strewn with red-brown, and a small silvery white spot at the lower end outside and inside; this spot is followed outside by a black oblique shadowy line extending from the centre of the costal margin to the distal margin between veins 2 and 3; a subterminal row of red-brown, inside yellow spots, small red-brown, inside yellow dots behind them. Hindwing light brownish-grey. Head and collar reddish-yellow, thorax and abdomen olive grey, base of abdomen with a red-brown tuft mixed with yellowish-red; middle and hind tibiae light scarlet. The magnificent species is described according to 1 ♂ from West Colombia (Coll. NIEPELT). type in the Berlin Museum.

32. Genus: **Lepasta** Mschlr.

On the whole, it differs very little from the preceding genus; separable by its somewhat narrower wings, vein 6 arising a little deeper near the upper cell-angle; palpi more slender and erect, middle and last joints almost of the same length.

Type of genus: *L. bractea* Fldr.

bractea. **L. bractea** Fldr. (144 k). Forewing light pink mixed with greenish olive and strewn with black, very dark olive-brown along the submedian fold and before the fine double undulate submarginal line, broadest towards the costal margin; a yellowish-white longitudinal stripe along the discal fold is finely bordered with

blackish-brown below and terminates with a point towards the apex before the subterminal darkening; the marginal area is lightest, pink inside, olive brownish outside. Hindwing brownish-grey, darker towards the margin. Mexico to Brazil. — f. *majorina* Dogn. (= *gigantea* Rothsch.) is a much larger race (the ♀ has an expanse of almost 5 cm) from Ecuador and Colombia, in which the black subterminal line is more dentate and 3 white costal-marginal striae are very conspicuous in the distal third.

L. brabilla Dogn. (144 k) is allied with *bractea*; forewing greyish ochre, with a pink subcostal and submedian tinge, 3 yellowish-white longitudinal stripes, the thickest being below vein 5 as far as half its length, the two other thinner ones below the median vein and between its lower branches; black strewing is condensed into internerval stripes as far as the regularly dentate subterminal line; a white lunule is at the lower cell-end, the apex is parted by a whitish patch. Hindwing blackish. French Guiana.

L. omaiensis Schs. is greenish olive on the forewing, dark grey at the inner margin, with traces of pinkish-white median and postmedian transverse lines, connected by a broad pink blotch along vein 5; black internerval streaks behind them, condensed towards the costal margin into a black shadow; distal margin broad grey with a black undulate-dentate subterminal line which is shaded with dark olive inwards. Hindwing greyish-brown, darker distally. British Guiana.

L. viridis Schs. has bright moss-green forewings with a broad dark grey stripe at the base of the costa and 4 white costal-marginal dots behind the centre; a dark grey shadowy stripe begins narrow near the apex at the costal margin, extends curved and much broader to vein 2, where it is connected with the centre of the cell by a dark green and grey spot, with whitish dusting above it; distal margin dark green, spotted grey. Hindwing violettish-brown, lighter towards the base. Expanse of wings: 33 mm. French Guiana.

L. marcella Schs. has reddish-yellow forewings dusted with grey and strewn with brown, a brown shadowy stripe is angled on the median vein and grows more distinct towards the inner margin; a white longitudinal stripe at the cell-end forms a long crescent behind it, a broad brown shadow is behind it, its upper half is dusted with white distally. Hindwing blackish-brown, more thinly scaled at the inner margin. Expanse of wings: 34 mm. Costa Rica.

L. pittieri Schs. is very similar to *marcella*, but smaller, of a brighter colouring and with white fringe on the hindwing. The whitish ground of the forewing is thickly strewn with brownish and olive grey, with a dark spot below the base of the cell, distally bordered by a white line, a costal spot behind it extends down to the median vein; anterior transverse line white, partly edged with yellowish, more thickly towards the inner margin; a large olive grey spot in the lower cell-end is bordered with blackish-brown, a white line above it; behind it follows a broad dark, distally white-edged shadow in the apical half to the apex, an interrupted line at the margin is dotted white at the ends of the veins. Hindwing whitish greyish-brown with white fringe. Expanse of wings: 27 mm. Venezuela.

L. branda Schs. Anterior body white mixed with brown, abdomen wood-coloured brown. Forewing somewhat similar to that of *marcella* and *pittieri*, costal margin brown, base of cell and inner margin as far as vein 2 white strewn with olive brown; a short thick black streak before the centre above vein 1; a purely white line in the distal half of the cell is bent down below vein 5, then bent up to 7 and descends again as far as 6 to the subterminal line, an olive brown shadow above it and below it, reaching the margin at vein 3; the black subterminal line is undulate-dentate; the marginal cellular areas above 5 and 7 are white, strewn with olive. Hindwing brownish-grey. Expanse of wings: 30 mm. Amazons (São Paulo de Olivença).

L. lanassa Drc. (= *parvipuncta* Dogn.) (144 k) is a differently coloured and marked type with somewhat narrower forewings of an olive green ground-colour strewn with violet-brown, the most densely so in a triangular postmedian area which is bordered above along the discal fold by a yellowish stripe which is expanded distally into a small triangular silvery white spot; above it follows a yellowish-ochreous splinter-spot to the margin, traversing the black dentate subterminal line. Hindwing brownish-grey, lighter towards the base. Panama to Brazil.

L. mixta Mschlr. (= *calophasioides* Kaye) (144 k). Forewing red-brown mixed with darker brown, lightest at the base, darkest towards the cell-end, a whitish lunule behind it; a dark brown postmedian transverse band is brightened distally and exhibits 2 or 3 undulate transverse lines subterminally; inner margin brown except base. Hindwing brown. Trinidad, Guiana; West Colombia.

L. maonica Schs. is allied with *mixta*, but much darker. Forewing red-brown with black veins edged with dark violet on each side, violettish-grey at the distal margin, with a velvety black dentate line interrupted by the veins; a dark shadowy stripe before it extends along the inner margin to the base; a short white streak above the distal half of the inner margin; the lower third of the distal margin is dusted with yellowish-green. Hindwing dark brown with yellowish fringe. Expanse of wings: 39 mm. Guiana.

L. lignistriata Schs. (145 f) is a very inconspicuous species with grey forewings strewn with brown, with a darker costal margin and darker internerval streaks; a grey and black small spot is at the base of the costa,

4 white striae at the distal third of the costal margin, a series of black dots before the margin. Hindwing reddish-brown, lighter towards the base. Rio de Janeiro.

conspicua. **L. conspicua** *Btlr.* (145 f) has dark olive brown forewings with a broad reddish-white costal-marginal stripe which is strewn with dark brown upwards and bordered with white below, the marking is similar as in the well-known *grammodes*, but the centre of the wing shows only two broad yellowish-white longitudinal stripes which are bordered with black and almost connected by a small oblique white spot at the cell-end; the lighter reddish-brown marginal area, beginning from vein 4, is alternately traversed by white and black lines. Hindwing brownish-grey. Brazil.

concordens. **L. concordens** *Dyar* is very similar to *conspicua*, but it has longer wings and less oblique markings, quite pink in the subcostal area, the white band below it is broken; the submarginal band is also pink, white colour is only traceable at the margin, it extends along the submedian fold inwards and meets the basal band obliquely, not rectangularly, and is separated from it by a fine line of the ground-colour. Mexico (Chiapas), Costa Rica.

magnistriata. **L. magnistriata** *Dogn.* resembles *concordens*, but the oblique striae of the forewing are still finer and longer; forewing olive brown, subcostally pink with a white streak at the base of the costal margin; 4 brown parallel lines before the margin are separated by pink dusting, the third, counted from the distal margin, is bordered with white inside. Hindwing brownish, base and fringe lighter. Expanse of wings: 40 mm. From the Rio Songo (Bolivia).

grammodes. **L. grammodes** *Fldr.* (145 f) shows the same type of marking as the preceding species, forewing olive brown with a broad reddish-white subcostal stripe strewn with dark towards the costal margin and bordered by a yellowish-white line below, which extends slightly widened to the base of the inner margin and shows a slight indentation behind the cell; a yellowish-white streak at the base of the costal margin; 3 broad yellowish-white wedges in the centre of the wing are bordered with black, the lowest along the submedian fold is striped reddish-brown; an oblique white lunule behind the cell-end; subterminal area reddish violet-brown with a yellowish-white, distally black line. Hindwing greyish-brown. Brazil.

argentilinea. **L. argentilinea** *Drc.* is allied with *grammodes*; forewing dark brown with a broad pink costal-marginal band, bordered below by a silvery line; the submarginal line extends from the anal angle still farther along the fold to the base; the 3 light wedges are silvery stripes, another yellow line is before the margin. Hindwing light brown. South-Eastern Peru.

maltha. **L. maltha** *Schs.* (145 f) is quite dissimilar to the other species, with olive grey forewings, brown at the costal margin, with a white spot at the base of the costal margin, an olive brown cell with a white spot in it and one behind it, distally bordered by a yellowish posterior transverse line; the dark cellular colour forms a dent along vein 2 downwards distally to the postmedian line, where there are two small dark spots; inner margin more greyish-white with a dark triangular spot before the centre and a whitish triangular spot behind it; distal margin dusted with lilac grey, with a dentate black submarginal line. Hindwing red-brown, darker at the margin. Guiana, Colombia.

33. Genus: **Tachuda** *Schs.*

Distinguished by still longer, narrower forewings which are just as broad behind the base as at the distal margin; base of inner margin hairy; veins 3 and 4 arise distinctly separated, 5 close above the upper cell-angle from the short areole. Hindwing as in *Lepasta* and the preceding genera. Antennae tuftedly ciliated, palpi erect with a short terminal joint. The spurs of the hind tibiae are very long, the legs hairy. Half a dozen of species are known, partly difficult to separate.

Type of genus: *T. albosigma* *Drc.*

albosigma. **T. albosigma** *Drc.* (145 f) has violettish-brown forewings strewn with blackish, with 3 green spots in the median area subcostally, below the median vein and at the inner margin, a lilac whitish area in the distal half of the cell, and numerous mostly double undulate black transverse lines behind it; a black streak dotted white above and below is at the cell-end, a thick yellowish-white dot at the apex. Hindwing brownish-grey with white fringe. Mexico to Brazil.

discreta. **T. discreta** *Schs.* (145 g) is similar to *albosigma*, but without the green admixture, of a more greyish-brown ground-colour, with a double cell-end streak which is dotted white above and below; behind the postmedian black vein-dots follows a dark brown line, then 2 dark brown transverse shadows; lilac dusting before the submarginal spots. Sometimes a larger purely light grey area is in the centre of the inner margin. Hindwing dark brown with light fringe. Guiana, Brazil, Trinidad, West Indies.

nefanda. **T. nefanda** *sp. n.* (145 f) is very similar to *albosigma*, but it has still narrower and apically more pointed forewings without the variegated lilac admixture in the median area; all the three green spots of the median area are present, but darker and narrower; a fourth elongate spot of green dusting is at the base of the costal

margin, which is absent in *albosigma*; all the transverse lines are much finer black, mostly interrupted in the centre of the wing, the large black spots in the subterminal area are altogether absent, the white dots below and above the cell-end streak and at the apex are extremely small; a regular row of fine black submarginal dots, irregular in *albosigma* and with larger spots; both species exhibit a small lighter rusty brown spot behind the cell-end. Numbers of both sexes from Mexico (Misantla, Tabasco). Type in the Coll. DRAUDT.

T. lignea Schs. (= *angustipennis* Schs.) (145 g). Forewing grey mixed with moss-green, with a dark *lignea*. brown nebulous stripe from the cell to the apex, often also another one along the inner margin, with double black transverse lines, another one behind the distal transverse line, so that 4 are together there, but the latter often interrupted in its centre; a black streak at the cell-end with a white dot below it; 3 large steel-grey spots before the margin, followed by a row of black marginal dots, a white dot at the apex. Easily separable from all the other species by dingy white hindwings with a brownish-grey marginal band. Expanse of wings: 32 mm. French Guiana.

T. nigella Dogn. Forewing greyish-brown, irregularly strewn and striated darker and scantily strewn *nigella*. white, with a white submedian dot at the base, a red-brown spot bordered with white below the median vein at the origin of vein 2, and with two large black oblong spots, the first at the cell-end, the second subterminal at the same height; black internerval angular streaks edged with white inside are before the margin. Hindwing blackish. Expanse of wings: 45 mm. Guiana.

T. sagittula Dogn. Forewing blackish mixed with red-brown, with an ochreous tinge in the cell and *sagittula*. behind it, blackish submedianly as far as the cell, a black streak in the distal half of the cell, with 4 or 5 red-brown, parallel, interrupted postmedian transverse lines. Hindwing light brownish-grey. Expanse of wings: 37—44 mm. Colombia (Tolima, Quindiu).

T. stellata Dogn. (145 g) with especially long and narrow forewings of a red-brown colour, greenish or *stellata*. bluish white at the base of the costal margin, around the lower cell-angle and in the centre of the inner margin, with black veins thickly dotted white; 3 large white dots at the cell-end, two subcostal ones, and one at the lower cell-end; 3 large round black spots in the subterminal area, followed by a row of fine black internerval dots bordered above inside with white. Hindwing whitish, brownish on the veins and margin. Guiana to Brazil.

34. Genus: **Contrebia** Wkr.

Distinguished from the allied preceding genus by the porrect palpi with a longer terminal joint. Forewing just as long and narrow, but apex pointed, almost falciform. Both the cellular branches of the hindwing are stalked. Only one species:

Type of genus: *C. extrema* Wkr.

C. extrema Wkr. has light reddish-brown forewings, lighter yellowish-white in the costal-marginal area, *extrema*. shaded with dark brown at the inner margin; both the almost straight transverse lines are distinct only near the inner margin, the posterior line extends obliquely to the apex; the median line is striped black and is continued along vein 4 to the margin, but it is interrupted at the cell-end by a large white reniform maenla; no undulate line. Hindwing scantily scaled, brownish-grey, with a black spot parted by white at the anal angle. Brazil.

35. Genus: **Eumaschane** Schs.

♂ antennae pectinated to the tips, the second joint of the palpus is very long and expanded at the end, the last joint short. Forewing with a straight costal margin, a falciformly pointed apex, a slight indentation below the apex and a large lobate projection at the inner angle; areole long; vein 3 of hindwing separated from 4. Only one species:

E. laura Schs. (145 g) is a small pretty lilac grey species with a silky gloss, a white-edged oval around *laura*. the distal half of the cell, with a whitish angled line before it, another one below it as far as the submedian vein and a curved cell-end streak, as well as a similar posterior transverse line which is bent around the cell and extends undulated to the submedian vein; some black striae at the margin. Hindwing reddish-yellow, brown at the margin. French Guiana.

36. Genus: **Hyparpax** Hbn.

Allied to the preceding genus and chiefly distinguished by the very broad wings with a rectangular apex and a convex distal margin. ♂ antennae most strongly pectinated, the slender long palpi porrect. Neuration

scarcely different from that of the preceding genus. A few pretty North-American species mostly coloured pink are known.

Type of genus: *H. aurora* Abb. & Sm.

- aurora.* **H. aurora** Abb. & Sm. (= *rosea* Wkr., *venusta* Wkr.) (145 d) has ochreous forewings dusted with pink in the basal and terminal areas, the yellow median area edged by two darker pink lines. Hindwing white with a pink marginal line. Distributed in the Atlantic States. — Larva somewhat like that of a *Cerura* owing to the green colour with a brown saddle-spot, a raised 4th segment and an upright end of the body, though with but one point; it lives on various species of oak and pupates in a thin case in the earth.
- venus.* **H. venus** Neum. (145 g) is quite pink, only the head is yellowish, the forewing with whitish antemedian and postmedian transverse lines. Hindwing white with a pink marginal line, abdomen yellowish with a pink anal tuft. This typical form seems to be known hitherto only from Colorado and is scarcely variable, whereas
- minor.* the much smaller form — **minor** B. & Benj. is of a much greater variability, the ground-colour being somewhat less pink, the two transverse lines much nearer together. Described from Texas (Kerrville).
- perophoroides.* **H. perophoroides** Stkr. (= *tyria* Sloss.) resembles *aurora*, the forewing is yellowish red-brown, more or less dusted with red, with 2 fine elaret-coloured transverse lines and a third oblique line between them. Hindwing white, suffused with elaret-colour in the distal quarter. The live insects are said to exhibit a bluish-green gloss on the thorax and the base of the forewing, which disappears immediately in the dead insect. Florida and Texas. — f. **aurostriata** Graef shows broad golden yellow longitudinal stripes in the cellular areas of the forewings.
- aonides.* **H. aonides** Stkr. likewise resembles *aurora*, but the forewing is still much more brownish, though with a somewhat olive tint, the pink colour being only traceable on the fringe; transverse lines red-brown, broad and faded, a small paler reniform macula at the cell-end; the median area between the two transverse stripes is not more yellow than the other ground. Hindwing dingy white. Described from Texas.

37. Genus: **Kalkoma** Schs.

Separated from the preceding genus by the shorter pectinated antennae and the longer shape of the wings with a rounded apex and distal margin. The areole of the forewing is long and narrow, vein 3 of forewing arises together with 4 from the same base, in distinction from *Hyparpax*.

Type of genus: *K. alba* Drc.

- alba.* **K. alba** Drc. (145 g) has white forewings densely strewn with black, with an undulate dentate black posterior transverse line and a more intensely notched black submarginal line. Hindwing white, with yellowish hair at the base and inner margin. Panama.
- pylaon.* **K. pylaon** Drc. (146 a). Forewing olive grey, white at the costal margin with small black spots from which darker olive green transverse lines proceed; two black spots parted by white are at the anal angle, a series of black dots before the margin. Hindwing brownish yellow. Honduras.
- cynedryda.* **K. cynedryda** Schs. (146 a) is similar to *pylaon* in the marking, but the ground-colour is light cinnamon-brown, dusted with whitish at the base, the costal spots and the transverse lines proceeding from them are chestnut brown, the anterior ones more broken up into spots; the double postmedian line is very strong inside, very fine outside, chestnut brown internodal spots behind the latter; undulate line dusted with whitish. Hindwing light yellowish reddish-brown. French Guiana.
- zapata.* **K. zapata** Schs. is a small species dissimilar to the others, with grey forewings, white at the base, defined by a double black basal line; the area from here to the double black antemedian line is dusted with pink; the cell-end is lighter grey, a pink shadow parted by dark is at its end; a broad blackish-brown costal-marginal shadow is behind the fine black postmedian line, the black undulate line is irregular, bordered with white inside. Hindwing white with a dark central luna and a transverse line behind it, as well as a broad apical shadow. Mexico (Sinaloa).

38. Genus: **Eudmoe** Hbn.

This is probably the strangest Notodontid genus and may be ranged as *Noctua* in some collections. The typical representative is a rather large, slender insect with long palpi projecting far beyond the tufted vertical hair, with a densely haired middle joint and an almost just as long thin terminal joint; tegulae with long projecting hair. The rather long forewing is very slightly excurved below the apex, the two branches proceeding from the lower cell-angle arise separately, vein 5 comes out a little above the centre

of the cross-vein, 6 arises very near to the base of the long and narrow areole; neuration of hindwing like that of *Kalkoma*.

Type of genus: *E. arne* Cr.

E. arne Cr. (146 a). Forewing blackish-brown, lighter at the margin, more yellowish, with fine yellowish *arne*. subcostal, median and submedian veins, as well as the branches proceeding from the lower cell-angle and two fine acutely angled transverse lines, the anterior one angled near the lower cell-angle, the posterior one on 5. Hindwing black with a white apical spot. Abdomen and hind tibiae scarlet, the former above on the first 4 segments and at the anal end black with a blue reflection. Guiana.

E. aparta sp. n. (146 a) is somewhat like *arne*; forewing greyish-black, somewhat lighter towards the *aparta*. margin, the median vein as well as 3 and 4 greyish-white like the transverse lines, the anterior line only distinct below the cell, the two parts distantly separated, the space between them filled with velvety black, a fine median line is acutely angled at the cell-end, the posterior line parallel to it, double, filled with black and almost reaching the margin on 4, interrupted by the interspace of the veins 3 and 4, which is filled with velvety black; the upper half of the marginal area and the fringe are white; three oblong black subapical spots are in the white submarginal area, the lowest spot being the smallest, a short black marginal line behind them. Hindwing black with a narrow white margin and fringe. Body black, ventrum except the two last rings, hips and tibiae light scarlet. 1 ♂ from West Colombia (Bella Vista), type in the Coll. NIEPELT.

E. carrieta Schs. Head and thorax dark brown, abdomen as well as middle tibiae and hindlegs light red, *carrieta*. only the base and the anal segment blackish-brown. Forewing dark brown, margin broad cinnamon brown; the feeble subbasal line is darker, strewn with grey, a small cinnamon spot behind it below the cell; anterior transverse line double, grey, filled with white towards the inner margin; a cinnamon-brown spot surrounded by white and strewn with white is at the cross-vein; the fine double postmedian line cuts a broad grey oblique shadow from the apex; subterminal white strewing between the dark marginal veins. Hindwing brownish-black. Expanse of wings: 45 mm. Brazil.

39. Genus: **Didugua** Drc.

The ♂ antennae are not pectinated to the tips, the palpi very long, the second joint just as long as the terminal joint, a high hair-tuft on the head. The neuration on the broad forewings and hindwings is not different from that of the preceding genus.

Type of genus: *D. argentilinea* Drc.

D. argentilinea Drc. (146 a). Forewing brown, lighter and more yellowish below the median vein, with *argenti-* darker longitudinal stripes, broadly dusted with lilac grey at the costal and inner margins, with two very *linea*. characteristic yellowish-white, harpoon-shaped spots in the cell and behind it; a brown, pointedly notched subterminal undulate line is bordered with a lighter colour on both sides, the margin is yellowish grey, traversed by two broad lilac grey undulate lines between which there are two very fine blackish-brown ones. Hindwing brownish-grey with light fringe. Mexico.

D. leona Drc. (146 b) is very similar to *argentilinea*, but larger and much darker brown, particularly the *leona*. hindwings blackish brown; the distal appendage of the exterior harpoon-spot is shorter than in *argentilinea*, the almost straight, variably light and dark marginal lines are absent, replaced by a fine black lunulate line. Mexico, Panama.

D. modica Dogn. is a very small species with dark brown forewings, an oblique antemedian line below *modica*. the cell and a white guttiform spot with its apex towards the upper cell-angle. Amazons (Obidos).

40. Genus: **Dasylophia** Pack.

This genus comprises a large number of partly very similar species of a uniform exterior. ♂ antenna pectinated as far as two thirds of its length, last joint of palpus short, a tuft of scale-hairs on the vertex. The forewing has a mostly distinctly dentate distal margin, vein 5 arises from the centre of the cross-vein, 6 either from the upper cell-angle or from the areole close next to it; veins 3 and 4 of the hindwing arise close beside each other from the lower cell-angle, 6 is stalked with the subcostal vein.

Type of genus: *D. anguina* Abb. & Sm.

D. anguina Abb. & Sm. (= cucullitera Herr-Schäff., punctata Wkr., cana Wkr., signata Wkr.) (146 b). *anguina*. Forewing ash-grey, strewn with white basally, scantily strewn with black on the veins, with fine black basal rays and 3 fine subapical longitudinal stripes; a feebly curved double postmedian transverse line contains fine black dots, two thick black dots are in the subterminal area just below the centre, followed by a blackish-brown

punta-gorda. lunular line behind them. Hindwing whitish, brownish at the margin, quite brownish-grey in the ♂. — f. **punta-gorda** *Sloss* is a smaller form with more sharply contrasting black markings on a very light whitish-grey ground. *saturata*. From Florida. — f. **saturata** *Barnes* is a rare western race from Colorado (Denver), with a light reddish-yellow ground-colour, somewhat grey only at the inner margin, and without the black basal ray. Hindwing yellowish-white with slightly smoked veins. The typical form is distributed from Maine and Massachusetts to Florida and Texas. — The larva is straw-coloured before the last moult, then flesh-coloured with a raised black knob on the 8th segment, a fine black dorsal line and 3 fine black lateral lines; with its claspers raised, it sits on different Papilionaceae such as Indigo, Clover, moreover on *Lespedeza capitata*, *Baptisia tinctoria*, and other plants, and makes a web between leaves and earth.

thyatiroides. **D. thyatiroides** *Wkr.* (= *interna* *Pack.*, *tripartita* *Wkr.*) (146 b) is more brownish than the preceding species, with a contrastingly light median area and a darkened base defined by an anterior transverse line which is absent in *anguina*. Hindwing light greyish-brown. Its range seems to be confined to Maine, New Hampshire and New York. The larva is reported to live on *Carya*.

guarana. **D. guarana** *Schs.* (146 b) is allied to *thyatiroides* by the light median area, but the basal area is light, too; the ground-colour is almost yellowish white, strewn with black, without the black basal ray, with a more or less distinct median line which is distinctly double especially below the cell and extends very obliquely towards the base; postmedian line slightly bent, broad, light, parted by dark, forming an inward angle in the submedian area and spotted thickly black behind it, the subanal area behind it almost white; the distal area is otherwise very dark blackish-grey with rather inconspicuous light and dark undulate-linear sagittae and 2 larger black spots above the white anal angular spot; hindwing whitish-grey, smoky at the margin. Mexico to Brazil.

basitincta. **D. basitincta** *Dogn.* (= *nigrescens* *Schs.*) is allied to *guarana*; distinguished by somewhat darker brownish-grey forewings with an entirely blackened basal area which encloses two black basal rays in and below the cell, lighter brownish behind it with a black median line, and a whitish subcellular brightening behind it; the triangular black subterminal shadow is very broad at the costal margin, ending pointed on the lower median branch; otherwise like *guarana*. Expanse of wings: 43–47 mm. Mexico, Costa Rica.

goraxa. **D. goraxa** *Schs.* (146 b) differs from *basitincta* in the basal area not being entirely blackened, only below the base there is a distally rounded black spot which narrows down basad obliquely to the inner-marginal vein; the veins behind the centre are distinctly striated black; the triangular subcostal shadow grows narrower already on the lowest radial branch, widening again a little below it. Hindwing whitish with brownish veins as in the preceding species. Expanse of wings: 38 mm. Mexico.

colimata. **D. colimata** *Dyar* (146 b), from the same affinity of the 3 preceding species, is more greyish-white in the ground-colour, yellowish at the costal margin, with a brownish tint in the cell and in the costal half of the marginal area; with brown internerval streaks; the black basal ray is absent; a fine black dot is in the lower cell-angle; the triangular dark subterminal shadow is feeble, brownish-grey, and terminates on the lowest radial branch, 2 jet-black spots are below it; the posterior transverse line is fine double, feebly angled submedianly, without the black dot of *guarana* behind it. Hindwing light brownish-grey, broadly darkened at the margin. Mexico.

placida. **D. placida** *Schs.* is likewise very similar to *guarana*, but the male has plain antennae, while *guarana* has pectinated ones. Ground-colour of forewing light brown, feebly strewn with lilac grey, grey in the distal half of the inner margin with black-strewn veins and dark basal rays; a darker median shadow extends very obliquely to the inner margin and has here a fine red-brown shadow before it; a larger velvety black spot is in the lower cell-angle; red-brown dusting above the anal angle behind the double postmedian shadow, the black spots are here as in the preceding species. Hindwing whitish, brownish on the veins and margin. Expanse of wings: 40 mm. Costa Rica.

ligea. **D. ligea** *Dogn.* Forewing greyish-brown as far as the postmedian line which has the same shape as in *colimata*, with olive internerval stripes, blackish-brown behind it, mixed with olive, the black veins striped white on both sides, otherwise marked as the preceding species, but without basal rays and black anal spots. Hindwing blackish, lighter towards the base. Expanse of wings: 43 mm. Argentina.

robusta. **D. robusta** *Jones* (146 b). Forewing light brown, dusted darker, the anterior double transverse line more distinct than in the preceding species, otherwise of the same course, with a long black ray below the median vein, a still longer brown longitudinal streak above it, a fine black dot behind it in the lower cell-angle; inner margin darkened brown as far as the postmedian line which has the same shape as in *guarana*, with the same black anal spots behind it. Hindwing brownish ochreous, darker at the margin. Brazil.

lupia. **D. lupia** *Drc.* (146 c) is smaller and lighter than the preceding species with the same, but very fine markings as *guarana*, a quadrangular brownish spot in the distal cell-end, with a black basal ray or without it, and black filling may be below it before the anterior transverse line, as in *goraxa*; the small subterminal black

sagittal spots are connected by blackish dusting and form a continuous line with the distal black shading of the postmedian line not reaching, however, the inner margin. Hindwing whitish with fine brown veins and marginal line. Mexico.

D. mocosa *Dogn.* (146 c). Forewing dark yellowish-brown with darker brown veins, traversed by a brown longitudinal shadow from the base of the inner margin to the apex; no other marking than a submarginal row of small brown internerval wedges. Hindwing light brownish-yellow. Expanse of wings: 52 mm. Ecuador.

D. riparia *Drc.* has light grey forewings, longitudinally striped brown as far as the cell-end, behind which it is blackish-brown as far as the apex and distal margin, with a fine notched light grey submarginal line. Hindwing white, veins and inner margin light brown. Peru.

D. grenadensis *Schs.* Forewing reddish yellowish-brown, the veins strewn with black in the distal half, with long dark internerval streaks in the upper half of the marginal area; a dark longitudinal stripe in the cell and a spot behind it, followed by a red-brown transverse shadow not reaching the inner margin; dark marginal dots are most distinct at the apex. Hindwing smoky grey, whitish towards the base, with black veins. Expanse of wings: 44 mm. Grenada (West Indies).

D. inca *Schs.* has dark brown forewings brightened in the centre of the costal margin and at the anal angle, crossed by indistinct transverse lines in the median area; small velvety brown, inwardly reddish-yellow wedges are before the distal margin. Hindwing whitish, broadly smoked on the veins and margin, with traces of a transverse row of vein-dots. Peru.

D. obscura *Dogn.* is allied to *inca*, forewing monotonously brown, strewn with yellowish, two black dots above each other in the cell-end, and the usual light postmedian line behind them, followed by two black subanal spots in lighter yellowish surroundings, a series of black internerval wedges above them, bordered with yellowish in the upper half. Hindwing white, smoky at the margin. Expanse of wings: 37 mm. Argentina.

D. jaliscana *Schs.* (146 c) has somewhat shorter and broader wings, greyish-white strewn with blackish, with fine black veins and double transverse lines of the same characteristic course as in the preceding species, the anterior line especially distinct and extending almost vertically from the costal margin to the submedian fold, where it makes a very sharp curve towards the base, the costal margin before it and behind the postmedian line more intensely darkened in a triangular shape; only a very thick black spot is between the median veins. A black streak on the cross-vein. Hindwing yellowish-white, broadly darkened at the margin. The ♂ is beautifully tinged with chestnut-brown before and behind the median area. Mexico.

D. abbreviata *Schs.* has somewhat shorter and broader forewings than *jaliscana*. Forewing reddish yellowish-brown, densely shaded with brown and olive green, especially at the inner margin, with two distinct transverse lines filled with white, and a black cellular spot between them; the usual two black subanal spots. Hindwing yellowish-white, the ♂ brown with a lighter median band. Expanse of wings: 32—40 mm. Brazil.

D. seriata *Drc.* (= *melanopa Barnes*, *indecoris Schs.*) (146 c) has greyish-brown forewings with black veins and double brown internerval stripes, rather indistinct lighter transverse lines which are nearer together, a black basal ray and a very thick black spot between the lower median veins, the one above it being very small; high red-brown submarginal angular streaks are filled with grey. The larger ♀ shows a somewhat steel-grey reflection at the inner margin and it lacks the black basal ray, but it has a large oval reddish-yellow basal area instead of it. Hindwing blackish-brown. Mexico to Panama.

D. russula *Dogn.* Forewing reddish yellowish-white which colour is brighter in the anterior half with numerous blackish-brown longitudinal streaks and similar lighter transverse lines as in *seriata*; a white subanal spot is parted by black and above it there is a series of dark internerval streaks which are thickened towards the apex and distally followed by white streaks. Hindwing diaphanous whitish. Expanse of wings: 45 mm. Guiana.

D. blaizea *Schs.* is separated from the two following species by the white hindwings. Head and collar wood-brown, thorax almost white, abdomen light brown, the two terminal segments more whitish. Forewing light reddish brown, strewn with brown in the costal-marginal third, a row of black dots below the costal margin in the centre; median line brown, double as far as the lower cell-angle, a reddish-brown shadow before it at the costal margin, the said line bends below the cell inwards to a black spot above the submedian fold, which spot is at the end of a fine black line; inner margin, except at the base, strewn with black; the postmedian line extends to the black spot, then to the centre of the inner margin, a fine double line is behind it, a dark spot below 2; a light brown shadow behind it between the costal margin and 5, with black veins and white, black-edged internerval streaks; a blackish-brown marginal spot between 2 and 4. Hindwing white with light brown marginal veins. Expanse of wings: 58 mm. Guatemala.

D. xylinata *Wkr.* (= *pythia Drc.*) (146 c, d) is one of the most common species; forewing reddish yellowish-brown, dark brown in the basal third of the costal margin and a large subapical triangular spot, broadly blackish-brown at the inner margin; the anterior transverse line is double and very oblique, only marked

below the cell, the posterior line broad, lighter, parted by a red-brown line, an oblique dark brown line behind it in the lower half, followed by a black area edged with white inside, between the lower median veins, the margin behind it blackish-brown, with acute dark triangles above it. Hindwing brownish-grey with light fringe. Mexico to Colombia and Venezuela.

- maxlla.* **D. maxlla** Schs. (146 d) is very similar to *xylinata* in every respect, but the ground-colour is a much lighter clay-colour, the blackish-brown inner-marginal darkening is almost entirely absent, the hindwings are much lighter, too. Mesothorax, being deep blackish-grey in *xylinata*, is just as light loamy yellow as the rest of the thorax. Mexico.
- terrena.* **D. terrena** Schs. (= *dares* Drc.) (146 d) is still more similar to *xylinata*, distinguished by its coarser blackish-brown strewing which effects a darker total colouring and, especially in the ♂, almost extinguishes the ochreous areas, the veins in the distal area are more intensely dotted black and white, the other markings the same. Hindwing darker blackish-brown. Mexico.
- rufi-tincta.* **D. rufitincta** Dyar is likewise closely allied to *xylinata*, with brighter red-brown forewings, somewhat lighter only towards the base, broadly shaded with blackish at the apex, with black-striped veins and double blackish-brown internerval stripes bordered with ochre, discernible by dingy white hindwings which are only smoky at the margin, and the uncommonly long and narrow shape of the forewings. The ♀ is more yellowish, less red, and an unmarked lighter oval basal spot similarly shaped as in *seriata*, shaded darker distally. The hair-tufts at the base of the antennae are much shorter here than in the other species. Expanse of wings: 40—50 mm. Mexico (Cordoba, Orizaba).
- pocila.* **D. pocila** Fldr. (= *fulgens* Drc.) (146 d) is a much larger and more variegated species; forewing reddish-yellow, red-brown at the costal margin, inner margin and anal angle before which there is an oblong spot of greyish-white or greyish-bluish dusting; a red-brown oblique band from the base of the inner margin to the apex; hindwing light greyish-brown, darkened at the margin. Colombia to Brazil.
- dognini.* **D. dognini** nom. nov. (= *saturata* Dogn. nec Barnes) is very closely allied to *pocila*, but of a grey, not reddish-yellow, ground colour and with more intensely developed markings; the brownish-grey colour is intermixed with rosy-reddish, olive and white scales, an oblique white line begins behind the centre of the submedian fold and reaches the distal margin between the lower median veins, and extends from the fold vertically to the inner margin; bluish-white dusting in double blotches is above the anal angle as in *pocila*. The whitish hindwing is crossed by a dark postmedian line, a broad blackish band is at the margin. Expanse of wings: 43—45 mm. Colombia (Socorro, Cali).
- lucia.* **D. lucia** Schs. is a smaller species with reddish-yellow forewings, shaded darker at the costal and inner margins as well as at the veins in the distal area; a submarginal row of blackish wedges with small brownish spots before them, the posterior transverse line is hardly traceable, with small brown anal-angular spots behind it. Hindwing white with a brown marginal shadow. The ♀ is greyer with a large whitish oval spot near the base below the median vein, with more distinct markings. Expanse of wings: 34—47 mm. Sa. Lucia.
- angustipennis.* **D. angustipennis** Schs. is distinguished by remarkably long and narrow wings, similar as in *rufitincta*, forewing brown, lighter reddish-yellow at the base of the costa and at the inner margin, with a very oblique reddish-brown costal-marginal shadow through the centre of the cell, extending from the median vein inwards and finely dentate to the inner margin, behind it the usual double line extending very obliquely towards the inner margin; the lower half of the subterminal area is dusted grey as far as the anal angle, the veins above it are longitudinally striped dark, and with light internerval lines; a white and black spot is behind the traceable postmedian line between the lower median veins. Hindwing white, brownish-grey at the veins, inner margin and apex. Expanse of wings: 46 mm. Costa Rica.
- limbata.* **D. limbata** Dogn. is somewhat similar to *angustipennis*, but the forewings are not so long and narrow; the colour is brown, likewise lighter reddish-yellow at the base of the costa and at the inner margin, the marginal area behind the postmedian line intensely darkened blackish; the reddish-brown oblique shadow is scarcely traceable, the postmedian line behind it double but not so oblique as in *angustipennis*; blackish internerval stripes in the dark marginal area, the veins somewhat lighter. Hindwing whitish, brownish at the margin and veins. Venezuela.
- franzina.* **D. franzina** Schs. has light brown forewings, dusted with violettish-grey at the costal margin and in a shadowy stripe above the submedian vein from the base to the anal angle, a dark brown shadow below the anal angle at the base, an interrupted brown longitudinal stripe in the cell bends downwards as an oblique shadow to the broad whitish posterior transverse line which is bordered by small brown spots on both sides. Hindwing brown. Expanse of wings: 45 mm. Brazil (São Paulo).
- eminens.* **D. eminens** Schs. is a different species with greyish-white forewings, a dark brown costa and a small brown spot before the centre of the costal margin, a brown irregularly excurved median line behind it, which does not quite reach to the inner margin; a black basal ray below the brown median vein, a brown longitudinal streak above it is interrupted by the cross-vein and extends to the margin; an indistinct dark oblique shadow to

the apex begins below the cell-end; the veins of the lower half of the margin are white strewn with black; a fine black oblique line above the anal angle, a black spot behind that line. Hindwing white with brown veins and marginal band. Expanse of wings: 38 mm. Mexico (Sinaloa).

D. abnormis Schs. Forewing brown with a red-brown shadowy stripe extending from the base to the costal margin and from there to the lower cell-end, the area below it being strewn with dark red as far as a curved median line; a round black spot in the lower cell-end, a dot before that spot; a lilac shadow, indistinctly bordered with black above, extends from the cell-end to the anal-angular region; a dentate black postmedian line is only traceable in the lower half of the wing, with small brown marginal spots behind it. Hindwing dark brown with a red-brown anal spot which is parted by white. Expanse of wings: 32 mm. British Guiana.

D. improvisa Dogn. resembles *abnormis* by the brown forewing exhibiting a similar red-brown shadowy stripe which extends curved from the costal margin and traverses the cell, bending upwards at the cross-vein, enclosing a thick white dot before the centre of the cell; the shadowy stripe is continued towards the margin, where it widens towards the apex. Hindwing brown with a blackened margin and white fringe. Expanse of wings: 30 mm. Amazons (Para).

D. osmophora sp. n. (146 e) differs from the other species of the genus in an area of large broad flat reddish-brown scent-scales situate in the median band below and above the submedian fold; forewing light olive brownish with fine darker olive brown notched transverse lines which are bordered with a lighter colour on the averted sides and are very near together on the inner-marginal vein, extending closely together and sharply bent inwards almost to the base of the inner margin; a black dot in the lower cell-angle, another brown dentate line behind it vanishes in an olive brown area which forms the upper border of the scent-scale spot. Subterminal area light in the upper half, narrowly olive brown below the centre, reddish-brown anally with a thick black spot between the median veins, a small one below it and a streak in a brown area above it. Hindwing yellowish-grey, costal margin and distal margin darkened brownish olive, with an indistinct median shadow and light fringe. Described according to a ♂ from an unknown habitat, type in the Senckenberg Museum.

41. Genus: **Farigia** Schs.

A very characteristic genus of strong, medium-sized animals with rather broad rounded forewings which are uncommonly coarsely scaled especially in white and light green. The ♂ antennae are pectinated in the two basal thirds, the palpi are rather short, densely haired, the vertex tuftless. The neurulation is almost the same as in *Dasylophia*, but only two subcostal branches arise from the end of the very long and narrow areole, the second from above arises before the end of the areole. The costal vein of the hindwing branches off close at the cell-end.

Type of genus: *F. sagana* Drc.

F. sagana Drc. (146 e). Forewing whitish-grey from the base to the centre of the costal margin, the other part light yellowish red-brown, strewn with light bluish-green at the inner margin and in a large spot behind the cell; the markings in most of these similar and rather variable species are very inconspicuous in the irregularly strewn ground and consist of fine black, strongly interrupted, double transverse lines, a whitish discal streak and the usually most distinctly marked fine black lunulate line at the margin. Hindwing reddish-brown. Mexico to Brazil.

F. foliata Schs. (146 e) has extensively green forewings with a white, brown-strewn basal third of the costal margin as far as below the cell, bordered by a double antemedian line and a dentate basal line which defines the small green basal area; markings as in *sagana* with small darker shadowy spots in the subterminal area at the costal margin, below the centre and at the inner margin. Hindwing light brown. Costa Rica to Bolivia.

F. tulana Schs. is likewise similar to the preceding species, but the base is brown, followed by a large white costal-marginal spot as far as a little below the cell, bordered by a curved brown line which is darkest below the cell; only the inner margin is green, strewn with brown, the colour above it is greyish-brown with a dark spot at and behind the cell-end, which is strewn with green; the dark brown postmedian line is almost straight, darkest at the inner margin. Hindwing light brown, darker at the margin. The ♀ has a whitish-grey distal margin. Expanse of wings: 32—44 mm. Costa Rica.

F. nana Drc. is allied with *tulana*, smaller, with more light brown forewings, extensively strewn with green and grey, grey at the base of the costal margin, with a more prominent greenish-brown undulated band in the subterminal area. Hindwing light brown, yellowish towards the base. South-Eastern Peru.

F. medan Drc. (146 e) is still smaller, forewing brown, densely strewn with green in the median area, broadly grey in the basal area, the markings of the preceding species very indistinctly indicated. Hindwing darker brown. Colombia.

F. fragilis Schs. Body moss-green, mixed with lilac grey; forewing moss-green at the costal margin and below the cell, lilac in the cell and at the inner margin, broadly white at the distal margin; the dark olive green posterior transverse line is curved around the cell-end, an interrupted green shadow is behind it before

the margin. Hindwing whitish, strewn with lilac at the distal margin, with green hair at the inner margin. Expanse of wings: 27 mm. French Guiana.

- montana*. **F. montana** Drc. (146 e). Forewing whitish-grey, strewn with black and green, bright green in the basal area and the basal half of the inner margin, and in a more or less interrupted submarginal band; markings very indistinct except a somewhat raised white discal streak and a black submarginal lunulate line. Hindwing red-brown. Mexico to Costa Rica.
- vecina*. **F. vecina** Schs. (= *moresca* Schs.) (146 f) is of a more greyish-brown ground-colour, strewn with green, the most regularly and densely so along the two double black transverse lines, the posterior one of which is much stronger; the median area remains the purest brown; a large dark brown spot is usually behind the postmedian line at the costal margin. Hindwing dark brown. Mexico, Costa Rica.
- albicans*. **F. albicans** Schs. (146 f) has white forewings scantily strewn with brown, green at the base below the cell, narrowly green at the inner margin and behind the postmedian line; a large brown subterminal spot at the costal margin, below vein 4 a smaller spot intensely strewn with green, followed farther towards the margin by a larger brown spot. Hindwing brown with white fringe. The ♂ is greyer. Costa Rica to Bolivia.
- mina*. **F. mina** Drc. (146 f). Forewing light greyish-green, finely strewn with black, with a broad white subbasal band and numerous fine black transverse lines behind it, the lunulate line before the margin being most distinct. Hindwing light reddish brown. Colombia.
- peruana*. **F. peruana** Dogn. (146 f) is suffused with pink on the whitish forewings, purely white or light green at the base inclusive of the cell, also at the costal and inner margins; 4 fine brown parallel lines are behind the cross-vein, a blackish, white-dusted subterminal spot is above the upper median vein and a brown marginal line behind the white undulate line. Hindwing yellowish with brown fringe. Peru.
- liboria*. **F. liboria** Schs. (146 f). Body light brown, intermixed with white, ventrum reddish-yellow. Forewing red-brown, strewn with white and light green; a broad green antemedian band is bordered by irregular brown lines; a small black and white spot at the cross-vein; the double brown postmedian line is filled with green, a quadrangular brown spot is behind it at the costal margin; the irregular subterminal line is brown, the distal margin and inner margin strewn with green, the latter more densely so. Expanse of wings: ♂ 38, ♀ 43 mm. Amazons, French Guiana. The contrast between the light median area and the green markings is very remarkable.
- luicana*. **F. luicana** Schs. (146 f). Head and thorax light brown, intermixed with white, abdomen cinnamon brown above. The basal third of the costal margin on the forewing and the cell are white, scantily strewn with light brown, bluish greyish-green below the cell, like the anterior transverse line which is bordered with brown; the area behind it is light brown and white with greyish-green scales at the cross-vein and inner margin, the former marked with 2 dark lines; the somewhat spotted posterior transverse line is blackish-brown, excurved, a sulphur-coloured spot before it at the costal margin, traces of a lighter double line behind it; margin strewn with greyish-green, scarcely strewn between 4 and 6; subterminal line irregularly blackish-brown. Hindwing brown, ends of fringe white. Panama.
- theliana*. **F. theliana** Schs. (146 f). Head and thorax white, intermixed with brown, abdomen reddish-yellow with 3 small brown basal tufts. Forewing white, densely strewn with fawn, especially in the marginal third; from the chestnut-brown basal line a black line bordered with brown extends along the submedian fold to behind the postmedian line which is fine light brown and double, followed by dark spots between 3 and the inner margin; median line light brown, straight as far as 1, then double to the inner margin, behind which there is a narrow red-brown shadow; a black dot at the cross-vein; the irregular subterminal line is light brown, forming oblique streaks between 3 and 4. Hindwing brown with white ends of the fringe. Colombia, Bolivia (Songo).
- alicia*. **F. alicia** Schs. (146 g). Head and thorax cinnamon brown, intermixed with white, abdomen red-brown, scaled white. Forewing green at the base and inner margin, otherwise white, strewn with chestnut brown; transverse lines double, the anterior one dentate as far as the centre of the inner margin, a fine black line on the submedian fold; a small white and black spot at the cross-vein; oblique whitish brightenings behind the postmedian line between 6 and 2. Subterminal line fine, black, forming oblique white-edged streaks below 4. Hindwing light brown, darker at the margin, with white fringe. Bolivia (Songo), Colombia.
- gamarra*. **F. gamarra** Dogn. (= *baladan* Drc.) (146 g) has whitish-grey forewings partly shaded with green, with a violettish-brown median area which is traversed by black transverse lines filled with green, the anterior line double, the posterior line treble; the usual fine black lunulate line before the margin. Hindwing greyish-brown. Venezuela to Peru.
- curita*. **F. curita** Jones (146 g) is coloured like *gamarra*, but also the median area remains white and the transverse lines are quite indistinct; the inner-marginal area is more densely strewn with green, defined above by a black longitudinal stripe on the submedian fold, the space between the latter and vein 2 is more densely strewn with bluish and black; of the double posterior transverse line two lunae near the inner margin are thickest and followed by dark green colour; discal luna black, distally bordered by erect white scales. Hindwing brown, with yellowish hair at the inner margin. Brazil.

F. pallida Schs. is very different and was described as a *Lophodonta*. Forewing greyish-white, shaded with *pallida*. brown at the base, with dark brown double dentate transverse lines, 2 yellow spots distally bordered with brown behind the exterior line between the median branches and above them; a brown shadow in the cell is followed by a dentate line; the subterminal costal-marginal area is dark grey. Hindwing brown, mixed with white at the costal margin, with white fringe. Venezuela (Aroa).

F. catharina Dogn. (146 g) is somewhat similar to *pallida*, but it has longer and narrower forewings and *catharina*. a very long abdomen and is distinguished by an entirely white head and thorax and white hindwings which are brown only at the inner margin, with a small brown spot in the distal quarter of the costal margin. Forewing tinged with pink, scantily strewn with greenish at the base and inner margin, the whole surface rather monotonous, the transverse lines very fine and inconspicuous, a large, prominently white costal spot behind the exterior line. Brazil.

F. musara Schs. (146 g). The grey forewing is shaded with brown at the inner and distal margins, with *musara*. a pink tinge in the disk, double black transverse lines filled with greenish-yellow, the posterior line more prominent, forming a regular bow and broadly shaded with green distally except the area between the veins 4 and 6. Hindwing brown. Brazil (Castro, Parana).

F. benepicta Schs. Thorax brownish, yellow behind, with white shoulders; forewing brownish pink, *benepicta*. strewn with white, most densely so in the median area, with double red-brown transverse lines filled with yellowish-green, bordered in some places with bluish-green and yellow; a red-brown subapical triangular spot at the costal margin is bordered with white. Hindwing brown, fringe white at the ends of the veins. Expanse of wings: 40 mm. French Guiana.

F. larissa Drc. has dark brown forewings, the distal thirds being white; a large grey spot bordered with *larissa*. white at the cell-end and 2 subterminal red-brown spots between the veins 2 and 3 and above them; the usual black lunulate line is before the margin, the other transverse lines are rather indistinct and very fine. Hindwing brown with darker veins. Colombia.

F. xenopithia Drc. is a smaller species with blackish-brown forewings which are densely strewn with *xenopithia*. green; 4 green, black-edged spots are conspicuous at the costal margin, smaller black spots are at the inner margin, and 3 oblong brown spots at the apex. Hindwing red-brown. Trinidad.

F. hydriana Schs. (146 g) has greyish-brown forewings which are darkest at the inner margin, strewn *hydriana*. with light green at the base of the costal margin, with a brown cross-vein spot and a broad dark brown shadow below the cell as far as the undulate line. Hindwing brown. Mexico to Venezuela.

F. conspersata Dogn. (146 g) is allied to *hydriana*, the white forewings are densely strewn with black, *conspersata*. with a thick black cell-end dot, the double black transverse lines only distinct at the costal margin, the rest only indicated by denser strewing; 3 purely white spots in the marginal area. Hindwing quite light reddish-brown. Bolivia (Songo).

F. sennen Schs. (146 h) is somewhat like *magniplaga*. Body brown, intermixed with white. Forewing *sennen*. light brown at the base, strewn with green, reddish-yellow at the costal and inner margins, antemedian area and inner margin densely strewn with light green, bordered above by a curved black line between the transverse lines, above which there is a short similar line along 2; transverse lines brown, the interior line indistinct, the exterior line inwardly interrupted on 4, whitish brightening before it at the inner margin; a spot of white raised scales at the cross-vein, bordered inside with black; marginal area brownish cinnamon with white diffuse spots and a fine brown subterminal line. Hindwing brown, fringe white at the ends. Expanse of wings: 37 mm. French Guiana, Amazons.

F. magniplaga Schs. (146 h) is closely allied to the preceding species from which it is separable by dense *magniplaga*. black shading in the median area, which extends from the distal half of the inner margin into the cell to the subcostal vein; the distal portion of the posterior double transverse line is deep velvety black, distally shaded with dark green. Hindwing dark brown. Mexico to Guiana.

F. basiviridis Dogn. (= *malomen* Dyar) (146 h). Basal third of forewing green with white-strewn veins *basiviridis*. and a thick black, green-strewn basal spot below the cell, the brown median area with a black, distally white-edged discal spot and bordered by one white and two green postmedian lines; the brown marginal third is strewn with white and brown. Hindwing brown. French Guiana.

42. Genus: **Pseudodryas** Mschlr.

Also the ♀♀ antennae are pectinated in the basal two thirds, the erect palpi hairy with a short terminal joint. Forewing narrow with a rounded apex and almost the same neuration as in *Dasylophia*, but vein 5 arises a little above the centre of the cross-vein. The costal vein of the hindwing branches off in the basal third of the upper cell-margin. Only 3 species are known, since several species placed to this genus are to be reckoned to other genera.

Type of genus: *P. olivacea* Mschlr.

- olivacea*. **P. olivacea** *Mschlr.* has olive yellow forewings strewn with brown, shaded somewhat darker at the base and in the marginal area behind the postmedian line; both the transverse lines are indistinctly double, bordered somewhat lighter and dentate, the posterior one followed by 3 dark internerval spots; before the apex at the costal margin there is a dark brown triangular spot below which a light oblique line parts the apex; a few small olive greenish spots in the cell, a light lunar streak at the cell-end. Hindwing brownish-grey. Surinam.
- stragula*. **P. stragula** *Mschlr.* (146 h) is somewhat similar to *olivacea*, the forewing is yellowish olive grey, somewhat more yellow in the median area, edged by two indistinct dentate darker single transverse lines; a large guttiform olive brown preapical spot; the apex itself is not parted by light as in *olivacea*; small dark internerval spots before the margin, double dots at the base of the fringe between the veins. Hindwing brownish-grey. The abdomen exhibits a pear-shaped dark velvety brown spot on the last segments. The species was described from Surinam, but it occurs also in Colombia and Bolivia.
- albiluna*. **P. albiluna** *sp. n.* (146 h) agrees well with the diagnose of the genus, but it looks very different. The whitish ground of the forewing is densely strewn with brownish, more densely in the basal third of the inner margin, with finely black-striped veins; a broad black stripe extends from the basal fifth of the costal margin along the lower half of the cell, then behind it between the veins 4 and 5 almost to the margin, from where it bends round as a notched submarginal line into the costal margin before the apex, a long black wedge is detached from it between 5 and 6 towards the upper cell-end; the black longitudinal stripe is interrupted at the lower cell-end by a thick chalky white crescent; somewhat more whitish colour distally notched occurs subterminally in the lower half of the margin. Hindwing short and round, semi-diaphanous white, veins and marginal line narrowly brown, costal and inner margins brownish. Described according to a ♂ from Joinville (Brazil); type in the Senckenberg Museum.

43. Genus: **Hamidonta** *Dogn.*

The ciliated antenna shows a knotted thickening right behind the base with a hook-shaped appendage; the second very hairy joint of the palpus is upcurved on the vertex, the terminal joint is slender and bent backwards like a hook; the legs are uncommonly hairy. Forewing: vein 5 from the centre of the cross-vein, 6 arises from the arcole, 7 a little below its apex, the two next veins stalked from its centre, and 10 shortly before. All the cellular veins of the hindwing are not stalked. Only 1 species:

- unca*. **H. unca** *Dogn.* (= *muscosa* *Rothsch.*) (146 h) is somewhat like *Drugera morona*; forewing blackish strewn with greenish, with double transverse lines partly bordered or filled with white, a faded black median line between them, the posterior line broken up into small internerval lunae. Hindwing blackish with lighter fringe. Guiana.

44. Genus: **Eustema** *Schs.*

Here four fifths of the antennae are pectinated, the short palpi straightly porrect, the legs moderately hairy. The forewing shows the same neurulation as *Pseudodryas* except that vein 6 arises directly from the upper cell-angle, while the costal vein of the hindwing branches off close at the upper cell-angle. Only a small number of rather similar species.

Type of genus: *E. dara* *Drc.*

- dara*. **E. dara** *Drc.* (146 i) has plain mouse-coloured, scantily scaled forewings with a slight silky gloss, without any marking; anterior part of the body yellowish-brown, abdomen darker brown with yellowish bands. Described from Mexico.
- sericea*. **E. sericea** *Schs.* Body red-brown, with yellow transverse bands on the abdomen. Forewing silky grey, with somewhat darker veins, a feeble darker grey postmedian shadow which is slightly bent below the costal margin. Hindwing with brownish hair at the inner margin. Expanse of wings: 57 mm. Costa Rica.
- opaca*. **E. opaca** *Schs.* (146 i) is very similar to *sericea*, but darker purple brown, beside the abdominal segments also the collar is covered with yellowish ochreous hair. The forewing shows a strongly curved postmedian transverse line which is shaded with darker outside like a spot behind the cell, and bordered with lighter inwards; it is interrupted inwards on vein 4 and extends submedianly very obliquely to the inner margin. Brazil.
- rapana*. **E. rapana** *Jones.* The light brown forewing is greyer at the costal margin and in the anal half, otherwise strewn with dark brown; a darker undulated shadow extends through the centre, with an undulated transverse line behind it, which surrounds the cell, and a brown subterminal line; a white band proceeding from the base of the inner margin extends to the upper edge of the cell, from there to the upper cell-angle where it bends downwards on the cross-vein, forming a small discal luna; behind this band lies a triangular darker area extending to the anal angle; a white spot is shortly before the centre of the inner margin. Expanse of wings: 58 mm. Brazil (Parana).

E. roseilinea Schs. is all white, the inner margin and distal margin of the forewing with a pink hue, and *roseilinea*. a pink longitudinal line along the lower edge of the cell to the margin. Expanse of wings: 37 mm. Bolivia.

45. Genus: **Eustemides** Dyar.

Separated from the externally very similar preceding genus by a stronger vein 5 of the hindwing, the absence of the areole on the forewing and the 3 lowest subcostal branches being jointly stalked. Only 1 species:

Type of genus: *E. carama* Drc.

E. carama Drc. (146 i) is altogether very similar to *E. dara*. Body black, thorax and end of abdomen *carama*. set with long yellowish hairs. Wings light greyish-brown with darker veins and fringe. Peru.

46. Genus: **Tecmessa** Burm.

The ♂ antenna is shortly pectinated at the base, the ♀ antenna serrate, the hairy palpi are short. The rather broad forewing with a straight costal margin and inner margin and a rounded distal margin exhibits the same neurulation as *Dasylophia*, the areole is long and narrow.

Type of genus: *T. annulipes* Berg.

T. annulipes Berg (146 i) (= *phyllis* Drc., *cernata* Dogn.) has a grey body, white head and black collar, *annulipes*. the black legs show white rings. Forewing greyish-white with numerous black dentate transverse lines and speckled fringe. Hindwing purely white. South Brazil (Rio Grande do Sul).

T. elegans Schs. (147 a) is white, with a large black spot on the metathorax. Forewing dusted grey with *elegans*. irregularly dentate double black transverse lines, and a black spot behind the distal line at the anal angle. The white hindwing shows a smoky grey marginal band and a black anal-angular spot. Brazil (Castro Parana).

47. Genus: **Psorocampa** Schs.

Almost exactly like *Tecmessa*, but two thirds of the ♂ antenna are pectinated, serrate at the end, and veins 3 and 4 of the hindwing arise from the same place. Only 1 species:

P. denticulata Schs. (147 a) has greyish-white forewings with two finely dentate transverse lines which *denticulata*. are bordered with reddish-yellow outside. The colour of the hindwings varies from a pure white to slaty grey. Brazil (Castro, Parana).

48. Genus: **Phyllopalpia** gen. nov.

Distinguished from *Psorocampa* by vein 6 of the forewing arising below the upper cell-angle; the areole is very short, from its end vein 7 arises separated from the two next stalked veins; the basal two thirds of the ♂ antennae are set with pectinations gradually decreasing in length, basally with 2 large scale-hair tufts; palpi rather long, porrect, distinguished by the long flat leaf-like scale-hairs of the middle joint, the terminal joint being also rather long.

Type of genus: *P. triangulum* sp. n.

P. triangulum sp. n. (147 a) has whitish forewings strewn with olive brown, most densely so in the upper *triangulum*. half of the marginal area; a small olive brown spot in the base of the costal margin is traversed by the broad notched whitish subbasal line, a short thick black oblique streak is below it, obliquely rising distally from the base of the inner margin to the submedian fold; behind the costal-marginal spot follows a very large triangular spot the distal point of which almost reaches the apex, the lower point resting on the submedian fold behind its centre; it is distally edged by a white line, strongly mixed with white in the costal-marginal part and traversed by oblique costal-marginal streaks; a yellowish-white longitudinal spot is in the distal cell-end and, behind it and connected with it, a horizontal crescent, both being edged with black below; two darker subterminal dentate lines bordered with whitish, an irregularly scalariformly notched fine blackish submarginal line. Hindwing brownish-grey, darkened towards the margin, with light fringe. Described according to several ♂♂ labelled: "South America." Type in the Senckenberg Museum.

49. Genus: **Hippia** Mschlr.

A larger genus of species which are partly difficult to separate. Antenna of ♂ tuftedly ciliated, of ♀ plain, the terminal joint of the palpus thin and long. The forewing with a pointed apex and a broadly rounded

distal margin does not differ in the neuration from the preceding genus except that all the cellular veins arise without a stalk or on a very short stalk at most.

Type of genus: *H. mumetes* Cr.

- mumetes.* **H. mumetes** Cr. (= *albopicta* Dogn.) is a species known long ago and has been assigned to various genera. Forewing olive grey in the basal third, at the costal margin and in the inner-marginal half, distally with a broad white band enclosing a small black apical dot; inner margin dusted with brownish; the fine black dentate double transverse lines are quite indistinct in the upper portion of the wing and partly broken up into dots. Hindwing brownish-grey with lighter fringe. Expanse of wings: 33 mm. Guiana.
- pulchra.* **H. pulchra** Btlr. is somewhat like *mumetes*, but the forewing exhibits beside the white subterminal band also a broad white costal-marginal stripe which is strewn with brown towards the costal margin and connected from the apex with the subterminal band by a white oblique line; the black apical dot is still larger here; the inner margin is contrastingly dusted with pinkish brown, the black notched double lines are much more distinct; a large white spot is at the cell-end; hindwing greyish-brown. Ecuador.
- punctillum.* **H. punctillum** Dogn. (147 a) has greyish-brown forewings without distinct transverse markings, with a black dot before the cell-end and two behind it, the distal lower one of which is centred reddish-yellow; several reddish-yellow dots and streaks on the submedian fold and behind the cell, and a subterminal row. Hindwing brownish, lighter towards the base, with reddish-yellow fringe. French Guiana.
- insularis.* **H. insularis** Grt. (= *lignosa* Mschlr.) (~~147a~~) introduces a group of very similar species which are very difficult to separate. Forewing olive grey, thickly strewn with brown, with double dentate black transverse lines, the posterior one broken up into a double row of black dots and followed by a yellowish shadow; a dark streak at the cell-end is bordered with light only inwards and is distally followed by two black dots above each other behind the cell; the apex is feebly parted by light, the light undulate line is shaded darker inside, with small dark internerval spots before the margin. Hindwing brownish-grey; Cuba.
- vittipalpis.* **H. vittipalpis** Wkr. is probably homogeneous with *insularis* Grt. and seems to be merely a somewhat greyer form; DYAR combines it with *insularis* and *packardi* and leaves *vittipalpis* as the legitimate name.
- mandela.* **H. mandela** Drc. (= *nigricaput* Dogn.) (147 b) has brown wings strewn somewhat darker especially in the ♂, with double black transverse lines, the posterior one broken up into rows of dots, which are separated by yellowish dots, and preceded by a more or less complete row of internerval dots; a dark streak in a light ring is at the cell-end, an anal-angular blotch of darker strewing is before and below it; the apex is obliquely parted by light yellowish-white, the subterminal line is brownish, small blackish spots surrounded by a lighter colour are before the margin. Hindwing blackish with light fringe. The head, collar and mesothorax are blackish-brown in the ♂, light reddish-yellow in the ♀. Widely distributed in Mexico and Central America.
- packardi.* **H. packardi** Morris (147 b) is smaller and stouter of a greyer, less brownish colouring, without the subbasal line, with a small blackish spot proximally bordered with whitish, in the centre of the cell; the light apical blotch is more distinct, more sharply shaded with black below, the postmedian line is more linear, deeply concave inwards behind the cell-end streak. Texas.
- matheis.* **H. matheis** Schs. is also very similar, larger, darker greyish-brown, more plainly marked, with but one double anterior and posterior transverse line each; apical third yellowish-white, striped brown, with an undulate dark marginal line. Brazil (Petropolis). The species deviates somewhat from the genus, since a raised tuft of scales is at the base of the antennae.
- salandera.* **H. salandera** Schs. (147 b) is very similar to *matheis*; forewing dark velvety brown with a light yellow stripe from the centre of the cell to the distal margin above vein 6, interrupted on 5 by a brownline, subcostally strewn with lilac and brown, with a preapical black dot; basal third likewise densely strewn with lilac grey below the cell, the lower anal third of the distal margin light brownish; the anterior transverse lines are quite absent, the posterior one and the submarginal line are very indistinct. Hindwing dark brown. British Guiana; Amazons; Eastern Peru.
- pronax.* **H. pronax** Dogn. (147 b) has the same distinction of the antennae as *matheis* and resembles it except the apical spot. Forewing brown with subbasal and anal brightenings; the anterior transverse line is marked by 4 lighter lunulae, the cell-end streak is also light and only sometimes bordered with blackish; the postmedian line is indicated by double rows of black vein-dots, the undulate line by small brown, lighter ringed internerval spots; the ochreous apical spot begins in the upper half of the cross-vein, despatching a short hook towards vein 4 and narrowing down as far as the apex. Hindwing brown with light fringe. French Guiana, Eastern Peru; Trinidad.

H. undilinea *sp. n.* (147 b) is somewhat similar to the preceding species; head and thorax yellowish-grey, *undilinea*. only the base of the collar is blackish-brown. Forewing light brownish pink, only at the costal margin narrowly deep blackish-brown, and more widely so below the light subcostal line from the centre of the cell to the margin, intermixed with lilac white and greenish-yellow scales in the anal half of the margin and in the basal third; the light brownish-pink subcostal stripe below the dark costal margin is bordered by a yellowish-white line towards the blackish-brown area, which line begins in the centre of the cell, turning at the cell-end upwards around a dark round convexity, whereupon it extends straightly for some distance and then forming two steps terminates into the apex; the postmedian line is only visible towards the light anal area in some sagittiform pointed arches, behind it follow black subterminal angular streaks. Hindwing greyish-brown with light reddish-yellow fringe. 1 ♀ from Chuchuras (Eastern Peru). Type in the Berlin Museum (Coll. STAUDINGER).

H. schausi *Dyar* (146 k) chiefly differs from the similar *matheis* in the purer white costal band being *schausi*. fadedly continued to the base of the wing, bending in the centre of the cell, where it leaves the costal margin, downwards to the base of the inner margin, where it is more intensely strewn with brown than apicad; forewing greyer, shaded with blackish at the base of the costal margin, in the median area and anally; white vein-dots are behind the quite indistinct postmedian line. French Guiana to Peru.

H. astuta *Schs.* (= *anica* *Drc.*) (147 c) approximates *mandela*; it has longer, lighter, more brownish *astuta*. forewings, the costal-marginal part distinctly brownish-red, the inner-marginal part more yellowish-grey, all the transverse markings broken up into dots, with larger blackish spots before and behind the cell-end and inwards to the anal angle; the yellowish-white apical spot is very small, enclosing a black dot, the veins subapically are fine whitish-yellow. The larger ♀ is more monotonously blackish-grey, the inner marginal part not much lighter. Mexico to Venezuela, Peru.

H. undulata *Drc.* resembles *astuta*; forewing reddish-brown, the transverse lines are developed into more *undulata*. complete fine lines, only partly divided into small spots, a larger brown postcellular spot. In contrast with *astuta*, the ♀ is somewhat lighter with more distinct markings. Colombia.

H. cinga *Drc.* is likewise allied to *astuta*, larger, darker blackish-brown, strewn with black, with a long *cinga*. light apical spot strewn with grey and extending to the centre of the costal margin, the other markings as in *undulata*, but much more indistinct, only a submarginal row of brown light spots being more distinct. Hindwing dark brown with light fringe. Peru.

H. gracita *Schs.* Forewing grey, dusted with brown at the costal margin as far as the centre, broadly *gracita*. white behind it with light grey internerval shadows, with black double transverse lines, the posterior line broken up into rows of dots, with black and white dots behind them; an oblique dark streak at the cell-end and a white line to the light costal part which is bordered below by a triangular dark shadow; the undulate line is dark brown, black spots are at the anal angle; as in *mandela*, an oblique blackish shadow is in and below the cell-end. Hindwing blackish-brown, yellowish basally and at the inner margin. Expanse of wings: 39 mm. Guatemala.

H. talae *Berg* is externally somewhat like *mandela*, but the species is smaller, with narrower wings, the *talae*. colour of the forewings is a much more monotonous grey, less strewn with brown, with somewhat more distinct transverse lines; the cell-end streak, however, is very faded, without the light bordering on both sides; the apex is not parted by light here, the black submarginal spots are not in light rings; the light notched undulate line is not shaded darker on the inside and not very prominent. Hindwing brownish-grey. Argentina.

50. Genus: **Symmerista** *Hbn.*

Very closely allied to the preceding genus, also in the scheme of markings, but the terminal joint of the palpus is short and the ♂ antenna pectinated.

Type of genus: *albifrons* *Abb. & Sm.*

S. albifrons *Abb. & Sm.* (147 c) is a difficult species owing to the variety of its forms. The typical North- *albifrons*. American species is ash-grey, head and collar as well as mesothorax light reddish-yellow, turning whitish in front, mesothorax more or less brown; the forewing is strewn darker, shaded darker blackish in the median area and below the light apical stripe; the subbasal one of the black transverse lines is single, forming two bows, the anterior line is double, removed far into the middle, filled with whitish, the posterior line quite indistinct, shadow-like; the cell-end streak is red-brown, surrounded with light reddish-yellow; the yellowish-white costal-marginal stripe extends below with a small fine point to the antemedian line, being broadly dusted with lilac grey above it and forming, behind the cellular spot, a triangular pointed dent, which is turned downwards, and besides pointed distal dents on the two lowest subcostal branches; a fine black dentate line is before the distal margin, being almost scalariform below the centre. The whitish hindwing is smoky, darker in the ♀. This form occurs from Canada to Mexico. — f. **albicosta** *Hbn.*, occurring from New York to Florida, is somewhat smaller, *albicosta*. the white costal-marginal band is broader and shorter, and terminates obtuse at the apex; it ends inwards not pointed on the discal fold, but broad along the antemedian line in the cell, the dent behind the cell-end spot ends rounded below, not pointedly triangular, the cell-end is filled with a deeper red-brown colour, and the

- suavis*. arches of the submarginal line are much flatter. — f. **suavis** Barnes is the western form from Colorado; the ground-colour below the costal stripe behind the cell is much darker here, the cell-end spot much thicker, shorter and deep black; the collar is dark greyish-black, the ♂ hindwing white, only at the base of the fringe somewhat smoky, but like the type in the ♀; on account of its antennae being somewhat longer pectinated, the author considers it to be a distinct species. — Moreover, 3 well differentiated insects are before me from Mexico, partly in numbers, but as only the ♀♀ are known to me for the present, it cannot be decided whether they are distinct species, for which reason we range them here as forms of *albifrons*: — **jalapae** f. nov. (147 c) is a large, very light and delicately lilac grey form, not strewn darker, without any transverse markings except the fine double antemedian line which extends sharply distally below the median vein, then on the submedian fold more than 1½ mm inwards on to the inner margin; the costal-marginal stripe is very purely white below and bordered below by a deep and broad blackish-brown colour with a chestnut-red reflection, the dent behind the discal spot is short and broad triangular; the pointed arches of the submarginal line are transformed below the centre into fine black oblique streaks turned inwards above. Head and collar light reddish-yellow, abdomen and hindwings light brownish-grey. Jalapa. — **difficilis** f. nov. (147 d) differs from *jalapae* in the forewing being coarsely strewn with olive grey especially before and behind the lighter median area, the basal area is purely white, it contains the subbasal line forming two high pointed arches; the antemedian line forms quite equably rounded arches, its interior portion is olive grey, only the distal portion being thick and black, red-brown near the cell, the postmedian line is likewise distinct and forms distinct blackish lunulae interrupted on the veins; the area below the costal-marginal stripe is only slightly shaded with yellowish-grey, the submarginal line does not form any pointed arches, but only very flat uniform dull brown lunulae interrupted by the veins. Fringe more undulate and speckled light and dark, more uniformly rounded and unicoloured lilac grey in *jalapae*. Jalapa. The types of these two forms are in the Coll. DRAUDT. — **zacualpana** f. nov. (147 d) is the largest and darkest form, dark slaty grey, without any markings like *jalapae*, of the antemedian line only one double arch is visible below the cell, the posterior line is partly indicated by shadow-like black strewing, a black streak above it in the cell-end, which is strewn with red-brown, before the deep red-brown discal spot in a reddish-yellow ring; the yellowish ochreous costal-marginal stripe is somewhat more whitish below and only extends to the cell-end, in all the other forms it enters the cell, it forms strong triangular dents downwards, all of which are close together, and it is spotted cinnamon brown before the apex in the cellular spaces, crossed by the silvery white veins; towards the ground of the base it is feebly bordered with red-brown, towards the costal margin it is intensely dusted lilac grey. Hindwing less brown than in the other forms; the submarginal line forms flat arches, thickened between the veins. Zacualpan. Type in the Coll. DRAUDT. — The adult larva is orange brown or red with greyish-white dorsal and lateral bands which are finely longitudinally striped black, and a red protuberance on the 11th segment. It lives on oak and is gregarious in its youth.
- odontomys*. **S. odontomys** Dyar (147 d) is also extraordinarily similar to the preceding forms, but surely a distinct species on account of the ♂ antennae being at least thrice as broadly pectinated. Colour purple grey as in *zacualpana*, all the transverse markings distinct as in *albifrons*, the antemedian area lighter whitish-grey, the costal margin narrow and sharply darkened; the narrow and long yellowish-white costal-marginal stripe extends in its entire width to the uppermost round arches of the double antemedian line, the dent behind the small dark cell-end streak surrounded by reddish is very small and short, the next dent only follows shortly before the angular arches of the submarginal line. Head and collar dark brown, hindwing dark greyish-brown. Mexico (Zacualpan).
- tlotzin*. **S. tlotzin** Schs. (147 d) lacks the characteristical whitish-yellow costal-marginal stripe of the preceding species; forewing light grey with rather straight black transverse lines, two through the centre and one behind it, the submarginal line extends similarly as in the preceding species; between them, the wing is traversed by several notched shadowy stripes. Hindwing white, shaded with brown at the costal and distal margins. Described from Mexico.
- sigea*. **S. sigea** Schs. Body and forewing as in *tlotzin*. Hindwing white at the base and inner margin, suffused with light brownish, with brown veins, dark brown at the distal margin from the centre of the costal margin, narrower analwards, fringe white. Expanse of wings: 36 mm. Coary (Amazons).
- corcova*. **S. corcova** Jones. Forewing reddish ochreous brown, dusted with lilac, with double red-brown transverse lines, the interior part of the anterior line being very dark, enclosing a white spot at the inner margin, shaded with violettish-brown on both sides, the distal shadow extending at the inner margin as far as the anal angle, the posterior line strongly dentate, filled with a lighter colour; a dark V-shaped spot is at the cell-end, and red-brown submarginal spots surrounded by a lighter colour, those above veins 3, 6 and 7 being the largest. Hindwing yellowish reddish brown, darker at the costal and distal margins. Expanse of wings: 35 mm. Brazil (Rio de Janeiro).

51. Genus: **Arhacia** Herr.-Schäff.

This genus which used to comprise part of the genus *Lirimiris* is now confined to 4 large species with tuftedly ciliated ♂ antennae, feeble, rather short palpi with a somewhat longer second joint. Forewing long

and narrow with a completely rounded interior angle, a very long narrow arcole from the apex of which the veins 7 and 8 arise stalked, 10 arises above before its end. Hindwing as in the preceding species.

Type of genus: *A. combusta* Herr.-Schäff.

A. combusta Herr.-Schäff. (147 e) has light reddish yellowish-brown forewings with narrow dark red- *combusta*. brown margins, a scarcely darker longitudinal stripe through the cell as far as the margin, interrupted on the cross-vein by two reddish-brown transverse streaks which are bordered with light; a narrower darker, more olive longitudinal stripe below the cell stops in the subterminal area before a small black spot, with traces of a deeply dentate postmedian line before the margin. Hindwing lighter than forewing, dark red-brown at the anal angle with light lines. Brazil.

A. imitans Schs. is exactly like *combusta*, but easily discernible by the brown hindwing being only *imitans*. yellowish-white at the costal margin and in the upper half of the cell, and the forewing showing intermixed olive green colour before the fringe. Expanse of wings: 57 mm. Costa Rica.

A. lignaris Schs. is also very similar to the two preceding species, but easily separable from them by the *lignaris*. dark greyish-brown shading behind the cell as far as the margin between the veins 4 and 6; moreover, the frons is dark brown, only the vertex light. Hindwing light as in *combusta*. Expanse of wings: ♂ 54, ♀ 73 mm. Costa Rica.

A. postbrunnea Roths. likewise resembles *combusta*; forewing reddish-yellow, with an olive tint, brown *post-brunnea*. at the margins, with a brown longitudinal shadow below the median vein and a reddish-yellow reniform macula at the cell-end, enclosing two darker lines; the darker postmedian line is indistinct, double and filled with a lighter colour; 2 fine pink lines in the brown margin, a broader reddish-yellow line before them. Hindwing sooty blackish-brown, reddish-yellow with an olive tint in the basal two thirds of the costal margin, the basal third and the inner-marginal area; two pink lines at the anal angle. Expanse of wings: 56 mm. French Guiana.

52. Genus: **Lirimiris** Wkr.

Extremely similar to the preceding genus, only separated by the long double pectinations of the antennae, the apical quarters remaining plain. The apex of the long and narrow forewing is often somewhat truncate, the distal margin slightly concave above the anal angle. The mark of distinction hitherto assumed, i. e. the separate origin of veins 3 and 4 on the hindwing, has proved to be variable.

Type of genus: *L. lignitecta* Wkr.

L. lignitecta Wkr. (= *argentifera* Drc.) (147 d, e) has white forewings, the distal three quarters of the *lignitecta*. costal margin being deep blackish-brown; excepting the basal area, the larger inner-marginal half is scaled olive grey, a large clover-shaped reniform macula being open above, composed of erect scales, is at the cell-end, traces of a deeply notched dark posterior transverse line and of a white submarginal line are present. Hindwing white with a narrow brown margin. Widely distributed from Mexico to Brazil. — By the kindness of Mr. ARP there are large specimens before me from Brazil, which, in contrast with the Mexican specimens, have quite blackish-brown hindwings, — in the type they are white as in the ♂ —, the forewing being tinged with pink, the reniform macula of a yellow tint, and the collar intensely ochreous, dark brown in the typical form; the form may be named: — **arpi** f. n. (144 e, f); it is probably a distinct species. *arpi*.

L. auriflua sp. n. (147 f) is at once recognizable by the bright orange anal end. Forewing very narrow, *auriflua*. marked very much like the preceding species; forewing white, with a narrow blackish-brown stripe from the basal third of the costal margin, interrupted in the distal third by 3 white small costal-marginal hooks, dusted with light brown in the inner-marginal half into which the large white reniform macula extends; all the linear markings are very indistinct, a short black longitudinal streak in the basal part below the cell and short black, very oblique postmedian streaks, especially towards the inner margin more distinctly bordered with white and double here. Hindwing distinctly triangular, diaphanous white, narrowly bordered with blackish-brown only at the costal margin and analwards, the inner margin clad with smoky brown hair. Several ♂♂ from Brazil (Rio) and Eastern Peru (Chuchuras). Type from Rio in the Berlin Museum.

L. truncata Herr.-Schäff. (147 f) is the chief representative of an extremely difficult group, since my *truncata*. examinations have yielded no fewer than 3 specimens in Mexico alone, which are scarcely distinguishable externally, but which can be distinctly separated by the genital organs. As the type of this species I consider the form which occurs most commonly and is most widely distributed in Mexico. The costal-marginal part of the forewing is light brownish ochreous, warming into white towards the blackish-brown inner-marginal part, with 2 or 3 small brown or blackish dots at the cell-end; the apical area is slightly brownish and encloses a few fine black wedges and small light costal-marginal hooks; a light line before the margin, then follows a black fine line, another black line is at the base of the brown fringe. Hindwing white in the disc, smoky on the veins and margin, with smoky grey hairs along the inner margin. The ♀ has broader wings, the hindwing is quite greyish-brown. The hindwing of this species is shortly triangular and rather deeply concave before the anal angle.

The distal end of the valve is extended into a long fine point, almost like the beak of an ibis, which proceeds with a slight curve, almost geniculated in an angle of 75 degrees and is very intensely chitinized blackish-brown, the median lateral edge bearing a slight very bristly hunch; the penis is long and thin, chitinized deep blackish-brown. Common in Mexico (Orizaba, Misantla etc.).

inopinata. **L. inopinata** *sp. n.* (147 g) is somewhat smaller than the preceding species, of a somewhat greyer effect in its colouring, the light costal-marginal part being not so yellowish-ochreous, more brownish-white; at once discernible by much darker, blackish-grey hindwings, all the rest agreeing exactly with *truncata*. Hindwing broad, well rounded. The distal end of the valve is only of half the length and more than double the width of that in *truncata*, not geniculated, but bent in a uniform slight curve; in the centre of this curve there is inside a triangular pointed projecting dent with some bristles; the median lateral edge bears no hunch, but it is almost rectilinear; penis like that of *truncata*. Colima, numerous ♂♂ are before me, type in the Coll. DRAUDT.

guatemalensis. **L. guatemalensis** *Rothsch.* (147 g) is still more similar to *truncata*, larger, with relatively narrower forewings which are somewhat more convex before the apex at the costal margin, the slight projection of the distal margin on vein 4 seems to lie a little higher, and the part of the distal margin below it forms almost one straight line with the inner margin. Hindwing longer and broader, the concavity before the interior angle is very slight. The colour of the costal-marginal part is also less yellowish than in *truncata*, more ivory white. The colour of the hindwing is intermediary between the two preceding species, though much more smoky than in *truncata*. The genital organs are quite different, the valve on the whole at least twice as long as in the preceding species and all the parts very feebly chitinized light yellow; the distal end is produced almost in the shape of a vulture's head, its neck being slightly S-curved, so that it cannot be mistaken for any of the preceding species; the penis is also only feebly chitinized, shorter and comparatively thrice as thick as that of the preceding species. Guatemala and Mexico (Zacualpan).

supertruncata. **L. supertruncata** *Dogn.* is also very similar to the 3 preceding species, but much larger, its expanse being 77 mm. The border between the light costal-marginal part of the forewing and the dark part is not rectilinear, but it forms a dent before the lower cell-angle and extends from there to the margin on vein 7 and not on 5 as in the preceding species; the dark ground-colour brightens between 2 and 3 towards the margin as far as the black strongly dentate subterminal line. Hindwing covered with blackish scales, with a red-brown spot at the anal angle. Peru.

chimaera. **L. chimaera** *Rothsch.* is another ally of the very difficult *truncata*-group, with much longer, narrower and more curved forewings, the ♂ pectinations being extraordinarily long, red-brown. The costal-marginal part is light reddish-yellow, a longitudinal stripe below the median vein, the distal third of the costal margin and a subterminal band are rusty red, the interior part is chocolate brown dusted with olive. Hindwing dull white, dingy grey on the veins and inner margin, rusty brown at the margin and anal angle. Expanse of wings: 108 mm. South-Eastern Peru.

gigantea. **L. gigantea** *Drc.* has an expanse of almost 10 cm and is one of the largest of the similar species; forewing dark reddish-brown with a broad yellowish-white costal-marginal part and a double red-brown, strongly notched submarginal line. Separable from *truncata* by its larger size and white hindwings which are only feebly smoky at the costal margin, apex and inner margin, with 2 black spots at the interior angle and an interrupted yellow line at the margin. Peru.

corina. **L. corina** *Schs.* The broad blackish-brown shadowy stripe separating the light reddish-yellow costal-marginal part from the dark violettish-brown inner-marginal part begins at base of the costal margin, traverses the cell as far as below the median vein and terminates at the margin within the veins 4 and 6; the veins are marked darker here, the apical third of the costal margin is dusted with light brown; double transverse lines are traceable, a subterminal brownish-grey shadow is darkest in the lower half; a light reddish-yellow line at the margin, then an olive brown line. Hindwing whitish, smoky on the veins and margin, quite greyish-brown in the ♀. Expanse of wings: 35—42 mm. Costa Rica.

punctata. **L. punctata** *Dogn.* is somewhat similar to *corina*, still smaller, the forewing quite light brownish without the darker inner-marginal part, but the subterminal area between and above the veins 2 and 3 is whitish; the black longitudinal shadow is interrupted in the lower cell-angle by a white triangular dot and ends rounded postmedianly, bordered above by a black longitudinal streak between 5 and 6, which then turns to the apex before which there is a black dot at the costal margin. Hindwing white, broad at the costal and inner margin, narrowly brownish at the distal margin. Expanse of wings: 32 mm. Brazil (Joinville).

elongata. **L. elongata** *Schs.* (147 h) is a very large species with long, narrow wings being almost falcate at the apex, with a very oblique distal margin, reddish yellowish grey with a violet tint, shaded with dark grey in the basal half below the subcosta, with black dots before and behind the cross-vein; a grey shadow above vein 4 extends to the margin, the apical third of the costal margin is dusted with brownish; a fine dark postmedian line is irregularly marked. Hindwing greyish-black. — f. **postpallida** *Rothsch.* differs from the Peruvian type in its white hindwings and less grey forewings which are more suffused with reddish-yellow; this form has been described from Costa Rica. — f. **orientalis** *Rothsch.*, from Guiana and the Amazons, exhibits the forewing suffused with yellowish reddish-brown; hindwing darker than in *elongata*, but of a somewhat more yellowish tint.

L. euribya *Drc.* (147 g) is very similar, but much smaller, with a straight costal margin; forewing light *euribya*. yellowish reddish-brown, lightest at the apex and distal margin, with a dark brown longitudinal line through the wing from the base into the apex. Hindwing blackish-grey, darkest at the inner margin and apex. South-Eastern Peru.

L. fascis *Schs.* (147 h) introduces another group of species which look very much like *Arhacia combusta fascis*. from which, however, they are at once discernible by the antennae being strongly pectinated also in the ♀. Forewing light brownish-yellow, narrowly red-brown at the margins, with a lighter central line before the large reddish-brown reniform macula, the cell shaded darker olive and surrounded by a lighter border; traces of darker double transverse lines. Hindwing greyish-brown, narrowly yellowish at the margin, with double red-brown lines and a dark anal spot parted by white. Mexico to Brazil.

L. meridionalis *Schs.* (147 h) is considerably larger and darker than *fascis*, otherwise very similar; *meridio-* forewing olive brown, darker at the costal margin, dusted with red-brown in and below the cell. Hindwing *nalis*. darker blackish-grey with a double black marginal line. British Guiana.

L. lemoulti *Rothsch.* (148 a) is smaller and much darker than *meridionalis*. Head and thorax dark *lemoulti*. brown like the forewing, basal part somewhat lighter with very high pointed arches of the antemedian line, otherwise marked very much like *meridionalis*, the postmedian line more distinctly prominent than dark wedges which are distally bordered with light. Hindwing deep blackish-brown with traces of a lighter postmedian band, and a rusty brown anal spot bordered with black inside and outside. Guiana; the Berlin Museum contains also a specimen from Pará.

L. mirabilis *Rothsch.* (148 a). This peculiar animal is not to be mistaken for any other species, the *mirabilis*. long narrow curved forewing is concave in the lower two thirds of the distal margin; the colour is whitish reddish-yellow, slightly dusted brown in the distal half, with a large olive brown spot at the cell-end, enclosing a light reniform macula from which a light stripe extends below the apex; the distal half of the costal margin is sooty blackish-brown, with small chocolate-brown apical spots; a feeble dentate double postmedian line is visible. Hindwing white, brownish at the margin of the ♀. Peru, Venezuela.

53. Genus: **Arpema** *Schs.*

The genus contains only two large very similar species with broader wings than the preceding genus. Palpi and antennae as in the latter; vein 5 of forewing arises directly above the centre of the cross-vein, 6 before the centre of the areole from the end of which all the subcostal branches except the uppermost arise; the cellular branches of the hindwing arise without stalks and not separated by twos from the angles of the cell, the costal vein branches off from the subcostal vein before its centre.

Type of genus: *A. megalopia* *Schs.*

A. megalopia *Schs.* (= *bucephaloides* *Rothsch.*) (148 a). Forewing leaden grey in the small basal area, *megalopia*. bordered with white, covered behind it with very coarse white scales which are brown at the ends, greyer in the narrow median area; behind it follows a slightly distally concave white postmedian line which is edged with reddish cinnamon outside and borders on the darker lilac brown subterminal area; marginal area light violet-brown, traversed by two undulated lighter lines. Hindwing red-brown. Brazil.

A. phaleroides *Rothsch.* (148 a) is very similar to *megalopia* and differs in the triangular violettish-brown *phaleroides*. basal area which is distally bordered by a white oblique line; the dark subterminal area is lighter and narrower and is not bordered inside by such a distinct white line. Hindwing somewhat lighter. West Colombia; Peru.

54. Genus: **Cerura** *Schrk.*

Separated from the preceding genera by a very much shorter areole of the forewing, vein 6 arising almost from the end of the areole, 7 and 8 arising stalked from it. Vein 6 of hindwing stalked with 7. Antennae pectinated to the ends, palpi short. As to further particulars and the biology of this genus occurring also in the palaearctic region we refer to Vol. III, p. 285.

Type of Genus: *C. furcula* *Schrk.* from Europe.

C. scitisscripta *Wkr.* (= *platea* *Schs.*) (148 b) is the well-known American species with white forewings, *scitisscripta*. two antemedian and three postmedian black dentate transverse lines, the posterior one fourfold at the costal and inner margins, with a ring-shaped cellular macula in the centre. Hindwing white with black marginal dots. — f. **multisscripta** *Riley* is a somewhat darkened form, the transverse lines being filled with black scales, with *multi-* blackened hindwings. Larva of the usual pussmoth shape, light green, head and neck-spot on the thoracal *scripta*. segments blackish-brown, the saddle-spot on the dorsum lighter brownish, dusted almost entirely bluish-white

above. It lives on willows and poplars and on wild cherry. The darker form occurs in the Northern States, whilst the white form is found from Florida and Georgia to Kansas, also in Mexico.

candida. **C. candida** Lintn. (148 b) resembles the preceding species from which it only differs in the white thorax and entirely white hindwings without any black marginal dots. It was formerly regarded as a form of *scitisscripta*, but it is considered a distinct species now. From Florida.

rarata. **C. rarata** Wkr. (148 b) is relatively near to the preceding species. Forewing silvery white, with 2 antemedian and 3 postmedian black dentate transverse lines, the anterior ones distantly separated and enclosing two black rings, one in the cell, one at the inner margin; above them, at the costal margin, there is a small V-shaped mark, a similar more distinct mark is subapical. Hindwing white, with a small black anal spot which may also be absent. The type is widely distributed and occurs already in Texas; farther to the south the species has been observed as far as Peru, in most variable forms.

tehuacana. **C. tehuacana** sp. n. (148 b), in my opinion, is not a form of *rarata*, but a distinct species; more robustly built, more thickly scaled chalky, not so lustrous silky; all the black markings considerably thicker, of a more oblique course and partly confluent subapically and in the centre of the inner margin; thick internerval dots at the margin. Mexico (Tehuacan), types in the Coll. DRAUDT.

presidio. **C. presidio** Dyar is very similar to *tehuacana* and discernible by the olive grey filling of the interior band which lacks the inner-marginal ring; a black transverse line in the cell is surrounded by a circular line. Hindwing white, blackened at the base of the inner margin, with 2 oblique black lines at the anal angle and black-spotted fringe which is invariably purely white in *tehuacana*. A large species with an expanse of 44 mm. From Mexico (Presidio).

xiconia. **C. xiconia** Dyar (148 c) is most closely allied to *rarata*, but smaller and more delicate, without the ring in the cell. Hindwing white, only very tiny black dots in the fringe. Mexico (Zacualpan), taken in November.

trigonostigma. **C. trigonostigma** Dyar (148 c) has hardly any markings, it is white with fine black spots intermixed with yellowish scales; a small triangular spot between the subcosta and inner-marginal vein, a small bipartite spot in the centre of the costal margin, and one opposite at the inner margin, a submarginal line from the apex to vein 4 and a triangular spot at the anal angle; black internerval dots at the margin. The abdomen is intermixed with black hairs. Mexico (Colima), taken in June.

purusa. **C. purusa** Schs. Head and thorax white, the latter with a black dorsal line and 4 small spots; abdomen black above, base, anal segment, sides and ventrum white. Forewing silvery white, markings similar as in *trigonostigma*; a triangular basal spot, a small one in the centre of the inner margin, filled with reddish-yellow, a short line behind the centre of the inner margin, a round spot filled with reddish-yellow in the centre of the cell, and a forked line above it at the costal margin; distal line between 4 and the costal margin thick black, close behind it another line between 6 and the costal margin; reddish-yellow scales between 8 and 6 extend downwards along the first line; small black lunae at the margin. Hindwing white, diaphanous in the disc. Expanse of wings: 34 mm. Brazil (Rio Purus).

annulifera. **C. annulifera** Berg (148 e) looks somewhat like *rarata*, but the forewing is olive grey, with two antemedian and postmedian notched black transverse lines, the two anterior ones likewise distantly separated and with 2 black rings, one in the cell and one at the inner margin, the small V-spot at the costal margin is absent; of the undulate line only darker shading on the inner side is present, and a large black subapical spot at the costal margin. Hindwing dark blackish-grey, fringe speckled black and white. Argentina.

laqueata. **C. laqueata** Schs. (148 e). Forewing silvery white, with 4 antemedian and two postmedian black undulated lines, another short line from the costal margin behind the most exterior line; a large irregular cellular spot projects somewhat obtusely outside below; a straight line at the margin below the apex, short streaks below it are directed obliquely distad downwards. Hindwing white with a dark apical spot, a dark-haired inner margin and small marginal spot. Costa Rica.

gonema. **C. gonema** Schs. (148 e) is distinguished by brownish-grey hindwings; abdomen above also dark brown, only the two last segments with white bands; forewing silvery white with 6 similar transverse lines as in *laqueata*, the basal one bifurcating towards the costal margin, the third confluent with a black cellular spot, another black spot in the cell-end is confluent with one below it. French Guiana.

argentina. **C. argentina** Dogn. is similar to *gonema* but smaller and with white hindwings; the basal transverse lines on the forewing are broken up into vein-dots, followed by a black cellular dot with a white pupil, and a small costal spot above it, the double postmedian line is removed farther subterminally, indistinctly black above the centre; the oblique marginal streaks are replaced by internerval dots. Abdomen black above, with a white anal end and ventrum. Expanse of wings: 27 mm. Described from Argentina.

argynnis. **C. argynnis** Schs. The white forewing exhibits behind the two interrupted basal transverse lines three rings: at the inner margin, in the cell and at the costal margin, one above the other and centred greenish yellow; the two double subterminal ones are somewhat faded towards the apex and intermixed with greenish-

yellow scales. Hindwing of ♂ white with a black inner-angular dot, brownish-grey in the ♀, the fringe speckled black. Expanse of wings: 31–33 mm. Castro (Parana).

C. rivera Schs. (148 d) is extremely similar to *argynnis*, but larger and with a thick black pupil in the *rivera*, inner-marginal ring. The ♀ has quite black hindwings with grey fringe. The abdomen beneath exhibits a series of black dots, the ventrum of *argynnis* is all white. Brazil (Rio de Janeiro, Castro, Parana).

C. splendens Jones is still larger than *rivera*, similarly marked as *argynnis*, separable by the single *splendens*, black postmedian line which is very broad at the inner margin and confluent at the apex with a black costal-marginal spot, a yellow line follows behind it and is widened like a spot at the inner margin between 4 and 6 and subapically; fringe white with black internerval spots. Hindwing of ♀ brown, darkened at the margin. Abdomen silvery grey, with blackish-brown bands. Expanse of wings: 48 mm. Castro (Parana).

C. bratteata sp. n. (148 d) is much slimmer than the allies, with a longer and much more oblique distal *bratteata*, margin; forewing silvery white, with two fine antemedian transverse lines submedianly connected like a Y, and a double postmedian line the dents of which between 2 and 4 are connected with the same dents of the subterminal line, forming a threefold line; the yellow spots show a golden gloss, the spot at the inner margin confluent from two; other golden yellow spots are behind the postmedian line, subapically and between 4 and 6; the ends of the veins are traversed by black, hindwing white, slightly black-spotted only at the anal angle. West Colombia (Rio Mieay), type in the Coll. NIEPELT; East Colombia (Rio Negro).

C. lancea Schs. (148 d) represents another type of marking similar to that of the allies of the palaearctic *lancea*, *vinula*. Forewing dull white, not silvery, with brown markings, the marginal area showing the strongly notched lines of *vinula*, as well as its long internerval wedges, while the black-pupilled ring-spot of *bratteata* is before the centre at the inner margin. Hindwing smoky black at the inner margin, anal angle and apex. Guiana, Colombia.

C. duonummenia Dyar (148 d) is a small species showing resemblances to the species of *Harpyia*; fore- *duonum-*
wing densely strewn black, so that all the markings are covered except the double postmedian line which is *menia*, filled with whitish and removed far towards the margin; its distal portion is thicker black except the part between 2 and 4; thick black internerval dots on the margin. Hindwing scantily scaled, grey with whitish fringe spotted black between the veins. Mexico (Tehuacan).

C. dandon Drc. (148 d, e) forms quite a different group. Forewing glossy silky white, tinged with *dandon*, brownish olive in the cell and behind it as well as submedianly, with thick velvety black spots at the costal and inner margins, partly connected by fine brown dentate lines. Hindwing white with a black anal-angular streak. Mexico to Brazil. The ♀ is much larger and has brown hindwings. — **grandis** Schs. (148 e) is a larger, *grandis*, more robust form with very thick black spots and internerval marginal dots. Brazil.

C. bikasta sp. n. (Maass. i. l.) (148 e). This very peculiar insect may be best inserted here, although *bikasta*, 7 and 8 of the forewing arise without a stalk from the apex of the areole; it may also belong to the genus *Eucerura* (p. 950). White, presumably darkened somewhat brownish by age; antemedian and marginal areas broad black, both defined towards the white median area and the white basal area by fine black double lines; a black discal streak at the cell-end. Fringe grey, traversed by black. Hindwing white with a black marginal line, the fringe towards the anal angle traversed by blackish; veins blackened in the apical part. According to 1 ♂ from Chile in the Berlin Museum (Coll. MAASSEN).

55. Genus: **Harpyia** Ochs.

We append here this most closely allied genus which is also biologically very similar. It differs from the preceding genus only in the entire disappearance of the areole which is often very small also in *Cerura*; thereby the origin of vein 6 is removed to the upper cell-angle or to a short stalk close behind it. The larvae exhibit the same shape as the other "pussmoth-larvae" and also the same habits.

Type of genus: *H. bicuspis* Borkh. from Europe.

H. borealis Boisδ. (148 e) is very similar to the palaearctic *bicuspis* with its white forewings which are *borealis*, somewhat smoky in the ♀, with a black, centrally strangulated median band the edges of which are sealed ochreous; rows of black dots are before and behind it, and a black subapical spot may be continued to the anal angle as a more or less complete band. Hindwing with a black central dot and marginal dots. Metathorax with steel-blue scales. — Larva green with a deep red-brown neck-spot and saddle-spot on the dorsum; these spots are contiguous and very broad without a distinct border between them and the green colour. It lives on wild cherry, also on poplar and willow. The species occurs in the Atlantic States.

- cinerea*. **H. cinerea** Wkr. (148 e) is whitish-grey on the forewing with quite faded markings, a faintly visible median band and rows of dots which are thickest at the costal and inner margins. Hindwing whitish; the marginal dots on both wings are distinct and strong. — The larva differs from that of *borealis* in the neck-spot being distinctly separated by reddish and bordered with yellowish-white; the dorsal saddle is twice strangulated towards the end of the body. On willows and poplars. In the whole United States from Canada to Mexico and Guatemala. The variability of the species is great: — f. **wileyi** Dyar is the name of the large whiter race from Montana and Colorado, occurring yet down as far as New Mexico, with very distinct marginal dots on both wings. — f. **cinereoides** Dyar, on the contrary, is more intensely darkened blackish, with somewhat more brownish orange strewn around the transverse lines, the rows of dots, owing to shading, are more united into lines. — f. **paradoxa** Behr, according to the type, is a very light, whitish form, its exterior resembling that of *nivea*, but invariably with distinct marginal dots and it never attains the size of *nivea*. It originates from California (Nevada Mts.). — f. **placida** Dyar is an almost purely white form, the rows of dots are united into transverse lines, scaled orange on both sides; hindwing likewise more purely white, fringe speckled black and white. Described from Florida.
- nivea*. **H. nivea** Neum. (148 e) is a rare species very near to *cinerea*, but large, purely white and without any black marginal dots; all the markings are very scanty. Type from Utah. Nothing is known of its life. — f. *niveata*. **niveata** B. & Benj., from Arizona, is also large with broad wings, but more distinctly marked; the median band is distinct, strangulated on the median vein, occasionally divided into two spots, with distinct rows of dots. — f. *meridionalis*. **meridionalis** Dyar is a somewhat smaller, more blackened form, more scantily scaled, the median area not prominently darker, the transverse lines as indistinct as in the nomenclatural type. Texas.
- scolopendrina*. **H. scolopendrina** Bsd. (148 f) resembles *cinerea*, but it has much more distinct markings, the median band is narrow, strangulated, greyish-black, with intensely ochreous scales at the margins and on the subapical spot; 3 distinct dentate lines, the most distal one merging into the subapical spot. The greyish-white hindwing exhibits one or two grey postmedian shadowy bands; marginal dots small, but distinct. A variable species: — f. *pluvialis*. **pluvialis** Dyar has somewhat broader wings with more blurred markings, the 3 postmedian lines are not clear, but more or less broken up into dots. Oregon, Vancouver, in May. — f. *albicoma*. **albicoma** Stkr. is somewhat lighter, the remarkably narrow median band is very much strangulated. The type originates from Denver (Colorado). — f. *aquilonaris*. **aquilonaris** Lintn. is a somewhat lighter, whiter form with less black markings; it is the typical form of the Eastern States from Canada to Colorado and New Mexico, in dry and hot districts. — f. *modesta*. **modesta** Huds., on the contrary, shows more yellowish forewings which are almost brownish distally; median band and subapical spot intense, scaled steel-blue. It occurs in the cooler districts of the Eastern States. — The larva resembles that of *cinerea*, the neck-spot is connected with the dorsal spot, bordered with yellow. On willow. Widely distributed in the United States, numbers of the typical form also from Mexico City.
- occidentalis*. **H. occidentalis** Lintn. resembles *scolopendrina* in colouring and marking, but the median band is very broad, black, strewn with white, with distinct black straight border-lines; the same 3 postmedian dentate lines, but there is distinct white filling between the two exterior ones; 5 black dots in the basal area, only 4 in the other species. Hindwing white with a large faded black median spot. In the Atlantic States from Canada to Texas. — Larva of a bright green colour, neck-spot separated from the dorsal spot, distinctly lilac, mixed with green above, the dorsal saddle somewhat lighter than the anterior spot; intensely purple brown lateral spots. It lives on willows in September, October, and develops in April until June.

56. Genus: **Betola** Schs.

Distinguished from the similarly built *Cerura* by only two thirds of the antennae being pectinated or also serrated and ciliated, the short porrect palpi, a tuft of scales on the head and a much longer abdomen with a split anal tuft. Forewing broader with a longer distal margin and somewhat dentate here, not entire. Neuration scarcely different from that of *Cerura*.

Type of genus: *B. aroata* Schs.

- aroata*. **B. aroata** Schs. (148 f) has very light brownish-yellow forewings, scaled steel-grey and white at the costal margin and above the anal angle, olive brown before the centre at the inner margin and behind the notched postmedian line, the olive brown colour projecting behind the cell and extending obliquely to the apex; a black dot in the lower cell-angle. Hindwing scantily scaled, white with a narrow brown marginal line. Venezuela, Brazil, Panama.
- typhon*. **B. typhon** sp. n. (148 f) is very similar to *aroata*, but more than three times its size (expanse of wings: 60 mm), apex of wing more pointed, all the colours clearer, more contrasting, costal margin light bluish-grey like the anal angle; the olive brown apical blotch, which is contiguous with the longitudinal blotch in the cell

in *aroata*, is distinctly interrupted behind the cell by a small light luna; an almost quadrangular bone-white spot is above the antemedian black submedian wedge-spot. Hindwing purely white, feebly smoky at the inner margin. Antennae as in *densissima*. From Brazil (Sa. Catharina), type in the SENCKENBERG Museum, Frankfurt on the Main.

B. densissima Dyar is very similar, only half of the antennae are pectinated, the markings are finer *densissima*, and more irregular, the costal margin is not shaded dark, the light longitudinal stripe is absent above the olive brown shadow which extends into the apex. Hindwing brownish-grey, darker on the veins, inner margin and distal margin. Expanse of wings: 43 mm. Guiana.

B. apostatica Dyar has no pectinated but serrated and tuftedly ciliated antennae in the ♂. The light *apostatica*, yellowish longitudinal stripe from the base into the apex is distinctly reddish-brown, not tinted olive as in *aroata*, the markings are more scanty, broader, the light apical blotch is absent altogether. Hindwing greyish-brown as in *densissima*; size somewhat larger. Expanse of wings: 45 mm. Guiana.

B. empirica Dogn. (148 f). Forewing yellowish greyish-brown, strewn with grey at the costal margin, *empirica*, with brown veins especially above the centre; a brown longitudinal line traverses the wing from the base of the submedian vein, where it is crossed by white, to the distal margin between 5 and 6, forming long distal dents below it, dusted whitish-grey apically. Hindwing white, brownish on the veins and margin. Mexico to San Salvador.

B. schrottkyi Dogn. (148 f) has ash-grey forewings with a broad yellowish longitudinal band from the *schrottkyi*, base to the apex; white dusting above the anal angle, the light longitudinal stripe with a double brown and black border within this dusting; cellular branches partly marked brown; fringe speckled brown and yellow. Hindwing white, feebly brownish on the veins and in a narrow marginal line. Colombia, Bolivia, Paraguay.

B. tucumanata Dogn. is similar to *schrottkyi* in the marking, but the wings are not ash-grey, but yellowish *tucumanata*, greyish-brown as in *empirica* with darker fine veins; the forewing is traversed by a broad yellowish longitudinal band which begins at the base and terminates into the distal margin a little below the apex; above the anal angle there is likewise bluish-white dusting enclosing a black double spot; at the cell-end a dark-edged reniform macula before which there is a small spot. Hindwing white. Argentina.

57. Genus: **Peroara** Schs.

Very near to the preceding genus, but without a tuft on the head, with longer haired palpi and with an entirely rounded distal margin of the forewing which shows the same neuration. Abdomen shorter and without an anal tuft. Only 3 species.

Type of genus: *P. sylvestris* Schs.

P. sylvestris Schs. (148 g). Thorax brown with white tegulae; abdomen bronze brown. Forewing grey, *sylvestris*, strewn with brown, darkest in the basal third, white at the cell-end, traversed by a brown line; the posterior transverse line and a broad subterminal shadow are white, both bordered with brown inwards, a large dark subapical spot at the costal margin. Hindwing smoky brown. Guiana, Colombia, Bolivia.

P. discovata Schs. is very similar to *sylvestris*, but separated by a different genital apparatus: the costal *discovata*, projections of the harpe are shorter, stouter and irregularly dentate, while in *sylvestris* they are altogether smaller and more gracile, long, slender and smooth. Forewing strewn more greyish-brown, less intermixed with white, traces of an anterior transverse line bordered with whitish inside; brown streaks behind the postmedian line, irregularly spot-like below the centre, distally bordered by the white subterminal line. Hindwing whitish, veins and inner margin yellowish, margin broad greyish-brown. Expanse of wings: 37 mm. Guatemala.

P. caterina Schs. (148 g) is similar to *discovata*, but larger and much darker; basal part of forewing *caterina*, dark brown, intermixed with white scales; inner margin more whitish at the base, the rest white mixed with brown, with two dark median lines and a white, strongly notched postmedian and subterminal line; a large blackish-brown spot in the cell, a white triangular spot mixed with reddish-yellow is behind it; a dark costal-marginal spot before the subterminal line, with black longitudinal streaks; fringe red-brown, crossed by yellowish on the ends of the veins. Hindwing light brown, darkened at the margin. Brazil (Blumenau).

58. Genus: **Gopha** Wkr.

The male antennae are shortly pectinated in the basal two thirds, serrated and tuftedly ciliated in the ♀; palpi oblique, with a long middle joint and a short terminal joint. Forewing broad with a straight costal margin and a sharp apex, slightly concave below it, the rest of the distal margin straight. Neuration as in *Lirimiris*. Only few species are known.

Type of genus: *G. mixtipennis* Wkr.

mixti-
pennis. **G. mixtipennis** Wkr. (148 g) has light brownish-violet forewings, dark brown at the costal margin, in the upper half of the median area and in a triangular area behind it, strewn with green scales, with black, finely dentated, double transverse lines filled with green, and a snow-white longitudinal streak below the costal margin between the antemedian and subterminal lines. Hindwing light brown, darker at the margin. Brazil.

inquieta. **G. inquieta** sp. n. (148 g) is extremely similar to *mixtipennis*; the white subcostal stripe extends quite into the apex and proximally it does not reach quite so near to the basal area which does not represent a light spot as in *mixtipennis*, but is brownish-white, coarsely strewn chocolate brown, with a white subbasal line bordered with dark brown inside, distally bordered by the antemedian line which forms strong arches; inner-marginal area as in *mixtipennis*, but much less strewn green; the whole median and postmedian area as far as the subterminal line is darker chocolate brown, without green; undulate line similar as in *mixtipennis*, but the small green dentate spots are smaller and distinctly bordered with blackish-brown on both sides. According to 1 ♂ from Surinam; type in the SENCKENBERG Museum, Frankfurt on the Main.

albipuncta. **G. albipuncta** Schs. is somewhat similar to *inquieta*, but it lacks the silvery white streak which is replaced by a large white spot at the cell-end, distally continued along vein 6; no transverse lines except the antemedian line, a series of green spots shaded with black inside are before the margin. Hindwing dark brown with lighter fringe. Expanse of wings: 34 mm. Brazil (São Paulo).

niveigutta. **G. niveigutta** Schs. is very closely allied to *albipuncta*, but much darker; forewing blackish, mixed with dark moss-green in and below the cell and at the apex; two submarginal rows of dark moss-green spots, a black postcellular shadow, small velvety black spots before the distal row; the silvery white spot of the same shape as in *albipuncta*, the veins strewn somewhat whitish. Hindwing blackish-brown with similar fringe speckled with reddish. Expanse of wings: 36 mm. French Guiana.

praxia. **G. praxia** Schs. which is doubtfully ranged here has purple brown forewings, parts of the inner margin dusted lighter, with a dark brown anterior transverse line filled with grey, and a white spot at the cell-end with a short hook-shaped inward continuation, followed behind it by a large blackish-brown spot with a row of smaller spots behind it towards the apex; white postmedian vein-dots and small submarginal brown lunae distally bordered with white. Hindwing blackish-brown, whitish towards the base and at the costal margin, with a dark white-scaled spot at the anal angle. Expanse of wings: 25 mm. Guatemala.

59. Genus: **Malupa** Schs.

Separated from the preceding genus by porrect palpi, tuftedly ciliated antennae and long narrow forewings with a convexity at the costal margin before the apex; hindwing of a triangular shape with rounded angles and a straight distal margin. Neuration as in the preceding genus, but veins 6 and 7 of hindwing on a longer stalk. Only 1 species:

Type of genus: *M. elongata* Schs.

elongata. **M. elongata** Schs. Forewing light olive brown, bright red-brown at the inner margin, the lower half of the distal margin, and in the distal half of the costal margin; a velvety brown basal ray below the median vein extends to the centre of the cell, light reddish-yellow dusting below it, distally to it the median vein is light, shaded with dark brown below; reddish-brown dusting at the cell-end, a light reddish-yellow line along the upper radial branch extends to the apex, another submarginal line to the interior angle. Hindwing whitish, dark brown at the inner margin and anal angle. Expanse of wings: 48 mm. British Guiana.

60. Genus: **Pauluma** Schs.

Separated from *Malupa* by shorter and broader forewings with a very oblique distal margin and a very round apex and interior angle. Two thirds of the antennae of the ♂ are pectinated, the pectinations distinctly white-haired inwards, palpi short, erect.

Type of genus: *P. nubila* Schs.

nubila. **P. nubila** Schs. (148 g). Forewing reddish yellowish-white, inner margin and apical third of costal margin violettish-brown, lighter brown dusting extends from the base through the cell to below the apex; a curved dark brown transverse line is at the base and is continued in a stripe from the costal margin below the median vein; a similar nebulous stripe is above the anal angle. Hindwing white with a brown marginal line and a small spot at the anal angle. Brazil (Castro, Paraná).

P. minna Schs. is darker than *nubila*, light brown, striped-reddish-brown at the costal margin, with *minna*. a fine dark marginal line shaded reddish inside and, subapically before it, with 2 black internerval streaks in darker shading; a dark brown shadow extends below the cell to the centre of the margin, a shorter one above it from the base to the cell-end; traces of a darker dentate postmedian line behind it. Hindwing white, brownish at the inner and costal margins, with a dark brown marginal line, darker at the interior angle. Expanse of wings: 30 mm. Brazil (Castro, Paraná).

62. Genus: **Drugera** Schs.

Antennae of ♂ tuftedly ciliated, the erect palpi with a long middle joint and a short terminal joint; the extraordinarily hairy legs are clad with hair-tufts on the middle and hind tibiae. Forewing broad with a rounded distal margin, neuration the same as in *Pauluma*, but the uppermost radial branch arises from the centre of the areole, the lowest subcostal branch without a stalk from the end of the areole.

Type of genus: *D. morona* Drc.

D. morona Drc. (148 g). Forewing light greyish-brown, with a broad dark brown subbasal transverse *morona*. band, two postmedian rows of indistinct vein-dots, a series of small light spots before the interior row. Hindwing light brown, darker at the margin. Costa Rica and Panama.

D. mimica Drc. is allied with *morona* and has also light greyish-brown forewings, dark brown basally *mimica*. at the costal margin, striped black in the basal area; a postmedian transverse band of white lunulae bordered with black, and a row of black dots before the black marginal line. Hindwing dark reddish-brown, fringe lighter. Expanse of wings: 48 mm. Colombia.

D. pallidiflava Roths. (148 g) is exactly like a *Meragisa* in its exterior; forewing lustrous light reddish- *pallidiflava*. yellow, olive brown at the base, two olive brown transverse bands, the interior one very oblique, the exterior one distally concave extending from near the apex into the anal angle; it shades distally an indistinct double dentate postmedian line; marginal line interrupted red-brown. Hindwing light reddish-brown. Expanse of wings: 49 mm. South-Eastern Peru.

63. Genus: **Eucerura** Schs.

Antennae pectinated to the tips, with short broad forewings with a very small areole from the centre of which the uppermost radial branch arises, the middle one from the centre of the cross-vein; the other veins as in *Pauluma*, except the costal branch of the hindwing, which arises only shortly before the cell-end. Only 1 species:

Type of genus: *E. pica* Btlr.

E. pica Btlr. has purely white forewings with black thick markings almost like those of certain species *pica*. of *Eucereum*; the two transverse lines are broken up into irregular thick black spots before which there are yet 2 large black triangular spots basally; the median area between the lines is more purely white and without spots; instead of the undulate line there are again 3 large black, more or less triangular spots. Hindwing blackish-grey, fringe speckled black and white. Expanse of wings: 50 mm. Brazil.

64. Genus: **Salluca** Schs.

Chiefly distinguished from the preceding genus by the much longer areole; the uppermost radial branch of the forewing arises a little before the centre of the areole; the middle joint of the palpus is long and hairy, the terminal joint smoothly scaled, short. Several pretty, mostly green species.

Type of the genus: *S. moruma* Schs.

S. moruma Schs. (148 h) is moss-green, shaded with brown at the base of the inner margin, with double *moruma*. black transverse lines filled with reddish-brown, and black subterminal spots bordered with brown, the largest being above the upper median branch; the cell-end streak is also bordered with brown. Hindwing dark grey, brownish at the base and inner margin. Mexico.

S. herbida Mschlr. (= *möschleri* Schs.) almost recalls *H. biundata*; forewing olive green, the two trans- *herbida*. verse lines broken up into small red-brown spots centred yellowish; a large yellowish reniform macula centred with red-brown is at the cell-end; the undulate line is yellowish, notched and accompanied inside by a faint red-brown shadow; fringe speckled yellowish and red-brown. Hindwing brownish-grey, fringe speckled yellowish. Expanse of wings: 45 mm. Guiana.

- psittica*. **S. psittica** Schs. is allied to *herbida*, forewing bright grass-green, the double transverse lines dark green, strewn with black at the costal margin, the posterior line treble, with a broad dark green shadow behind it, distally bordered with light green; distal margin darker green with a still darker interrupted marginal line. Hindwing light brown, distally dusted with grey. Expanse of wings: 44 mm. French Guiana.
- psitticula*. **S. psitticula** Dogn. is a small image of *psittica* with bright grass-green forewings and darker moss-green transverse lines, but of a much smaller size; palpi and ventral side pinkish yellowish, light brown in *psittica*; transverse lines broad, faded, partly bordered with light green, the cell-end streak light green. Hindwing yellowish pink, distally brownish, partly dusted with green. Expanse of wings: 35 mm. French Guiana.
- ruptilinea*. **S. ruptilinea** Schs. is still smaller than *psitticula*, forewing green, the double transverse lines broken up into single brown spots, the spots in the cell being largest, small below it, partly connected to indistinct lines; an irregular brown postcellular shadow, divided by the green veins; a dark brown shadowy stripe is before the whitish undulate line. Hindwing dull greyish-brown. Expanse of wings: 32 mm. Costa Rica.
- virens*. **S. virens** Dogn. is the smallest species, expanse of wings only 29 mm. Forewing of a delicate light green colour, the black transverse lines single, broken up into internerval dots, the posterior one bordered with white inside. Hindwing yellowish-grey. Expanse of wings: 29 mm. British Guiana.
- pistacina*. **S. pistacina** Schs. (= *maricolor* Kaye) has light green forewings with a white basal transverse line and a large brown costal-marginal spot; a violettish-brown shadow is below the median vein below and behind the cell-end, a reddish-brown spot in the cell is partly bordered with black; the irregular fine black postmedian line is double, the undulate line consists of reddish-brown spots bordered with black and white. Hindwing smoky brown, lighter towards the base. Honduras. Expanse of wings: 33 mm.
- amathynta*. **S. amathynta** Dyar (148 h). Forewing light grey, dusted olive green at the base of the costal margin and subapically, the double brown transverse lines very indistinct; the undulate line consists of brown spots bordered with yellowish outside, with white inside, as in *pistacina*. Hindwing light grey, darker at the margin, fringe white. Mexico (Vera Cruz, Misantla).
- gramina*. **S. gramina** Schs. (149 h). Forewing olive green, strewn with black, brown and white scales which being accumulated form indistinct double transverse lines, instead of the undulate line a series of dark internerval spots. Hindwing blackish-brown. Expanse of wings: 38 mm. Mexico (Orizaba).
- tarupa*. **S. tarupa** Schs. (149 h) has dark greenish-brown forewings with a large white area strewn with brown, between the cell and apex; before and behind the dark cell-end streak, which is bordered with brown inside, with white outside, there are double dark transverse lines, the posterior one filled with white; instead of the undulate line there are small irregular black shadowy spots. Hindwing smoky brown, whitish towards the base, with a greenish-brown spot before the whitish apex, bordered by two black lines. Expanse of wings: 33 mm. South-Eastern Brazil (São Paulo).
- schausi*. **S. schausi** Dogn. is a larger species, forewing yellowish ochreous with an olive tint, marginal part lighter, the median area strewn with olive from the costal margin to the lower cell-end, from there obliquely to the inner margin narrower, without any other markings than a submarginal row of brick-red internerval spots. Fringe slightly tinged with pink. Hindwing yellowish-white, broadly dusted with pink at the margin. Expanse of wings: 48 mm. Brazil (Joinville).
- podrida*. **S. podrida** Dogn. Forewing whitish-grey with irregularly dispersed rusty brown spots, and scantily strewn with yellow and black scales. Hindwing whitish, dusted with red-brown at the inner margin and distal margin. Expanse of wings: 40 mm. Ecuador.

65. Genus: **Skaphita** Schs.

Only two thirds of the antennae pectinated, the pectinations set with dense hair, the short palpi hairy with a small terminal joint. Anterior tibia with a large, almost circular hair-tuft. Forewing long and narrow with an oblique distal margin; neuration as in the preceding genera, with separately arising veins 3 and 4 on the small hindwing with a convex costal margin. Only one very widely distributed common species.

Type of genus: *S. salona* Drc.

- salona*. **S. salona** Drc. (148 h). Forewing bone-coloured, lightest below the median vein as far as the margin, violettish-grey and brown at the costal margin, strewn with olive brown scales at the inner margin, with double indistinct and interrupted transverse lines and black longitudinal stripes submedianly and at the inner margin, before the centre, behind it, above and below the lower median branch, and between the lower radial branches;

a thick submarginal black line projects twice distally; two fine black transverse lines on the lighter margin and an interrupted lunular line before them. Hindwing whitish, smoky at the margin. The type was described from Central America. Farther to the south the species occurs in a much darker and more variegated form: — *meridionalis* f. n. (148 h) with a distinctly carmine costal-marginal part dusted with violet, and a green inner-marginal area and distal margin. Thorax violettish-red, head and margins of tegulae green. Brazil. meridio-
nalis.

66. Genus: **Dicentria** Herr.-Schäff.

This genus contains a great number of species of an uncommonly typical and uniform exterior with long and narrow forewings, a very oblique and somewhat dentate distal margin, the neuration exactly as in the preceding genus, with a more or less distinct dent of scales at the inner margin. The ♂ antenna is pectinated only in the first half or two thirds, the ♀ antenna plain; palpus very short, hairy, with a tiny last joint, the head bears a slight tuft of hairs. The two sexes are very different.

Type of genus: *centralis* Herr.-Schäff.

D. centralis Herr.-Schäff. (148 i) has yellowish brownish-grey forewings, dusted with whitish-grey in *centralis*. the median area at the costal margin, with yellowish olive behind it in the cell, with fine indistinct transverse lines, the posterior one double, a slight brightening behind it in the subterminal area; the veins before the margin are fine black, dark streaks are between them towards the apex, that above the uppermost radial branch being the thickest, the apex above it whitish-grey, obliquely cut off inwards; a thick black oval spot at the cell-end. Hindwing whitish with a brownish inner margin, marginal line and veins. — f. *sabella* Drc. (148 i) is by *sabella*. far more common and without the black discal dot. The wide range extends from Mexico to Brazil.

D. arpi sp. n. (148 i) may be another form belonging to *sabella*; it is smaller, more slender and much *arpi*. lighter, with yellow and greenish scales in the whole costal-marginal area, darkened lilac brown at the inner margin, the whole median area light yellowish without markings, only an olive green subbasal line and an antemedian line being visible, the latter rectangular on the median vein; the discal streak is feeble, brownish, the postmedian vein-streaks parted by light are scarcely prominent, only the subapical black internerval streaks and the whitish-grey apical blotch are distinct. Hindwing somewhat darker than in *sabella* and broader brownish at the inner margin. Brazil (Joinville), received from Mr. ARP. Types in the Museum SENCKENBERG, Frankfurt on the Main.

D. quirosia Schs. is very near to *centralis*, smaller, lighter, of a somewhat more reddish tint, dusted with *quirosia*. brown only at the base of the costal margin, with a dark grey stripe in the base of the cell, the velvety black discal dot smaller, two dark brown internerval stripes behind it extend to the margin between the radial branches, the light oblique apical blotch is absent. Expanse of wings: 37 mm. Guatemala. — f. *praealta* Dogn. *praealta*. is a smaller southern race from the Amazons (São Paulo de Olivença), forewing of a light brown colour, yellowish at the costal margin, still lighter in the distal half; a brown internerval stripe between veins 4 and 5 does not extend to the margin. Expanse of wings: 30 mm.

D. linita Schs. Forewing reddish-brown, dusted with lilac at the costal margin, broadly greenish- *linita*. yellow at the inner margin and grey at the distal margin, strewn with olive; markings as in the preceding species, but the olive transverse lines more distinctly double, with a fine brown basal ray below the median vein at the base, and a brown inner-marginal spot below it; at the cell-end there is a velvety black crescentiform streak from the centre of which a fine black short streak extends distally, a brightening behind it as far as the postmedian line; dark internerval streaks at the apex and inner angle. Hindwing grey, yellowish towards the base and at the inner margin, with a dark anal spot. The larger ♀ is greyer, veins strewn black and white, with much less distinct transverse markings. Expanse of wings: ♂ 37, ♀ 43 mm. Mexico (Jalapa).

D. muelleri sp. n. (148 k) has ash-grey forewings with a slight lilac tint, a fine black basal ray as far as *muelleri*. the centre of the median vein, and a velvety black distinct fine crescentiform streak at the cell-end; the anterior transverse line is hardly traceable, the posterior one double, sharply dentate, its distal part behind the cell red-brown; the apical part of the wing from the postmedian line down to vein 3 is light yellowish-white, the subterminal portion behind the cell particularly light, a red-brown longitudinal stripe in it extends above and below the median radial branch to the margin; the 3 radial branches are distinct and fine black behind the discal crescent as far as the postmedian line, a white wedge between the median branches is before the margin, broadly entering into the fringe and bordered with black behind; the light fringe is speckled red-brown on the ends of the veins. In another ♂ the light apical area of the type is entirely dusted with grey like the rest of the wing, and small dark subterminal internerval spots are noticeable here, whereby this specimen approaches the ♀ which looks like the ♀ of *linita* and is quite purple grey, with a red-brown tint towards the inner margin, the double postmedian line very feebly marked red-brown, dusted with whitish-grey at the apex and the distal ends of the subterminal streaks; fringe red-brown, the white subanal streak is absent. Hindwing white, with a slight yellowish tinge, a grey anal spot continued for a short distance as a marginal line, smoky in the ♀ at the

costal margin, apex, and distal margin. Thorax violettish-grey, the collar with intermixed greenish hairs, *cinescens*, abdomen yellowish-grey. Mexico City. — *cinescens* f. n. is the greyer form, from Zacualpan, in February and March. Types ♂♀ in the Coll. DRAUDT.

cerriben. **D. cerriben** Dyar (148 k) is bluish ash-grey, slightly dusted at the inner-marginal area, with a black basal ray and a black dot in the lower cell-angle, surrounded by brownish-grey dusting; the anterior transverse line is entirely absent, the posterior one is very oblique at the costal margin and then marked doubly at the inner margin, quadrupled here by black strigiform spots before and behind it, a white subanal streak edged with black inside is above it; subapical black streaks are at the costal margin, small less distinct internerval spots below them seem to be removed a little farther towards the margin. Hindwing white with a black inner-angular spot. Mexico (Zacualpan).

indepta. **D. indepta** sp. n. (148 k) is allied to *cerriben*, but much larger and darker grey, besides the basal streak also the median vein is finely black, and the discal dot is not in the lower cell-angle, but close below the origin of vein 5; the posterior transverse line is distinct and double not only at the costal and inner margins, but in its whole course, filled with light, and behind it, above and below the median radial branch, a blackish-brown stripe extends to the margin; the white subanal spot is broader and whiter. The white hindwing is broadly smoked at the costal margin. Mexico (Zacualpan, in September); type: ♂ in the Coll. DRAUDT.

vallima. **D. vallima** Schs. (148 k) has light brownish forewings dusted with greenish and reddish at the costal margin, the veins in the distal part strewn with black and white, the beginnings of the transverse lines at the costal margin marked by darker spots, besides only the double posterior line marked behind the cell; a greenish spot mixed with lilac before the dark cell-end streak is situate in the cell; the distal margin is broad darker brown, with dark velvety brown internerval streaks subapically and above the anal angle, the latter streak followed by a white streak; the light brown fringe is speckled darker on the ends of the veins. Hindwing diaphanous violettish-brown, dusted darker brown at the margin. French Guiana. Expanse of wings: ♂ 36, ♀ 42 mm.

patula. **D. patula** Schs. is somewhat like *muelleri*, but considerably larger, forewing violettish-grey in the basal half and along the submedian vein to the margin, light brownish olive below the cell and apically, with a dark brown basal ray and discal streak, shaded with brown behind the latter; a fine interrupted brown postmedian line is in a broad reddish-yellow shadowy stripe which extends from the costal margin to the lower median branch; vein 5 is broadly bordered with dark brown on both sides as far as the margin, a brown subanal spot encloses a light wedge. Hindwing white, brownish at the inner margin and the veins. Expanse of wings: 41 mm. Costa Rica.

obligata. **D. obligata** Dyar (149 a) is also similar to *muelleri* and as large as *patula*. Forewing grey, densely dusted with black in the basal two thirds, the cell-end streak in an oval light spot, with a brown internerval streak behind it between the veins 4 and 5; the light postmedian line is almost straight; apex light grey; the veins are striped black towards the margin and thickened on the fringe. Hindwing white with darker veins, narrowly grey at the costal and distal margins, with a blackish anal-angular spot. Mexico (Zacualpan).

marimba. **D. marimba** Schs. has brownish-grey forewings, darker at the base of the costal margin and in the cell, the veins strewn with black and white, with a light olive tint in the distal half of the cell and below it, fine double darker transverse lines, the posterior one dentate, the distal portion punctiform in the lower half; a brown, white-edged line is at the cross-vein, a dark brown stripe behind it extends to the postmedian line between the veins 4 and 5; small dark spots in the darkened distal-marginal part are behind a marked undulate line, white dots above and below vein 2 at the anal angle. Hindwing scantily scaled, white, with darker veins and marginal line, as well as a dark inner-angular spot and a chalky white spot above it. The ♀ shows the small dark marginal spots distally bordered with light, and a smoky margin of the hindwing. Expanse of wings: 36 mm. Guatemala, Costa Rica.

limosa. **D. limosa** Schs. Forewing blackish, strewn with light grey along the costal margin and at the apex, the transverse lines entirely covered by the ground-colour, only the undulate line is somewhat more distinct; a short black postcellular longitudinal streak. Hindwing white, smoked at the margins, a large blackish spot at the anal angle. Expanse of wings: 48 mm. A large species, described from a single ♀, from Rio de Janeiro.

limosoides. **D. limosoides** Schs. (= *claricostata* Dogn.) (149 a) is very similar to *limosa*, forewing dark brown, apex and cell lighter, dusted with yellowish and olive green, with a large olive green spot bordered with white at the cell-end; the double dentate indistinct posterior transverse line is partly broken up into vein-dots, small oblong dark subterminal spots are edged with white outside at the costal margin and anal angle, the ends of the veins speckled black. Hindwing white with brownish veins and marginal line, as well as an apical and anal-angular spot. Expanse of wings: 39 mm. Costa Rica, French Guiana.

fechima. **D. fechima** Schs. is allied to *limosoides* from which it differs in the more red-brown colour, head and thorax being cinnamon and chestnut brown, abdomen brown, the base and the last two segments reddish cinnamon. Forewing cinnamon brown in the basal and inner-marginal areas, black above it as far as the post-

median line, the costal area light reddish-yellow, broader at the apex; a cinnamon brown streak at the cross-vein; a blackish postmedian transverse shadow, bordered with cinnamon brown outside between 2 and 6, whitish scales on the veins here; marginal area brown, with small dark subterminal spots below the costal margin; fringe reddish yellow, speckled dark on the veins. Hindwing white, strewn with reddish cinnamon on the marginal veins as well as at the margin. Anal angle scaled dark. Expanse of wings: 37 mm. Brazil (Rio Purus).

D. ravana Dogn. has light yellowish reddish-brown forewings the disc broadly darkened blackish-brown, *ravana*. concave between the veins 4 and 6, a dent above them reaches the costal margin before the apex; besides only brown internerval lunules are visible, the lowest being thickened; the centre of the inner margin is slightly strewn with black scales. Hindwing dirty white, smoked at the margin. The ♀ has a less dark disc, more brownish margins, and greyer hindwings. Expanse of wings: 38 mm. San Salvador.

D. dela Drc. (149 a) is a large beautiful species the scheme of marking of which is similar to the following *dela*. large group. Forewing light brownish-yellow, brown at the costal margin, in the anal half of the inner margin and in a broad stripe between and above the veins 4 and 5, dusted with white and grey at the costal margin before and in the middle, feebly brownish in the cell and below it, with a brown basal ray. Hindwing yellowish-white, a black wedge-shaped spot at the anal angle. The ♀ shows a double dentate postmedian line, and the whole anterior part of the wing as far as the latter is blackish-grey, suffused more with red-brown towards the inner margin. Hindwing feebly smoked; thorax in both sexes intensely scaled whitish-grey. Mexico.

D. psamathe Schs. (149 a) is smaller, with an almost quadrangular dark brown spot at the base of the *psamathe*. costal margin and of the cell, a black spot in the cell-end before the brown discal streak which is surrounded with white; the brown anal-angular spot is removed higher between and above the median branches, and contains a small light wedge-shaped spot; the veins of the marginal area are blackened as far as into the fringe. Hindwing yellowish-white with a blackish anal spot which is obliquely traversed by white. Brazil.

D. lerma Schs. is allied to *psamathe*, forewing darker brownish-grey, the base narrowly blackish-brown *lerma*. with a fine basal ray below it; a fine black stripe in the cell is widened at the cross-vein and extends as a thick black line along vein 5 to the margin; the median area is shaded dark at the inner margin, the distal half of the costal margin is yellowish-white; white longitudinal stripes above and below the black radial stripe do not quite reach to the margin, dark longitudinal stripes are above the upper one and below the lower one. Hindwing as in *psamathe*. Expanse of wings: 38 mm. Guatemala.

D. rivalis Schs. (149 a) looks also like *psamathe*. Forewing light reddish-brown, shaded with red-brown *rivalis*. at the inner margin, with a dark brown spot at the cellular and costal bases; cross-vein as in *psamathe*, a darker shadow before it is continued after an interruption through the cross-vein to the margin; a postmedian transverse row of dark vein-streaks and dark subterminal spots behind them towards the apex, a brown oblique spot above the anal angle. The ♀ is greyer with more distinct dentate transverse lines, hindwing brownish at the distal margin, in the ♂ as in *psamathe*. Costa Rica.

D. palmita Schs. is allied with *rivalis*; the whole basal third of the cell on the forewing and the costal *palmita*. margin above it are blackish-brown, the cell behind it white, an oval dark red-brown spot before the light brown cross-vein, behind it a dentate blackish shadow; the whole postmedian area above vein 3 is light lilac brown, the distal and inner margins somewhat darker lilac brown; 2 submarginal rows of dark vein-streaks. Hindwing as in the preceding species. Expanse of wings: 40 mm. British Guiana.

D. stridula Schs. has reddish-brown forewings, dusted with lilac above the inner margin, in the cell and *stridula*. above the upper median branch; a dark brown stripe extends from the base of the costal margin through the cell and between the veins 2 and 3 to the margin, a similar stripe from the brown cross-vein to the margin, a shorter stripe above it, a greenish-grey spot in the cell-end; double dentate transverse lines are filled with somewhat lilac; a short velvety brown subapical strigiform spot, a white dentate subanal spot. Hindwing smoky brown. Expanse of wings: 37 mm. French Guiana.

D. missilis Schs. is near *stridula*, but smaller; forewing light brown, with a reddish tint in and below *missilis*. the cell and in the centre of the distal margin, with a velvety blackish-brown cross-vein streak and a stripe to the margin behind it; the cellular veins are fine dark brown towards the margin, vein 5 is broader and more olive brown; a dark basal ray extends to the anterior transverse line forming 3 bows; the dark brown subanal spot, as in the preceding species, between the median branches with a dentate white spot in it, the base of the 3 lower cellular branches is also shaded dark. Hindwing white with the usual dark inner-angular wedge. Expanse of wings: 31 mm. Costa Rica.

D. disparilis Schs. (149 b) is a small species with a scheme of markings very similar to that of *missilis*; *disparilis*. forewing very light yellowish-brown, somewhat darker in the inner-marginal half; the space between the basal ray and the median vein is filled with dark brown; double, strongly dentate transverse lines are distinct, the

posterior one followed by double rows of dots on the veins. Hindwing white, the veins finely brownish towards the margin, the inner angular spot indistinct or absent. The ♀ forewing is quite dark red-brown, without any longitudinal stripes, only the subapical black wedge is very distinct, the transverse lines more or less broken up into rows of dots; ♀ hindwing blackish-grey. Mexico.

moribunda.

D. moribunda Dyar (149 b) is extremely similar to *disparilis*, but larger and with broader wings, the black cell-end dot is entirely enclosed in the light cellular stripe, whilst in *disparilis* it coincides distally with the dark radial ray, the transverse lines are much less distinct, only the lower part of the distal one is more distinct. The anal-angular spot of the hindwing is larger and grey. Mexico (Zacualpan), taken in July.

phthimena.

D. phthimena Dyar is very similar to *moribunda* and is from the same habitat, but the forewings seem to be a little narrower, the space between the basal ray and the median vein is not dark, the white subanal spot is linear and more oblique; at once discernible by its brownish-grey hindwings which are only whitish in the disc. Expanse of wings: 38 mm.

trifasciata.

D. trifasciata Dogn. has light reddish yellowish-brown forewings with a slight pink tinge, dusted with moss-green at the costal margin, brown at the base, with 3 straight blackish-brown longitudinal stripes, a subcostal one, a median one as in *disparilis*, and a third below the median one which extends then indistinctly between the veins 2 and 4 into the margin; the lower half of the cell is strewn with white, the cross-vein moss-green and white. Hindwing purely white, feebly brownish at the anal angle. Expanse of wings: 36 mm. Argentina.

unifasciata.

D. unifasciata Dogn. (149 b) is coloured like *trifasciata*, but it has only the median longitudinal stripe through the cell and terminating obliquely between the veins 5 and 6 at the margin, blackish scaling below it at the margin between the lower median and radial branches; 3 fine dark antemedian transverse lines are indicated. The brown anal spot on the purely white hindwing is longer and extends at the inner margin upwards. Expanse of wings: 36 mm. Colombia (Muzo).

clarita.

D. clarita Schs. (149 b) forms the transition to the next group of better known species which are also represented in North America. The shape of the wings is somewhat more elongate, narrower; the ground-colour is the same as in the preceding species, the cell remains light, the discal longitudinal blotch begins only at the cross-vein, it is indistinct and narrows down towards the margin where it is bordered by fine dark brown veins on both sides; a black fine basal ray is present as well as a narrow oblique blackish diffuse spot above the anal angle and two fine grey longitudinal stripes above vein 6 as far as the margin; the costal margin is traversed by very oblique beginnings of dark transverse lines. Hindwing yellowish-white, spotted brown at the anal angle. Expanse of wings: 47 mm. Brazil.

drucei.

D. drucei Schs. (= *laciniosa* Drc. nec Edw.) (149 b) is a common and widely distributed species, with light reddish yellowish-brown forewings, mostly more intensely strewn with purple brown at the inner margin; the cell remains light, a fine olive brown basal ray is below it, a black cross-vein streak in the darker olive brown cell-end, before this streak fragments of a double black and brown median line; instead of the longitudinal stripe between the veins 4 and 5 there are only 2 fine feeble olive grey longitudinal shadows which are very inconspicuous, a white wedge-shaped spot is behind the black anal oblique spot. Hindwing diaphanous yellowish-white, brownish at the costal and inner margins, with a brown anal-angular spot. The very dissimilar ♀ shows a yellowish-brown ground-colour dusted with dark purple brown in the basal half except the inner margin and in the marginal quarter, as well as subterminally between the veins with 2 longitudinal streaks each. Hindwing light greyish-brown with light fringe. Mexico. — The larva was found by my father in March on roses, according to the sketch it was of the same shape as the well-known larva of *D. lignicolor* with the anteriorly bent cone on the 4th segment, but besides with 4 smaller protuberances on the next segments and a point on the 11th segment. The colour of the body is ochreous, densely and irregularly spotted black as on the porcelain-white head, the protuberances, legs and abdominal legs rosy red. They went into the earth for the pupation and yielded the imago in April.

minotelis.

D. minotelis Dyar (149 e) is closely allied to *drucei* and the female only differs in the somewhat broader wings and more greyish-brown, not so red colour, being somewhat lighter whitish subapically, so that the black wedge between the lowest subcostal branches and the triangular dark brown costal-marginal spot above it are more prominent, the anal angle being darker, too. The ♂ has also somewhat shorter wings and is smaller than *drucei*, with almost the same markings, the inner-marginal part not darkened at all, the costal margin dusted with red-brown; the discal streak which is only present in the lower half of the cross-vein in *drucei* is extended here as a long, distally concave fine streak along the whole lower border of the areole, in front of it the cell is somewhat lighter, behind it there is olive grey dusting; fringe along the distal half of the inner margin and at the anal angle deep purple brown. The types of this species fly in Mexico in the surroundings of the City.

fumata.

— A larger and much darker race from Zacualpan is: — **fumata** f. n. (149 c) in which the costal margin is deeper red-brown, the subcosta below it dusted with iron black as far as the apex, a large blackish-brown spot behind the cross-vein, below this spot the anal half of the inner margin is extensively darkened olive grey, the double transverse lines are more distinct and darker red-brown, the hindwing feebly smoked.

D. hidalgonis *Schs.* is likewise very closely allied to *drucei*, but with broader wings and darker at the *hidalgonis*. costal margin, the basal half of the forewing dusted with light brown, the subcostal area shaded with lilac grey, the two lower radial branches striped brown. Expanse of wings: 44 mm. Mexico (Hidalgo).

D. fera *Dogn.* is also very similar to *drucei*, the wings are somewhat less long, the abdomen shorter, the *fera*. uppermost radial branch of the hindwing on a much longer stalk with the subcostal branch. The forewing is coloured as in *drucei*, the basal part of the costal margin, the cell and below it the area at the base of its lower branches dusted with lilac, the space between the median vein, the lower median branch and the inner margin shaded with olive, the inner-marginal vein lilac; two white small spots above each other at the anal angle, and two more in the upper half of the wing above a long brown stripe along vein 5; subapical white dusting, an olive grey spot behind the black cross-vein streak. Hindwing as in *drucei*. Expanse of wings: 43 mm. South Eastern Peru.

D. violascens *Herr.-Schäff.* (= *laciniosa* *Edw.*, *brunnipennis* *Raye*, *phraortes* *Drc.*) (149 c) is a smaller *violascens*. light edition of *drucei*, still smaller and with narrower wings than the likewise very similar *minotelis*; the costal margin of the light yellowish-brown forewing is darker red-brown than in *drucei*, the inner-marginal part not darkened, all the transverse markings lighter and finer, the area between the basal ray and the median vein darkened olive grey, the stripe behind the cross-vein below vein 5 more distinct, olive grey, narrower towards the margin. The ♀ is also somewhat like that of *drucei*, it is more unicoloured red-brown, not lighter yellowish-brown at the inner margin and subterminally, hindwing somewhat lighter. Mexico.

D. simplex *Dogn.* is allied to *violascens*, but the shape of the wings is somewhat broader, the inner angle *simplex*. less obtuse, the distal margin scarcely dentate, the short abdomen hardly projects beyond the hindwing. The costal margin is blackish, not red-brown, a blackish shading is below and behind the cell, a light longitudinal stripe is between the veins 5 and 6, 2 small black spots at the anal angle. Hindwing as in the preceding species. Expanse of wings: 29 mm. Paraguay.

D. rustica *Schs.* (149 c) is considerably darker than the preceding species, the forewing is brown, strewn *rustica*. with blackish at the base, at the inner margin and a part above the anal angle and at the cell-end, with dark postmedian internerval streaks and black vein-dots; the anterior transverse line is very indistinct; dark sub-terminal internerval spots, the spot above the anal angle being bordered with reddish-yellow. Hindwing white, strewn with blackish-brown at the margin, with a dark inner-marginal streak and anal-angular spot. The ♀ is much darker with quite obsolete markings and dark hindwings. Costa Rica.

D. tacita *Schs.* is much smaller, the brown forewing is strewn with brownish-black at the base, below *tacita*. the cell and vein 2, and at the margin between veins 2 and 4, without any other marking but some subapical black marginal spots. Hindwing white with dark inner-marginal shading. Expanse of wings: 34 mm. Costa Rica.

D. lignicolor *Wkr.* (= *virgata* *Pack.*, *lignigera* *Wkr.*) (149 c) has light ash-grey forewings longitudinally *lignicolor*. striped brownish between the veins, with 2 more distinct subapical strigiform spots between which whitish stripes extend, tinted ochreous below the median vein; a brown discal dot in the lower cell-end, a brown longitudinal streak behind it extends to the margin; a dark basal ray is submedian, the inner margin is strewn with darker grey, the transverse lines are absent. Hindwing white. — The larva is green with single small brown dorsal spots and a large brown saddle-spot on the middle segments, obliquely continued downwards as far as the claspers; a twopointed cone bent forward is on the 4th segment, and a pointed elevation on the last segment. It lives on oaks, beeches and birches. The range extends over the whole Atlantic States. — f. **delicta** *Dyar* *delicta*. is a somewhat smaller form, of a more delicate ash-grey colour, not striped brownish between the veins, but the yellow tinge below the median vein more distinct. Florida.

D. coloradensis *Edw.* (149 d) is smaller and much lighter than *lignicolor*: greyish-white, silvery white *colora-* *densis*. at the costal margin, with a slight brownish tinge along the inner margin, and the same markings as *lignicolor*, dusted darker behind the cross-vein; hindwing white, a dark spot at the anal angle. Larva unknown. From Colorado and New Mexico.

D. pallida *Stkr.* is a still lighter species, but larger and with broader wings than *coloradensis*, monotonously *pallida*. yellowish-white, not lighter at the costal margin, but brownish at the inner margin; the brown discal dot in the lower cell-end is thicker and above it in the upper angle there is another one; the dark longitudinal streak to the margin is absent, a black basal ray is very conspicuous; anterior transverse line absent, instead of the posterior line there are traces of dark vein-dots; instead of the undulate line there is darker shading. Hindwing brownish-grey. Texas.

D. semirufescens *Wkr.* (= *eximia* *Grt.*) (149 d) is externally very similar to *Schizura concinna* but much *semi-* *rufescens*. larger; forewing brownish ash-grey, browner at the inner margin, with a long basal ray and discal dot in the lower cell-angle, behind which a dark longitudinal stripe extends to the margin; at the costal margin, especially in the apical half, very oblique double streaks, transverse lines absent altogether. Hindwing white with a large

dark inner-angular spot. Distributed in the Atlantic States. — Structure of larva like that of *lignicolor*, but with another elevation on the 9th segment; thoracal segment whitish, marbled reddish, the rest of the body brown with a velvety blackish-brown saddle-spot. It lives on many foliage-trees, chiefly on willows, poplars and birches, as well as on maple, apple and alder.

perangulata. **D. perangulata** *Edw.* (149 d) is somewhat like *semirufescens*, but more whitish ash-grey, with a reddish-brown tint at the inner margin; it is easily discernible from all the preceding species by the distinct strongly dentate double postmedian line and a dark shadowy spot behind the cross-vein; dark streaks in the marginal area between the veins, the two thickest above the anal angle, some finer ones subapical. Hindwing dirty whitish with a blackish inner-angular spot. Colorado, Utah.

mami. **D. mami** *Schs.* (149 d) is blackish-brown on the forewing as far as the black anterior transverse line, silvery grey between the dusted cinnamon brown median vein and the similarly coloured inner margin; the median line is divided into two branches below the cell, the cell-end behind it is whitish, behind the velvety black cross-vein streak follows a broad blackish-brown transverse shadow reaching neither the costal nor inner margin, then the double black deeply dentate posterior transverse line which is filled with lighter; some ochreous scales behind it; the whole apical half is light grey, the marginal area below it red-brown with fine black internerval streaks and a quadrangular white spot above the anal angle. Hindwing whitish, broadly brownish at the margin. Expanse of wings: 34 mm. Bolivia.

hertha. **D. hertha** *Dogn.* is very different; forewing reddish light brown, strewn with whitish in the upper half, an indistinct ring-macula and reniform macula in the cell; the anterior transverse line is indistinct, the posterior one is quite absent, some brown internerval streaks before the margin. Hindwing white, broadly smoked at the costal margin and distal margin. Expanse of wings: 40 mm. Described from Argentina.

klagesi. **D. klagesi** *Drc.* has remained unknown to me, it seems to belong near to *centralis*. Forewing light reddish light brown, strewn with brown scales, greyish-black in the basal area; a large black spot at the cell-end. Hindwing white, grey at the costal margin and apex, a black spot at the anal angle. Expanse of wings: 45 mm. Trinidad.

67. Genus: **Schizura** *Dbld.*

It shows in general the very same anatomical marks as *Dicentria* and is distinguished from it merely by the shorter and broader shape of the wings and the shorter stouter abdomen. Yet the transition from the narrow-winged forms to the broad-winged ones is so gradual that several species may be ranged under either of the two genera ad lib. Beside a number of North American species, also some tropical forms have been described to belong to this genus.

Type of genus: *S. impomeae* *Dbld.*

impomeae. **S. impomeae** *Dbld.* (= *biguttatus* *Pack.*, *confusa* *Wkr.*, *ducens* *Wkr.*, *corticea* *Wkr.*, *compta* *Wkr.*, *nigrosignata* *Wkr.*) (149 d) is a larger species with reddish-brown, black-veined forewings with a grey costal margin with the brown beginnings of the transverse lines the anterior one of which is the most distinct; the cross-vein streak is red-brown, surrounded by grey, and shaded dark distally and below; the veins are interrupted by grey postmedianly, two submarginal rows of indistinct red-brown internerval spots; the red-brown fringe is speckled dirty white. — f. **cinereo** *frons* *Pack.* (= *urtipennis* *Wkr.*) (149 d) exhibits the whole discal part of the forewing from the base to the margin dusted with dark brown, costal and inner margins ash-grey with a lilac tint. — f. **telifer** *Grt.* is founded upon aberratively marked specimens with 2 long black longitudinal stripes, one through the cross-vein streak, the other one along the submedian vein. — The larva is green on the 3 thoracal segments, dark brown on the head and the posterior segments with 2 coherent white dorsal spots marbled brown on the middle segments and a posteriorly open similar V-spot behind the two-pointed dorsal protuberance on the 8th segment; the point on the 4th segment is bent hindward, not forward as in *Dicentria*, and erectile and movable as there. It lives in the Northern States on oaks and many other foliage-trees such as maple, elms, birches, besides on *Rubus*, *Vaccinium*, *Ceanothus* and other plants; in the Gulf States it is found on *Ipomea coccinea*. It transforms in a web in the earth, and the imago appears during a very extensive period from March until August, probably in several generations.

concinna. **S. concinna** *Abb. & Sm.* (= *nitida* *Pack.*, *deba* *Drc.*) (149 c) is much smaller with light brownish forewings, the inner-marginal area tinged red-brown, a small discal dot below the origin of vein 5 and some dark strigiform spots submarginally at the anal angle and subapically; the costal-marginal area is tinged somewhat more lilac grey. Hindwing white, slightly smoked at the margin. The ♀ is darker on the whole with brownish-grey hindwings. — f. **salicis** *Edw.* (= *riversii* *Behr*) from California hardly deserves a denomination, it is only somewhat larger with somewhat more pointed hindwings. The larvae have habits quite uncommon

for a Notodontid larva, remaining gregariously together until the pupation. It is red-brown with very many black longitudinal lines which, from the 5th to 10th segments, are situated subdorsally in a broad white stripe. Head and 4th segment with an incassation and the short protuberance are coralline; the tubercles bear stiff black bristles. It lives on numerous foliage-trees and many low plants and has two breeds a year. From Maine and Canada to Missouri and to the south as far as Texas, Georgia and Florida, finally in Mexico.

S. tomaea Dyar (149 e) is similar, somewhat larger, of brighter colours, broadly whitish-grey in the *tomaea*. costal area, yellowish in the centre, red-brown at the inner margin, the transverse lines better visible, a short longitudinal streak behind the black discal dot, and a fine basal ray; thicker black oblique streaks above the anal angle, and a white one behind them. Hindwing whitish with a broad smoky margin and a darker anal spot. Mexico (Zacualpan).

S. pegasis Schs. Forewing brownish, reddish-yellow at the costal margin, broadly dusted with *pegasis*. violettish-brown at the inner margin, the yellowish-reddish basal area defined by a black transverse line, a brown longitudinal stripe behind the short brown discal streak; the dentate transverse lines are indistinct; a submarginal row of small dark spots, fringe speckled brown and yellowish. Hindwing brown with yellowish fringe. Expanse of wings: 40 mm. Brazil (Petropolis).

S. dospeppa Dyar has reddish-grey forewings shaded blackish basally, with a lighter transverse line *dospeppa*. bordered with black, which is only distinct in the inner-marginal half; the white undulate line edged with black is distinct and forms a white spot above the inner angle, crossed by 2 black streaks. Hindwing yellowish-white with a dark anal spot traversed by white. Expanse of wings: 33 mm. Mexico (Guerrero).

S. nocens Dogn. is somewhat similar, greyish-brown, darker at the base, with darker brown longitudinal *nocens*. stripes in all the cellular spaces except the apical region, with a red-brown spot in the lower half of the cross-vein, and a curved lighter transverse stripe behind it; the whitish fringe is speckled brown on the ends of the veins; hindwing whitish, brownish in the marginal half, with a brown anal spot. Expanse of wings: 39 mm. San Salvador.

S. manca Schs. is a smaller brown species, shaded with grey in the costal half as far as behind the cell, *manca*. with indistinct transverse lines, the anterior one double, and with a fine velvety brown cross-vein streak and a brown postmedian shadow behind it, which becomes more distinct towards the inner margin; brown longitudinal stripes extend between the radial branches to the margin, dark internerval lines before the margin, a white spot above the anal angle: Hindwing whitish with a broadly smoked margin. Expanse of wings: 33 mm. Costa Rica.

S. schausia Jones. Forewing lilac brown, dusted with dark grey, with double transverse lines filled *schausia*. lighter, almost with white at the costal and inner margins, and a dark median shadow; the distal half of the costal margin is black, striped and spotted white; the anal half of the distal margin is black, bordered with white inside, fringe speckled black and white, in the upper half with the fringe brown. Hindwing white, red-brown at the margin, with a black and white anal spot. Expanse of wings: ♂ 40, ♀ 42 mm. Brazil (Paraná).

S. salvador Schs. Head and thorax white mixed with brownish fawn; abdomen brownish cinnamon, *salvador*. whitish beneath. Forewing brown, with black veins and a black basal streak below the cell, a round black spot below the cell between 2 and 3; brown postcellular internerval streaks, the white fringe speckled dark. Hindwing white, veins and margin brown with bronze gloss, darker at the anal angle. Expanse of wings: 40 mm. San Salvador.

S. tizoc Schs. (149 e). Forewing violettish-grey, darkened at the base, with velvety brown longitudinal *tizoc*. stripes in the marginal half, which are accompanied in the centre of the margin by white ones; base of submedian vein also whitish. Hindwing white, spotted dark brown at the anal angle, fringe speckled brown. Peru.

S. badia Pack. (= *significata* Wkr.) (149 e). Forewing red-brown, strewn with ash-grey and darker brown, *badia*. dusted with grey before the black cell-end streak, behind it two black radial rays to the margin; the apex and stripes between the black veins are white. Hindwing white, smoky in the marginal half. — The larva is green with a purple brown longitudinal stripe on the dorsum of the first 4 segments, yellow irregular dorsal figures behind it, and a more or less complete brown belt around the 6th segment. It lives on *Viburnum lentago* and develops in August. Atlantic States.

S. unicornis Abb. & Sm. (= *edmandsi* Pack., *humilis* Wkr.) (149 e) has ash-grey forewings mixed with *unicornis*. whitish, red-brown and yellowish-green, the base of a purer whitish colour, bordered by a black line which is preceded inside by a brown parallel line; the antemedian area before the double dentate anterior transverse line is darker, the median area before the black discal streak is whitish, a series of red-brown spots behind the straight dentate black postmedian line; costal margin and apex whitish, with short black longitudinal streaks subapical and above the anal angle, spotted white behind the latter streaks. Hindwing dirty whitish with a broad faded white postmedian band and a blackish anal spot, in the ♀ brownish-grey. — The larva is green on the thoracal segments, brownish-yellow behind them, with darker brown oblique streaks directed posteriorly

downward, and a posteriorly open dark brown V-mark edged with white on the 8th to 10th segments; the first 3 segments exhibit a broad purple brown dorsal stripe. Moreover it is rather variable and lives on nearly all sorts of foliage trees, chiefly on species of *Pirus* and *Prunus*. — f. **conspecta** *Edw.*, the race from California, is larger, lighter, with a purer white median area and purer white hindwings. The type is distributed over nearly the whole of the United States and Canada, and common.

errucata. **S. errucata** *Dyar* is very similar to *unicornis*, smaller, without the red-brown tint in the postmedian area and with purely white hindwings which are also in the ♀ whiter than in *unicornis*. — The larva is very different; green, with a purple brown dorsal band of the first 3 segments, behind the dorsal appendage with an equally broad white stripe which is edged with brown, the sides being speckled brown. Described from Texas.

apicalis. **S. apicalis** *Grt. & Rob.* (149 e). Forewing reddish brown or greyish-brown, strewn with white, with a black basal ray and a white median area; the black cell-end streak is thicker and more bent than in *unicornis*, behind it a spot of darker dusting with dark brown internerval stripes to the margin; the posterior transverse line is white. Hindwing white with a large dark anal spot. From Maine, New York, Arkansas, and Florida; nothing is known of its life-history.

leptinoides. **S. leptinoides** *Grt.* (= *mustelina* *Pack.*) (149 e). Forewing ash-grey, mixed with whitish in the median area, brownish at the inner margin; the discal streak is black like the branches proceeding from it; the posterior transverse line is double, dentate, dirty white, the veins behind it black. Hindwing white, smoky at the distal margin with a dark anal spot. The ♀ is more lead-coloured, with obsolete transverse lines, the discal dot small, the distal margin somewhat lighter with blackish or also red-brown wedges between the veins. — Larva brown, with a purple brown dorsal stripe as far as the protuberance on the 4th segment, behind it with oblique streaks directed posteriorly downward, and a posteriorly open V-mark from the 8th to 10th segments. It chiefly lives on Hickory and walnut, but also on all sorts of other foliage trees. Maine to Georgia, to the west as far as Illinois.

biedermani. **S. biedermani** *B. & McD.* (= *clammenhoa* *Dyar*) (149 f) is a very large species with grey forewings mixed with somewhat red-brown especially subterminally, a black basal ray and discal streak and double black fine transverse lines, the anterior one more in round bows, the posterior one dentate, filled somewhat lighter; behind the cross-vein streak is a spot of darker dusting and 2 red-brown longitudinal rays above and below the median radial branch to the margin, before which there are black internerval streaks partly distally edged narrowly with white; a thicker black streak subapically in the somewhat lighter grey apex. Hindwing white with a black anal spot. Arizona, Mexico.

68. Genus: **Litodonta** *Harv.*

Chiefly separated from the preceding genus by the hairy though tuftless head, and the antennae being pectinated to the tips. Wings short and broad, neurulation as in the preceding genera, vein 5 of forewing from the centre of the cross-vein, the costal vein of the hindwing arises a little before the cell-end.

Type of genus: *L. hydromeli* *Harv.*

hydromeli. **L. hydromeli** *Harv.* (149 f). Forewing yellowish olive, with 3 fine double black transverse lines, a curved discal streak and grey strewing behind it and also at the inner margin; a submarginal row of blackish spots, somewhat more coherent in a lunar shape towards the costal margin. Hindwing white, feebly smoky at the margin. In two generations in Texas and Florida. — f. **fusca** *Harv.* is a much darker blackish form, and — *contrast.* f. **contrast** *B. & McD.* is likewise a dark form with smoky brown forewings, the transverse lines filled with white at the costal margin, the posterior one quite indistinct and interrupted, a white spot at the apex, the submarginal spots yellowish in the dark ground. From Arizona.

centigerna. **L. centigerna** *Schs.* Head and thorax greyish-brown, frons darker; abdomen white, mixed with cinnamon, forming transverse bands towards the base, white beneath. Forewing white with brown lines; sub-basal line feeble, the antemedian area brown, mixed with white below the cell; anterior transverse line double, dents of the interior line extend almost to the base; median area dark brown at the costal margin, below it only strewn brown, with a fine line in the cell; postmedian line brown, double, distally angled on 7 and 3; the cellular branches are blackish-brown; the deeply dentate subterminal line is white. Hindwing white, fawn-coloured at the distal and inner margins. Expanse of wings: 27 mm. Brazil (Rio Purus).

nigripuncta. **L. nigripuncta** *Schs.* (149 f) differs greatly from the other species. Forewing whitish, strewn with grey, the median area darkened steel-grey, with indistinct, light-shaded transverse lines and 2 thick black dots at the base, 2 at the apex, one at the inner angle and a thick round one at the cell-end. Hindwing white, brown in the female. Brazil (Paraná, Matto Grosso).

L. gigantea B. & Benj. is larger than the preceding species. Forewing violettish greyish-white, densely strewn with blackish with almost quite obsolete transverse lines, only the undulate line is slightly shaded darker; a black basal ray on the inner-marginal vein is somewhat lighter whitish above, the cross-vein marked by a fine black crescent; veins scaled blackish as far as into the fringe. Hindwing dingy brown with darker speckled fringe. Expanse of wings: 43 mm. Arizona.

69. Genus: **Psilacron** Fldr.

This genus is united with the genus *Hardingia* Schs. now. Two thirds of the antennae pectinated, palpi porrect with a short terminal joint; wings longer and narrower than in the preceding genus, the areole proceeds only behind the upper cell-end. Vein 6 arises near its base, the lowest subcostal branch is forked with the next. Hindwing as in all the preceding genera, but the veins 3 and 4 arise distinctly separated.

Type of genus: *P. luteovirens* Fldr.

P. luteovirens Fldr. (= *cosmipennis* Dyar) (149 f). The whitish ground of the forewing is finely strewn with red-brown, dusted with olive green subcostally, along the median vein and the submedian fold, with brown double dentate transverse lines and a brown rectangularly broken median shadow; a brown crescent at the cell-end; an oblique brown subapical shadow extends inwards and meets the postmedian shadow at vein 4, 3 small brown internerval spots are below it. Hindwing smoky brown with a light postmedian shadow, dusted red-brown at the inner margin, with white fringe. Peru and Bolivia.

P. congalla Schs. (149 g) is similar to *luteovirens*, smaller, forewing broader with a rounder distal margin. Forewing suffused with yellowish olive, the base of the costal margin striped violettish-grey; the brown lines similar to those of *luteovirens*, the median one angular, ending above vein 1 between two small white, darker edged spots. Hindwing suffused with brown, darkened at the margin. Bolivia (Incachaca).

P. chacona sp. n. is very near to *congalla*, but it has still much narrower forewings with a more pointed apex and a more oblique distal margin than *luteovirens*. Forewing whitish, in some places with an extremely faint pinkish lilac hue, the markings as in the allies, but all light moss-green, also the transverse lines, the median one rectangularly broken at the cell-end, the median vein and the submedian fold in the median area broadly moss-green; round black subterminal dots in the anterior half of the wing, below the uppermost of which there is a very dark greyish-black apical oblique shadow as far as the postmedian line. Hindwing all white, with a faint grey marginal band. According to 2 ♂♂ from the Chaco (La Paz), 3000 m (GARLEPP leg.) in the Coll. STGR. in the Berlin Museum.

P. gordiana Schs. (149 g) is much larger than *luteovirens*, wings shaped as in *congalla*, with darker hindwings; forewing much more intensely and monotonously suffused with moss-green, which colour is pale yellowish olive in SCHAU'S type which we figure, the markings in general as in the preceding species, though less conspicuous on the dark ground. Colombia (Mt. Tolima, Quindiu Pass).

P. agcistrum Dyar seems to be very closely allied to *gordiana*. Forewing light purple, darker at the base, with 3 green spots which are submedian, at the lower cell-end and below the distal third of the costal margin; with double dentate purple brown transverse lines and a faint crescent at the cell-end; the posterior transverse line is filled with white; the indistinct median shadow is curved at the cell-end, but not rectangularly broken; 3 white dots are on the submedian vein in the median area; a few purple subterminal spots, a white spot below the centre of the margin, and a white oblique subapical blotch. Hindwing brownish-grey, red-brown at the inner margin, fringe whitish. Expanse of wings: 45 mm. South-Eastern Peru.

P. melita Drc. (149 g) has greenish-grey forewings with a red-brown band from the centre of the inner margin to the median vein, from where it extends forked like a Y to the costal margin; a submarginal row of white, black-centred spots; fringe red-brown. Hindwing white. South-Eastern Peru.

P. arthuri Schs. Forewing grey, reddish olive yellow at the base, submedianly, in the median area, behind the lower cell-end, and at the anal angle; a black basal dot below the cell and a darker brownish-grey shadow behind it; transverse lines double, blackish-brown, the posterior one interrupted, broadly shaded blackish-brown behind it above the centre; the upper half of the margin is shaded dark grey. Hindwing brownish-grey with a double postmedian line filled with greenish at the costal margin. The ♀ is darker olive brown with a large white anal spot. Expanse of wings: 37 mm. Costa Rica.

P. discolor Schs. Forewing yellowish-green, shaded dark grey in and below the cell in the median area, a similar shadow is in the upper subterminal half, and black dusting before the centre between the cell and the inner margin; a velvety black moon-spot at the cell-end, grey shading below it proximally; a double curved

postmedian line is only visible in the upper two thirds. Hindwing brownish. Forewing of ♀ spotted white analwards. Expanse of wings: ♂ 41, ♀ 47 mm. Costa Rica. This may be only a form of the following *roberti*.

roberti. **P. roberti** Schs. (149 f) has reddish olive green forewings, mixed with grey in the basal area and under the lower median branch, with a large blackish-brown subapical spot, red-brown shading at the cell-end; rather indistinct dentate double transverse lines. Hindwing brownish-grey with a lighter postmedian shadowy line. Colombia.

eugraphica. **P. eugraphica** Dyar (149 g) is violettish-grey on the forewing, mixed with yellowish-green, the most distinctly so under the lower cell-end, and with darker shading in the cell; a round black spot in the basal area; transverse lines brown, the interior double one only distinct in the inner-marginal half, the distal one single; instead of the undulate line there is a dark brown dentate band in the costal-marginal third and a smaller spot above the anal angle; the margin before the speckled fringe is dusted with violet. Hindwing light grey, dark brown at the anal angle, the beginning of a dark postmedian line begins at the costal margin and is bordered with light on both sides. Mexico.

aphretesa. **P. aphretesa** Dyar reminds us of a *Disphr. atrax* or *dolorosa*: forewing light grey, whitish at the base and in the basal half of the costal margin, dusted with olive green apically, with double olive grey transverse lines, the interior one obsolete in the cell; one small olive lunulate spot each in the cell and at the cell-end; a series of olive grey spots behind the postmedian line; undulate line whitish. Hindwing grey, slightly scaled in the disc, whitish at the costal margin with grey double streaks. Expanse of wings: 50 mm. Mexico.

plagimargo. **P. plagimargo** Dyar. Forewing brownish olive, shaded with purple brown at the inner margin and subterminally, the inner margin defined on the submedian fold upwards by a jet-black streak; of the transverse lines only the rectangularly curved median line is distinct, black, a black spot is above the anal angle, two white spots behind it and above it; fringe speckled black. Hindwing light purple brownish with a feeble whitish median shadow. Expanse of wings: 48 mm. Mexico.

macarisma. **P. macarisma** Dyar (149 g) is very similar, dark greenish-grey with a large white spot in the anal half of the margin, with rusty yellow spots subterminally and at the margin, black veins and a thick black basal submedian streak; of the transverse lines only the black dentate undulate line is somewhat more distinct, white vein-dots are behind it. Hindwing as in *plagimargo*. Mexico (Zacualpan).

maculosa. **P. maculosa** Dogn. Forewing greenish greyish-brown, with rusty yellow spots, instead of the transverse lines with lighter bands the posterior one of which is spot-like, a black streak in a light spot is at the cell-end; a dentate brown line is in the yellowish-white marginal area. Hindwing dirty white, grey at the margin. Expanse of wings: 46 mm. French Guiana.

monostigma. **P. monostigma** Dyar has the antennae pectinated almost to the tips. Forewing light greyish-green with small white spots at the base of the costal margin and on the submedian fold, parts of the inner margin are strewn with black; a darker shadowy spot is behind the black and brown cross-vein streak; the exterior dentate brown transverse line is irregularly marked; fringe speckled black. Hindwing dark greyish-brown. Expanse of wings: 40 mm. Mexico (Hidalgo).

hidalgoa. **P. hidalgoa** Dyar (149 g). Forewing grey, feebly dusted green and strewn black with a black cross-vein luna surrounded with brown, and a small white costal-marginal spot above it; the dark double dentate transverse lines are rather indistinct, a series of small subterminal dark internodal spots is more distinct. Hindwing whitish, grey at the costal and inner margins with the beginnings of a light postmedian band. Mexico (Hidalgo).

cincia. **P. cincia** Drc. (149 h) has a scheme of markings similar to that of the following *mechanica*, but the colours of *D. manethusa*. Forewing whitish, scantily strewn with rusty yellowish olive — probably green in the fresh specimen —, strewn with blackish grey in the distal third of the cell and between the submedian fold and vein 4, olive green in the basal area from the base of the costal margin to the centre of the inner margin, distally defined by a very oblique darker olive line of a slightly undulate course, a parallel double antemedian line behind it, the interior portion olive, the exterior one blackish; a darker lunule at the cell-end, 3 undulate lines behind it are indistinctly marked by accumulated darker atoms; apex more densely dusted with rusty yellowish olive; the veins in the marginal area interrupted by blackish. Hindwing thinly scaled white, inner margin and apex smoky, 2 short olive lines before the apex. Colombia (Rio Negro), Bolivia; South-Eastern Peru.

mechanica. **P. mechanica** Dogn. (= *ockendeni* Drc.) (149 h). The whitish ground of the forewing is strewn with grey, darker and more or less dusted with rusty brown at the base and postmedianly, with double dentate transverse lines and a black discal crescent above which there is a small white spot in black costal-marginal streaks; fringe speckled. Hindwing white. Ecuador and Colombia.

P. divisa *Rothsch.* (149 h) is a very different small insect which probably belongs to another genus; *divisa*. forewing chestnut brown with numerous very indistinct blackish, partly confluent transverse lines composed of single lunules, a small black cell-end spot and a yellowish streak behind it. Hindwing brownish-black. Amazons, Peru and Bolivia.

P. sericeus *Rothsch.* (149 h) reminds us of the common *D. laeca*, forewing light reddish-yellow strewn *sericeus*. with grey, dark reddish chocolate and strewn with reddish-yellow in the costal-marginal part, somewhat lighter in the centre of the costal margin, with a large light reniform macula; the dark transverse lines are indistinct, double, dentate. Hindwing red-brown. Peru.

70. Genus: **Urgedra** *Dyar.*

The ♂ antennae are pectinated very long, palpi porrect with a short terminal joint. Shape of wings broad triangular with an entire margin and a similar neuration as in the preceding genus, vein 5 from the centre of the cross-vein, 6 from the basal third of the very long and narrow arcole from the end of which the lowest subcostal branch proceeds, the next 3 on a joint stalk; hindwing as in *Psilacron*, the costal vein arises before the centre of the cell. A number of irregularly coloured and marked species which are often green.

Type of genus: *U. striata* *Drc.*

U. striata *Drc.* (= *pavimenta* *Dogn.*) (149 h). Forewing brown intermixed with white and yellowish- *striata*. green scales, the basal third and a broad postmedian band darker brown, the median area between them somewhat more reddish, the cell-end streak brown, surrounded by yellowish-green; the brown postmedian band is edged by a white line on both sides, the interior line of which is strongly dentate, the veins crossing it are set with raised scales, so that the interspaces look like small locules; brown marginal lunules are surrounded with greenish-yellow, fringe speckled white. Hindwing red-brown, lighter towards the base, fringe speckled. Colombia (Socorro, Cali). — f. **quindinata** *Dogn.* differs from *striata* in the absence of the white and yellowish- *quindinata*. green scales, the interior one of the two white lines is scarcely dentate. Expanse of wings: 41—42 mm. From the Quindiu Pass.

U. albodiscata *Dogn.* (149 i) has the same ground-colour as *striata*, some veins are finely strewn with *albo-* white, a small spot in the centre of the cell and the cross-vein streak are white; the white border-lines of the *discata*. brown postmedian band are absent, but there are 2 black dots edged with greenish-white before it on the submedian fold. Hindwing red-brown, fringe white at the ends of the veins. Expanse of wings: 37—39 mm. Quindiu Pass.

U. chaon *Drc.* The light brown forewing is strewn with black and green scales. Two tiny white spots *chaon*. are at the cell-end; a submarginal row of white dots. Hindwing reddish-brown, lighter basal. Colombia, Peru.

U. brunnea *Drc.* Forewing dark red-brown, strewn with light greyish-brown, with a white cell-end *brunnea*. streak and a submarginal row of large dark brown internerval spots. Hindwing blackish-brown, fringe somewhat lighter. Peru.

U. oslaca *Schs.* (149 k) is a deviating large species. Head and thorax brown, abdomen blackish-brown. *oslaca*. Forewing dark brown, yellow scales at the costal margin, and 4 oblique streaks towards the apex; antemedian line blackish-brown, angled distally, where it is scaled white and yellow; a white and yellow streak at the cross-vein; the white subterminal line is strewn with yellow on the veins; the brown marginal line is scaled bluish-white inwards, interrupted on the yellowish veins of the marginal area. Hindwing brownish red. Bolivia (Incachaca.)

U. fremida *Dogn.* (149 i) has somewhat longer wings which are greyish brown, densely strewn with *fremida*. yellowish, subcostally white scales, single veins are very finely striped white, with a black cell-end streak at both ends of which there are white dots; transverse lines double, the anterior one broken up into dots, the darker postmedian band is more densely strewn with light scales at its edges, with white dots outside at the dents; fringe grey traversed by white. Hindwing brown. Expanse of wings: 40—45 mm. Colombia (San Antonio, Cali).

U. dissolvens *Dogn.* (149 i). Forewing dark red-brown, white and green subcostally, strewn with green *dissolvens*. postmedianly and around the subterminal spots; the inner-marginal vein, the centre of the median vein and the veins 6 and 7 are striped lilac white, the median area is edged by two darker brown bands, the postmedian one traversed by white veins, bordered at the edges with black dots, the interior dot above the inner-marginal vein thicker than the others; the median area is traversed by several fine darker transverse lines; brown submarginal internerval lunules are surrounded by green. Hindwing brown. Expanse of wings: 36—38 mm. Colombia (Socorro, Cali).

dissociata. **U. dissociata** Dogn. (149 i) is very similar to the preceding species, the colour is greyer, more white, scarcely strewn with green, the postmedian band distally bordered with white, the anterior band straighter, with internerval dots; the costal margin is white, traversed by brown streaks; a fine subterminal line, no lunular row; fringe more distinctly crossed by white. Hindwing grey, not brown, yellowish-white beneath, brown in *dissolvens*. Expanse of wings: 40—41 mm. From the same habitats.

multilineata. **U. multilineata** Drc. (149 i) was described as a *Heterocampa*, but according to the excellent photo of the type, which was put at our disposal by the great kindness of Messrs. JOICEY and TALBOT, it belongs near *dissolvens*. The ground-colour is greyish-white, a red-brown spot is at the base below the cell, traversed by the same dentate lines as in *dissociata*, 3 postmedian lines, the middle one very thin, the third very thick and blackish-brown, thickened at the inner margin, in the middle and subcostally, bordered with yellowish-white distally, red-brown dusting before the thin blackish-brown submarginal line. Hindwing light brownish-grey. South-Eastern Peru.

permixta. **U. permixta** Dogn. (149 i) is likewise very near to *dissolvens*, but smaller and less contrastingly marked; forewing brown strewn with light green, forming a brilliant green spot at the base, adjoining to it the double antemedian line; the light brown median area is dusted with white; between the two distal double transverse lines there is a darker brown postmedian band on which green strewing in the inner-marginal half forms again a green spot dusted with white distally; a dark dentate line is in the green margin. Hindwing red-brown, fringe traversed by whitish. Expanse of wings: 33 mm. Colombia (Quindiu Pass).

viridiflava. **U. viridiflava** Dogn. (= *luceria* Drc.) (149 i). Forewing light yellowish-brown, feebly dusted with lilac, with brown double transverse lines filled with green, the postmedian line intensely bordered with green outside, the marginal row of brown lunules also dusted with green distally. Hindwing light brown. Expanse of wings: 35—40 mm. Colombia (Socorro, Cali).

nabora. **U. nabora** Schs. (149 i) is near to *viridiflava* from which it chiefly differs in the metallic green, not dull green, scales. Forewing light cinnamon; the metallic green colour occurs in the basal third subcostally and before the antemedian line, then broadly before the distal line and at the small brown subterminal spots; transverse lines brown, the anterior line more distinct only in the inner-marginal area, the median line likewise indistinct, the postmedian line double, the posterior line bordered with white distally; a blackish-brown dot in the centre of the cell, a dark line at the cell-end. Hindwing tan-coloured, base and costal margin whitish. Expanse of wings: 37 mm. Colombia (Mt. Tolima).

viridinigra. **U. viridinigra** Dogn. Forewing blackish-brown, uniformly strewn with green and white, with rows of black dots instead of the transverse lines, the last filled with green, with a cellular dot and two at the cell-end, the latter two distally white. Hindwing blackish. Expanse of wings: 40—44 mm. Distributed in Colombia.

palmeri. **U. palmeri** Drc. (149 k) is easily recognizable by the yellow margin which is twice angled inwards; forewing reddish-brown, dusted with yellow at the apex and inner margin, with 3 indistinct brown undulate lines; the yellow margin is separated from the brown part of the wing by a white line. Hindwing yellowish-grey, brown at the costal and inner margins, with a red-brown anal spot and yellow fringe. West Colombia.

71. Genus: **Misogada** Wkr.

Allied to the preceding genus, but the antennae are shorter and not quite pectinated to the tips, palpi longer in the ♂ than in the ♀. Forewing narrower, vein 6 arises from the centre of the areole; the costal branch of the hindwing proceeds near the cell-end.

Type of genus: *M. unicolor* Pack.

unicolor. **M. unicolor** Pack. (= *marina* Pack., *cinerea* Schs., *sobria* Wkr.) (149 k) is unicoloured light grey with a green tint, or strewn with grey on a greenish ground, all the tints varying as far as dark purple grey with somewhat darker punctiform transverse lines; a subterminal row of small dark irregular, distally white spots. Hindwing greyish-white. The green larva is humpless, with a broad yellowish-white dorsal band bordered with reddish; the claspers are very long and slender. It lives on plane-trees in 2 generations, the imago in May, June and August. Atlantic States.

signifera. **M. signifera** Dogn. Forewing grey, with two black dentate, partly faded antemedian parallel lines and a black cell-end streak surrounded by yellow; the postmedian line is rather indistinct; interrupted, and followed by a row of white vein-dots; a broad obsolete subterminal band. Hindwing whitish with a blackish margin. Expanse of wings: ♂ 23, ♀ 29 mm. French Guiana.

tridiscata. **M. tridiscata** Dogn. has blackish-grey forewings with obsolete darker transverse lines and 3 black dots at the cell-end, the third, however, may also be absent. Hindwing white with a broad grey marginal band, traversed by light at the anal angle. Expanse of wings: 24 mm. Amazons.

M. brioca Schs. Head and thorax white, mixed with reddish yellow, 2 small metathoracal tufts bordered *brioca*. with blackish-brown, the centre iridescently scaled. Abdomen white above, strewn with reddish-brown, white beneath. Forewing white, scantily strewn with reddish-brown, more profusely at the inner margin and in the centre of the costal margin; transverse lines brown, the anterior one double, its interior portion very feeble, dentate, ending at the inner margin near the posterior one which is single, a narrow reddish-brown shadow behind it; a brown subterminal shadow and a strongly undulated marginal line. Hindwing whitish, reddish-brown at the distal margin. Expanse of wings: 31 mm. Argentina.

M. pallida Schs. Forewing whitish with an olive tint and brown dentate transverse lines, the exterior *pallida*. one more distant from the apex than from the anal angle, and a submarginal row of small internerval spots; a fine black-dusted lunular streak at the cell-end. Hindwing brownish-white, more brownish at the margin. Santiago de Cuba.

M. blerura Schs. has whitish forewings strewn with olive green, similar to those of *pallida*, with a broad *blerura*. olive green antemedian band bordered with black, followed by a fine olive green line which is fused at the inner margin with a similar postmedian line; this is followed at the inner margin by a short black line, above which there are some vein-dots, a blackish shadow towards the costal margin; one black dot below the base of the cell, two at the cell-end. Hindwing whitish, smoky at the margin. Expanse of wings: 30 mm. Brazil.

M. nigrifulva Dogn. is a small species, the basal third of the forewing blackish except the base and a *nigrifulva*. submedian spot, both the spots as well as the rest of the wing are reddish olive, lighter towards the costal margin; the lower cellular branches are partly brownish, a black dot at the cell-end. Hindwing brownish. Expanse of wings: 28 mm. French Guiana.

72. Genus: **Notoplusia** Schs.

Two thirds of the ♂ antennae set with short hairy pectinations, the hairy palpi reach to the vertex. Forewing with an almost straight costal margin; vein 5 is removed up to the upper cell-angle, 6 arises from the centre of the areole; hindwing as in the preceding genera. A small number of partly very similar tropical species.

Type of genus: *N. clara* Cr.

N. clara Cr. (149 k) is easily recognisable, very different from the other species, the brown forewing *clara*. with black longitudinal stripes and a large triangular silvery white spot in the disc. Guiana, Colombia.

N. marchiana Schs. is extremely similar to *clara*, discernible by the antennae being tuftedly ciliated *marchiana*. in the basal halves, not shortly pectinated. The broad black subterminal line of the forewing forms internerval lunules, only one between 6 and 4, behind it follows a fine red-brown lunular line, interrupted on the veins. Hindwing whitish, brownish sand-coloured at the margins, narrowly so at the distal margin. Expanse of wings: 40 mm. Colombia (Eastern Andes); Bolivia (Rio Songo). Genitally very different from *clara*.

N. eugenia Schs. Basal part of forewing, from the first quarter of the costal margin to the centre of the *eugenia*. inner margin, dark brown with velvety darker stripes, reddish-yellow behind it, lilac at the costal margin, strewn with brown below it, cell-end whitish, with an oval brown line; the posterior transverse line is fine, dark brown, shaded with brown and grey behind it, with velvety darker internerval streaks; undulate line whitish, widened between the veins 4 and 6. Hindwing dark grey. Expanse of wings: 27 mm. French Guiana.

N. eunoteloides Schs. Forewing grey, basal third excepting the inner margin dark brown, bordered by *euno-* a darker brown line which is distally edged with white; a brown reniform macula at the cell-end, one dark brown *telo-* spot each behind the centre at the costal margin and inner margin, the lower one larger; vein 6 black; the *ides*. straight undulate line is black, anally twice interrupted inwards. Hindwing whitish with brownish veins and margin. Expanse of wings: 33 mm. Costa Rica.

N. oyapoca Schs. (149 k) almost looks like *eunoteloides* and may be only a form of it; a more distinct *oyapoca*. dentate median line extends around the reniform macula which is distally scaled somewhat brownish; the black streak on the uppermost radial branch is thicker and longer and coherent with the brown costal spot; above its distal end there is another smaller brown spot, the median radial branch is also striped black towards the margin, the veins below it are strewn somewhat black; subterminal line more interrupted, not straight in its upper part, but undulate. Hindwing dusted brownish-grey, especially at the inner margin. French Guiana, Bolivia, Matto Grosso.

N. boliviensis Schs. (149 k) is likewise similar to the preceding species, the olive grey ground slightly *boli-* tinged with brownish postmedianly, basal area light brown with a double black subbasal line in it, followed by a *viensis*. brownish-black antemedian shadow followed by a similar line, 2 fine dentate transverse lines are in and behind the centre, behind the latter a short costal-marginal lunule instead of the large costal-marginal spot of the

preceding species; the subterminal inner-marginal spot is large, the subapical black vein-streaks and the undulate line as in *eunoteloides*, the lower half of the undulate line broken up into single spots. Hindwing whitish, costal margin and veins brownish. Bolivia.

sabrena. **N. sabrena** Schs. Forewing reddish-yellow, densely strewn dark brown forming a broad costal-marginal shadow before the centre and a subterminal spot; a dark dot at the cell-end, traces of interrupted double transverse lines before and behind the centre, large dark internerval spots at the margin. Hindwing dark grey, lighter towards the base. Expanse of wings: 34 mm. French Guiana.

talmecana. **N. talmecana** Schs. is an entirely different species similar to the species of the genus *Talmeca*. Head and thorax reddish-yellow with an olive brown longitudinal line; abdomen brownish-red, ventrum white. Forewing light reddish-yellow, median vein white, finely striped brown above, yellow beneath; grey stripes strewn with black in and below the cell; feeble darker antemedian and postmedian transverse lines and a dentate distal line, the latter distally bordered with white; subterminally with dark dots and brownish-black vein-streaks; a dark blotch along vein 5 to the margin. Hindwing brownish grey. Expanse of wings: 35 mm. Brazil (Rio Purus).

73. Genus: **Dognina** Schs.

Antennae pectinated only in the basal halves, the hairy palpi very short. Anal angle of forewing typically somewhat convex; vein 5 arises above the centre of the cross-vein, 6 behind the centre of the very long and narrow areole. Costal margin of hindwing very obtusely rounded, neuration as in the preceding genera.

Type of genus: *D. veltini* Dogn.

veltini. **D. veltini** Dogn. (149 l). Forewing lustrous light greyish-brown with two mostly light transverse lines which are very near together at the inner margin and proceed from large dark brown costal-marginal spots; a whitish lunule at the cross-vein, a more or less distinct shadowy median line behind it; the inner-marginal beginnings of the transverse lines are bordered with dark brown on both sides, the fringe is speckled white in the lower half. The species is variable, the forewing often shows a white-dusted spot above the anal angle. Hindwing greyish-brown with whitish fringe finely speckled brown at the ends of the veins. Colombia, Bolivia, Ecuador.

carastia. **D. carastia** Drc. Forewing dark brown, grey at the inner margin and anal angle, with a broad black, grey-strewn transverse band near the base. Hindwing dark brown with lighter fringe. Peru.

botis. **D. botis** Drc. is described to be greenish-black, with a large white basal spot, a very large red-brown spot bordered with white, and a red-brown apical spot bordered with white inside, the distal margin reddish-brown. Hindwing dirty white, darker at the costal margin. Peru. The species is probably synonymous with *achates*.

achates. **D. achates** Dogn. (149 l). The description almost coincides with that of *botis*; the white interior border of the large spot of the median area is continued as a round line at the costal margin into the interior border of the triangular subapical spot; a whitish subterminal shadow is in the reddish-brown distal area, and the fine continuation of the white line subterminally parallel to the margin. Peru, Brazil.

bella. **D. bella** Jones (149 l) is almost the same as *achates*, forewing white, dusted light reddish-brown, with an olive green, centrally strangulated band, distally defined by a white line which is curved around an olive green triangular spot near the apex at the costal margin; subterminal violettish-grey dusting without the white line of *achates*. Expanse of wings: 38 mm. Parana.

peruda. **D. peruda** Drc. (149 l) is likewise near to the preceding species. Forewing white with an olive green antemedian band which is bordered with black and narrower in the middle; a black spot at the cell-end and an olive green spot behind it at the costal margin. Hindwing white, yellowish brown at the inner margin. Venezuela, Colombia, Bolivia.

74. Genus: **Hemipecteros** Schs.

♂ antennae bipectinate with ciliary tufts on the outside, palpi short, covered with scales; forewing with a rounded distal margin, vein 5 arises from the centre of the cross-vein, 6 from the centre of the areole; hindwing triangular with a rounded costal margin and with the usual neuration, veins 6 and 7 only on a short stalk, the costal vein proceeds from the centre of the cell.

Type of genus: *H. arthemis* Schs.

arthemis. **H. arthemis** Schs. Forewing white, strewn somewhat grey basally and in the median area, with a grey antemedian area as far as the double anterior transverse line; the posterior line is likewise double, reddish-

brown or blackish-brown, finer and darker in the lower half, distally shaded with brownish-grey in the upper half, widened towards the costal margin and subcostally traversed by two black vein-streaks; a large dark brown longitudinal spot at the cell-end is scaled ochreous; large white subanal spots enclosing black marginal spots which extend into the white fringe. Hindwing iridescent white with yellowish inner margin and veins and a small dark anal spot. Expanse of wings: 40 mm. British Guiana.

H. teffeina Schs. Body drab, intermixed with white and brown. Forewing white, strewn with drab *teffeina*. and blackish-brown, double transverse lines and the discal lunula fine black, all filled with reddish yellow; marginal area dusted with brownish with a fine undulated black marginal line. Hindwing white with a narrow light brownish apical shadow and a brown anal spot with a blackish-brown lunular spot behind it; marginal veins fine brown. Expanse of wings: 47 mm. Amazons (Teffé). Closely allied with *arthemis*.

H. gastriva Schs. looks like the preceding species, but it is darker and differs from the diagnose of the *gastriva*. genus in the antennae being pectinated only on the inside, serrate outside; forewing grey, strewn darker, brownish at the margin, the anterior transverse lines only feebly marked, but a distinct double median line is present, thickened below the cell and dentate distally above the inner margin. Hindwing grey, strewn with brown, with brown veins and marginal line and a blackish anal spot parted by light. Expanse of wings: 45 mm. Dutch Guiana.

H. albifera Dogn. (= *vatsoni* Schs.). Forewing violettish-brown, mixed with whitish at the base, with *albifera*. 4 blackish antemedian transverse lines; a yellowish-white streak at the cross-vein is bordered with dark brown inside, distally to it a fine brown line which extends from the costal margin to the inner margin; the marginal line is white, scantily strewn with brown, bordered by a double black line which is filled with steel-grey and extends inwards curved from the apex to the anal angle. Hindwing brownish-grey with white fringe. Expanse of wings: 39 mm. Guiana.

H. semialba Drc. (149 l) has violettish-brown forewings strewn with white basally as in *albifera*, with a *semialba*. black dentate postmedian line behind which a large white area follows, which reaches neither the apex nor the anal angle and is strewn somewhat grey in the middle; the white fringe behind the black marginal line is traversed by black at the ends of the veins. Hindwing white with a grey anal spot. Peru, Brazil.

H. similis Dogn. (= *dyari* Schs.) resembles the two preceding species, but the marginal area is more *similis*. intensely strewn with brown, its interior black border-lines are parted towards the costal margin and followed by a straight brown subcostal line; instead of the blackish-brown marginal lunae of the preceding species there is a line here, which is straight in its upper half, undulate below it. Hindwing white with brown veins and marginal line, and a brownish anal spot. Expanse of wings: 43—44 mm. Venezuela.

75. Genus: **Trumanda** Dogn.

Only half of antennae pectinated, the hairy palpi short. Forewing long and rather narrow, with long hair below in the cellular half and on the submedian line; neuration as in the preceding genus, but vein 6 proceeds only behind the centre of the areole. Hindwing almost quadrangularly cut off at the apex, distal margin somewhat concave in the centre, the veins arising from the upper cell-angle are not stalked. Only two species.

Type of the genus: *T. fifiana* Dogn.

T. fifiana Dogn. (150 a) (= *stigmatica* Rothsch.). Forewing light yellowish-brown at the costal margin *fifiana*. and in the distal half, yellowish pink as far as the centre of the cell, light yellow in the distal half of the cell, with a darker double anterior transverse line extending through the centre of the cell; a double brown cross-vein streak at the cell-end, and a brownish ochreous spot of broad modified scales in the lower half of the median area, like a scent-scale spot, finely bordered with white distally; fringe white, traversed by brown on the veins. Hindwing diaphanous white, more densely scaled yellowish-white at the costal and inner margins. French Guiana.

T. schiffi Schs. Head and thorax white, intermixed with single sand-coloured hairs; abdomen yellowish- *schiffi*. white. Forewing white, spotted grey at the costal margin instead of the beginnings of the lines, strewn with sand-colour basally and antemedianly; subbasal line grey, bordered with a pure white inside, a drab spot behind it at the inner margin, anterior transverse line double, black in the cell, grey below it, filled with white; a black streak at the cross-vein, the veins 3—8 as far as the subterminal line also black; the spaces between 4 and 8 white, transparent, traversed by a fine double black postmedian line; small orange brown spots behind vein 2 and below 5; subterminal black spots, a white line behind it, bordered with brown on both sides. Hindwing transparent white, with reddish-yellow hairs at the inner margin, a short black line at the costal margin. Expanse of wings: 48 mm. Colombia (Buena Vista).

76. Genus: **Trichomoplata** Wing.

Like the preceding genus, but two thirds of the antennae pectinated, forewing still longer and narrower with a very pointed apex and an oblique distal margin; neuration the same as in *Hemipecteros*.

Type of genus: *T. vittata* Wing.

- vittata*. **T. vittata** Wing. (= *tigniferum* Fldr.) (150 a) is unmistakable; forewing yellowish-white, with a purple brown inner margin and a similarly coloured oblique band above it from the first quarter of the costal margin to the anal angle; the large very oblique reniform macula is at the cell-end, narrow black internerval wedges behind it. Hindwing white. Colombia, Peru and Bolivia.
- dimorpha*. **T. dimorpha** Rothsch. (150 a). Forewing diaphanous dirty white, the basal half somewhat more densely scaled yellowish-grey, feeble shadowy bands of similar scales are subterminal and at the apex; a large orange brown spot is at the base of the lower median branch. Hindwing diaphanous white, yellowish-grey at the costal and inner margins. The much larger ♀ is more reddish-brown, only postdiscally diaphanous whitish, the dentate shadowy bands brownish, the spot is hemochrome, a rusty brown spot below it. Amazons.
- cassiope*. **T. cassiope** Schs. (= *phronima* Drc.) (150 a) is very similar to *T. fijiana*. Forewing light reddish-brown, crossed by 4 darker double zigzag lines, the most distal one shaded with smoky brown inside, a reddish-brown spot in the centre of the inner margin. Hindwing white, with red-brown hairs at the inner margin. Rio de Janeiro.

77. Genus: **Disphragis** Hbn.

This second-largest of all the Notodontid genera was formerly named *Heterocampa* Dbld. Some subordinate genera, such as *Lochmaeus* Dbld. and *Cecrita* Wkr., have been established for the numerous North American species, but in classifying the numberless tropical species this division cannot be well kept up, and so we must leave the grouping of the frequently very heterogeneous insects to a future exhaustive elaboration; we therefore keep to the large comprehensive genus in its original form.

About two thirds of the ♂ antennae, often also of the ♀, are pectinated, the pectinations often very long, often much shorter, so that there is no distinct boundary to the strongly serrate shape; for this reason a few species the exterior of which entirely agrees with *Disphragis* were ranged under the genus *Rifargia* which is only distinguished by the shape of the antennae, as for instance *gelduba*. The hairy palpi are rather short. The neuration is quite the same as in *Trichomoplata*, the difference from the preceding genus chiefly consists in the less elongate shape of the wings with a less pointedly produced apex, the abdomen being somewhat shorter, too. The larvae have generally the normal shape without protuberances or cones, only several species exhibit in the early stage thorns shaped like a stag's antlers on the first segment; the middle joints are often a little swollen, the claspers extended to long ends that can be turned out. As far as they are known, they live on all sorts of foliage-trees and pupate in a thinly woven cocoon between leaves.

Type of genus: *D. astarte* Dbld.

- astarte*. **D. astarte** Dbld. (= *menas* Harr., ♀ *chapmani* Grt.) (150 b) is very closely allied to all the following species. Forewing light olive green, with two double undulate black antemedian transverse lines, the space between them being often somewhat darker; at the cell-end there is a curved black crescentiform streak, a brownish-grey spot before it in the cell-end, followed by a threefold postmedian line with deep crescentiform bows, the two first distantly separated; the wing is subterminally lighter especially in the costal-marginal half, particularly in the ♂ and most intensely before the deep black undulate line; the marginal line composed of high crescents is very characteristic. Hindwing all white in the ♂, somewhat smoky in the ♀ with a darker marginal band and anal spot. The larva lives on oaks. The range is confined to Georgia, Florida, and Texas.
- varia*. **D. varia** Wkr. (= ♂ *obliqua* Pack.) (150 b) is very near to *astarte*, but it lacks the olive green colour altogether, being brownish ash-grey, more or less mixed with reddish-brown; the white crescentiform subapical spot is larger, its distal black border broader, less distinct, enclosing short black internerval streaks, continued to the inner margin, and here with a small white lunule before it, the black marginal lunae are much flatter than in *astarte*, hindwing not so pure white, but somewhat smoky. — f. **trouveloti** Pack. (= *brunnea* Grt. & Rob.) is a more distinctly reddish-brown form, the female with some olive admixture and more prominent marking, hindwing smoky grey. — f. **picta** Fldr. (= *perolivata* Pack.) (150 b) is a form very similar to *astarte*, with purely light olive green forewings, but with the large white subapical spot and its distal broad indistinct border as in *varia*, and with purer white hindwings. — The larva is dirty whitish, flesh-coloured, brown or green with a white dorsal band which is expanded on the second ring and between the 4th and 8th rings, and edged by red-brown lines. It lives on oaks. It occurs in the Northern Atlantic States, the form *picta* in the Southern States.

D. georgiana Dyar (150 b) is very similar to *varia*, distinguished by a more uniform, deeper black *georgiana*. discal luna, a more widened, less white, more greenish subapical spot which extends uninterrupted to the anal angle; the black subterminal internerval streaks are absent, the black marginal lunae consist of almost W-shaped zigzag streaks of a rather irregular shape. Larva very similar to that of *varia*, but the white, brown-edged dorsal band is more uniformly broad; likewise on oaks. Georgia, Florida.

D. barsypus Dyar is extraordinarily similar to *georgiana* and is scarcely a different species; the olive *barsypus*. green colour on the grey forewing is confined to a subapical blotch, a wedge-shaped spot above the anal angle and a spot below the cell-end; reddish-brown scales subbasally at the inner margin and in the cell-end, the black subterminal shadowy line is very strong, the black marginal line finely undulated, uniform and finely double. Hindwing dark grey, with white hair at the inner margin. Expanse of wings: 60 mm. North Carolina.

D. rufinans Dyar is another ally from this difficult group; forewing grey with a reddish-brown *rufinans*. spot near the base of the inner margin and another one in the lower half of the white subapical blotch; a fine black basal ray extends to the red-brown inner-marginal spot; the black double transverse lines are filled with a lighter colour, the black straight marginal striae in the lower half of the wing are scalariformly separated. Hindwing white, with a slight grey tinge at the apex and costal margin. Expanse of wings: 45 mm. Described according to a ♂ from Colorado.

D. simulans B. & Benj. (150 b) is regarded by the authors to be perhaps a race of *rufinans*; forewing *simulans*. dark violettish-grey mixed with red-brown, especially before the anterior transverse line, the subapical shadow somewhat lighter, the black marginal line only single. The fringe of the white hindwing is speckled black on the ends of the veins. Described according to a ♂ from West Iowa.

D. ditta B. & McD. (150 b) is a smaller species with blackish-brown wings, somewhat lighter basally, *ditta*. the centre of the costal margin strewn with grey, with a fine black curved cell-end streak and an oblique white subapical blotch. Hindwing white with a narrow black marginal line and speckled fringe. Arizona.

D. ruficornis Dyar has ash-grey forewings with 2 dentate blackish transverse lines which are bordered *ruficornis*. with whitish on the averted sides and extend similarly as in *astarte* and its allies; a curved black crescentiform streak at the cell-end is bordered with whitish on both sides; the apex is parted by a very indistinct blotch of a whitish colour, bordered above and inside by the beginning of a blackish undulate line in the shape of a semi-bow. Hindwing brownish-grey, a black spot parted by white is at the anal angle. Antennae bright reddish-yellow. Arizona.

D. subrotata Harv. (= *superba* Edw.) (150 c). Forewing brownish ochreous, strewn with black basally *subrotata*. and at the inner margin, median area lightest, purely yellowish ochreous; before the black crescentiform streak at the cell-end a broad smoky blackish shadow begins, extending curved with an upward concavity to the anal angle; 3 black internerval streaks behind the slightly curved white subapical blotch; the black transverse lines are double as in the preceding species. Hindwing dingy whitish, smoky in the marginal half, with a white post-median line. New York, Missouri, Alabama, Chicago, Illinois, Arkansas, Texas, Florida. — f. *celtiphaga* Harv. *celtiphaga*. is a smaller blackish olive grey form with a narrower white subapical oblique streak and a somewhat less distinct marking.

D. agapa Schs. is very closely allied to *subrotata* (150 c) and may be only a form of it. Basal area *agapa*. of forewing brownish-black and strewn with light brown as far as the black antemedian line, the median area behind it at the costal margin grey, light reddish sand-colour below it, with a fine velvety black median line which is incurved at the cross-vein and towards vein 2, more or less punctiform; a broad postcellular blackish-brown shadow from 8 to 2 and to the anal angle, distally bordered by the fine blackish-brown postmedian line; a broad white spot from vein 5 to the apex, dark spots behind it; marginal area blackish mixed with brown. Hindwing white, brownish at the margin. Expanse of wings: 28 mm. Mexico (Sinaloa).

D. belfragei Grt. (150 c) is very similar to the following species; forewing ash-grey, marked very *belfragei*. much like *lunata*, but much more distinctly and more profusely, with strong double black transverse lines, the postmedian line filled with lighter grey, the submarginal line interrupted on vein 4 as in the allies. Hindwing white with a fine black marginal line and dark-speckled fringe. Known from Texas and Arizona.

D. lunata Edw. (= *plumosa* Edw.) (150 c) is somewhat larger, more brownish-grey, markings less *lunata*. distinct, submarginal line broader, more blurred, not so much interrupted; the fine long black discal streak of *belfragei* is smaller here, thicker, more punctiform. Hindwing not so white, marginal line more faded, costal margin broadly smoky. Colorado and Arizona to Mexico. The ♀ is much more monotonous, often without any markings, hindwing smoky.

- umbrata.* **D. umbrata** Wkr. (= *athereo* Harr.) is considerably larger than the preceding species, but of the same scheme of markings. Forewing light ash-grey with an olive green tinge and a blackish curved shadow before the discal streak, extending as in *subrotata* beyond the anal angle, the ground-colour behind and below it being lightest; transverse lines and submarginal line as in *lunata*, the latter line broad, distinctly interrupted on vein 4, almost extinct at the costal and inner margins; fringe speckled dark at the ends of the veins. Hindwing slightly smoky in both sexes, darker at the margin with a distinct white postmedian line. — Larva thickened on the median segments, with two coniform tubercles behind the head, green, with 2 long dorsal spots which are filled with orange and bordered with purple brown, only interrupted on the 7th segment. It lives on oaks. Distributed from Pennsylvania, New York, Illinois to Florida. — f. **pulverea** Grt. & Rob. (150 c) differs in the entire absence of the olive green tinge, but it is more intensely strewn with black; the large light subapical crescentiform spot spotted red-brown is much more thickly bordered with black inwards, the fringe much more contrastingly speckled black and light. — f. **averna** B. & McD. (= *pasathelys* Dyar) is blackish-brown on the forewing, mixed with lighter and without any olive tinge, the light spot behind the cell darkened brown, the black submarginal line very strong, hindwing of a purer white colour, smoky only at the margin. Arizona, Mexico.
- incongrua.* **D. incongrua** B. & Benj. Forewing olive grey, mixed with red-brown and green, strewn with black on the veins, with a black basal ray and more or less faded double black transverse lines, the submarginal line represented by black internerval sagittae similarly as in the preceding species; the black crescentiform cell-end streak is distinctly surrounded with red-brown. Hindwing white, strewn with blackish on the veins and margin. New Mexico, Arizona.
- cubana.* **D. cubana** Grt. (150 d) is allied to *varia* and, at the same time, forms the transition to the next group; it differs from *varia* in the entire absence of the white subapical blotch, the postmedian line extending much more irregularly, and a distinct median line forming a sharp, almost right angle distally above the inner margin; the submarginal line is broken up into single internerval streaks, and the marginal line is fine, black. Hindwing of a pure white, with a small black anal spot and somewhat smoky costal margin. Cuba and Florida.
- daona.* **D. daona** Drc. (= *androdora* Dyar) (150 d) as well as the two following species are probably hardly separable specifically from *cubana*; according to DYAR it merely differs in the postmedian line being less dark and more faded. Forewing light whitish-grey, lightest in the median area, densely dusted with brownish-grey; the rather indistinct double antemedian line extends deep black above the inner margin as an arcuate line back almost to the base; behind the fine black discal lunular streak there is a greyish-black lunular spot filled with yellowish-white below, traversed by long fine black internerval streaks and bordered below by a jet-black arcuate line; this large dark spot is almost obsolete in the apparently rare ♂. Hindwing white, slightly scaled, smoky at the costal margin, with a small anal blotch. Mexico. — f. n. **suavis** (150 d) I denominate a distinctly separable constant race from Colima, which is smaller and of a much softer bluish-grey colouring, intensely mixed with rust-brown basally and postmedianly, especially in the surroundings of the transverse lines; the ultracellular lunular spot is not filled with yellowish-white below, but with rust-brown; all the black lines are much finer.
- clitiusa.* **D. clitiusa** Schs. is very similar to *daona*, but larger and much lighter, the subterminal line less distinct and the line above vein 2 straighter. Ground-colour light sand-coloured, partly mixed with reddish-brown, the lines otherwise as in *daona*; the feeble whitish subterminal line is bordered with black inside between 8 and 6 and has a small black spot above 3. Hindwing white, costal margin sand-coloured, with 3 dark apical lines, the inner margin also light brownish-grey. Expanse of wings: 45 mm. Brazil (Joinville).
- aroensis.* **D. aroensis** Schs. Forewing grey, with a yellowish tinge at the inner margin and distal margin and below the median vein, with fine black-striped veins and single internerval stripes; transverse line and median line rather indistinct, the latter undulate, the posterior transverse line only irregularly marked by single black scales, grey shading behind the cell and subapically. The ♀ is of a purer silvery grey without the yellowish tinge, without transverse lines and subterminally more intensely dusted with brown. Hindwing white, smoky at the costal and inner margins, darkened in the ♀ with a brownish-grey margin. Expanse of wings: ♂ 38, ♀ 46 mm. Venezuela.
- gelduba.* **D. gelduba** Schs. (150 d) is allied to the preceding species, but it has shorter broader forewings; it is wrong to range it under *Rifargia*, for the apparently rare ♂ seems not yet to have been known hitherto; it is, however, before me and has shortly pectinated antennae; forewing brownish-grey, intensely mixed with olive green, with a fine black basal ray, indistinct single transverse lines more or less distinctly bordered with red-brown, and a discal crescentiform streak, before which a brown arcuate shadow extends to the margin above the anal angle; blackish-grey marginal shading in the upper half of the wing extends in an acute angle on the lowest radial branch to the cross-vein and contains 4 jet-black oblique internerval streaks subapically. Hindwing white, slightly smoky at the costal and inner margins, brownish-grey in the ♀. The ♂ is without the brown arcuate shadow to the anal angle, the subapical marginal shading is very indistinct. Mexico.

D. captiosa *sp. n.* (150 d) is very similar to *gelduba*, but surely different. Forewing blackish-grey, *captiosa*. whitish in the median area, without any olive tint, dusted with red-brown behind the cell and narrowly at the margin, also near the single blackish transverse lines; marked like *gelduba*, but it exhibits a very much thicker black subterminal shadow extending arcuately between the median nervules to the lower cell-angle, and the subapical internerval streaks are much stronger and extend to the margin; the marginal line itself, being undulate in *gelduba*, is rectilinear here and double, the interior portion thicker than the exterior one. Hindwing blackish-grey, lighter towards the base, fringe speckled darker, unicoloured in *gelduba*. Mexico (Zacualpan, Cuernavaca). Type ♀ in the Coll. DRAUDT.

D. semilunata *Schs.* (150 e) is somewhat similar to the preceding species, but at once discernible by *semilunata*. the entirely white hindwings. Forewing light grey, dusted with reddish-brown at the base, with fine black basal and inner-marginal rays; the crescentiform shadow from the lower cell-end to the anal angle is deep velvety brown; 3 dark postmedian transverse lines are partly confluent and form a dark shadow above the lunular spot. Undulate line white. Expanse of wings: 33 mm. Brazil (Castro, Parana).

D. peruviansis *Dogn.* is presumably the Peruvian representative of *daona* and *aroensis*. Forewing *peruviansis*. steel-grey, whitish and mixed with reddish-brown at the costal margin, white in the cell, with black basal rays as far as the double antemedian line; a red-brown subterminal shadow extends from the fine black arcuate streak between the median nervules to the costal margin, traversed by black internerval streaks, bordered with white above. Hindwing purely white with a small black anal spot and costal margin. Expanse of wings: 43 mm.

D. epimacha *Schs.* Head and thorax light reddish-yellow mixed with red-brown, abdomen brownish *epimacha*. sand-coloured above. Forewing brown towards the base, the base itself grey, bordered by a double black line proceeding from a small orange spot at the base of the median vein; filled with white; the anterior transverse line is fine black, oblique to the inner margin, where it meets the fine median line; behind the blackish-brown postmedian line, between the subcosta and vein 3, there is a large reddish-yellowish white area, shaded with brown at the costal margin, outside by the red-brown subterminal shadow entering between 6 and 4 and turning velvety blackish-brown below 4; the light area is crossed inside by a curved fine red-brown line, outside by a double similar one filled with white; yellow internerval spots are at the margin, shaded with brown inwards; vein 1 and the cellular nervules are partly strewn with black and white. Hindwing dark reddish-brown with a feeble lighter postmedian line ending in a white spot at the anal angle. Expanse of wings: 43 mm. Cayuga (Guatemala).

D. multilineata *Dogn.* reminds us of *aroensis*, forewing greenish mixed with reddish-grey, dusted *multilineata*. with lilae subcostally and at the distal margin, double very fine sharply angled antemedian and median transverse lines, and 4 strongly dentate indistinct postmedian transverse lines which are twice interrupted by longitudinal streaks; the subterminal line is irregular. Hindwing diaphanous white, with yellowish hair at the inner margin. Expanse of wings: 37 mm. Argentina.

D. amanda *B. & Linds.* is nearer to *varia* owing to the shape of the subterminal line; forewing grey, *amanda*. dusted with white at the costal margin, somewhat lighter and with a reddish-brown tint basally, above the inner margin and behind the cell; transverse lines double, the anterior one oblique to the centre of the inner margin, filled with a lighter colour, with distal curves between the veins, the posterior one with the reverse curves, more vertical, distally concave behind the cell, projecting quadrangularly behind the lower cell-end; subterminal line as in *varia*, distally accompanied by a feeble whitish line; the cell-end streak is a fine curved black line. Hindwing white, costal and distal margins dusted with greyish-brown, darker greyish-brown in the ♀ with a lighter postmedian band. Arizona.

D. manteo *Dbld.* (= *eineraseens* *Wkr.*, *subalbicans* *Grt.*) (150 e) represents an entirely different type; *manteo*. forewing whitish ash-grey, dusted darker, with 2 double, very dentate transverse lines, a strong black cell-end streak which is mostly broken up into two dots above each other in somewhat lighter surroundings; the costal-marginal part of the postmedian line is mostly situated in a darker dusted spot which may be very large; undulate line shadow-like darker, somewhat dentate, black dots at the margin. Hindwing dark smoky grey with a feeble lighter postmedian line and a dark anal spot. — The larva is green with broad yellow subdorsal lines and narrow lateral lines, the former more separated on several segments, and dorsally filled more or less red. It chiefly lives on oaks, and may be so common that it is destructive to them, but it occurs also on various other deciduous trees. In the Eastern United States from Canada to Texas.

D. rascona *Schs.* (150 e) is very similar to *manteo*, but it has been ranged under *Rifargia* of late; the *rascona*. ♂ not being at hand I cannot decide this question. Darker blackish-grey than *manteo*, much lighter whitish-grey subterminally, lightest above the anal angle; the marking is quite the same, though the transverse lines are less distinct, extinct in the dark ground-colour, black and white vein-dots behind the postmedian line, a whitish line behind the undulate line. Hindwing darker brownish-grey. Mexico.

D. externa *Wkr.* (= *spurca* *Schs.*) (150 e) is like *rascona* in colour and marking, forewing lighter *externa*. ash-grey, less strewn, without the whitish-grey subterminal brightening, only somewhat lighter above the

anal angle; a large blackish triangular spot in and behind the median area in the costal half; undulate line not at all prominent in the grey ground-colour. Fringe distinctly speckled grey and black. Hindwing light grey, a black spot divided by white is at the anal angle. Colombia.

nigriplaga.

D. nigriplaga Jones. Forewing yellowish ochre, strewn with olive brown and black, with a black cell-end spot and double dark transverse lines, a small white costal-marginal spot behind the distal line, and a large triangular dark costal-marginal spot extending to the apex and downwards to the lowest radial branch, with 2 black internerval streaks in it; undulate line composed of a series of faded olive spots; a large black spot at the base below the cell. Hindwing yellowish, the veins, costal and distal margins strewn with brown, with a light brown double faded postmedian line. Expanse of wings: 38 mm. Brazil (Castro, Parana).

contracta.

D. contracta Wkr. has light grey forewings strewn with brown, with single interrupted transverse lines nearing each other below the median vein, so that the darker dusted median area assumes the shape of a sand-glass; two black dots in the cell-end are above each other, in somewhat lighter rings and with darker shading before and behind them; a large brown triangular spot in the basal part below the cell, a light undulate subterminal line is shaded with black inwards and followed anally by two thick black spots; black lunular subterminal streaks; fringe speckled light and dark. Hindwing brownish-grey, darkened at the margin, fringe light. Brazil.

divisa.

D. divisa Schs. The larger basal half of the forewing is dark slate-coloured as far as the reddish-brown median line, traversed by quite obsolete lighter transverse lines, with a light grey spot behind the red-brown basal line; the distal part is light brown, darkened at the cell-end; postmedian line darker brown, shadowy, double, a series of black spots before the light undulate line, small dark spots also at the ends of the veins. Hindwing whitish, brownish on the veins and margin, with a double dark anal spot. Expanse of wings: 49 mm. Brazil (Rio de Janeiro).

cervina.

D. cervina Mschlr. has light reddish-brown forewings strewn with blackish and red-brown shading before the yellowish notched undulate line; both the transverse lines are indistinctly double, darker red-brown, black and white dots are on the veins behind the distal line; a large reniform orange macula at the cell-end is centred reddish and finely surrounded with black, 2 red-brown successive dots before it in the cell; the veins of the marginal area are blackened and strewn with white, 2 black dots each are between them. Hindwing whitish, slightly shaded reddish-brown at the margin. Guiana. It has remained unknown to me.

sylvia.

D. sylvia Schs. has white forewings strewn with grey and olive, with an irregular median shadow angled at the cell-end, and dark grey spots in the base of the cell and below it; instead of the postmedian line a double row of black vein-dots, partly shaded with olive; a darker spot before the apex at the costal margin, and a feeble grey subterminal shadow below it, black vein-streaks on the margin. Hindwing whitish, shaded with blackish at the apex and distal margin. Brazil (Castro, Parana).

isidra.

D. isidra Schs. (150 e). The white forewing is widely strewn with black and brownish orange scales, with interrupted traces of black transverse and median lines, the posterior one double, partly scaled orange; a black crescentiform streak at the cell-end, black wedges of the undulate line before the margin, marginal streaks behind them between the veins. Hindwing densely strewn with blackish-brown, with traces of a white postmedian line. Mexico.

spectra.

D. spectra Schs. is closely allied to *isidra*, distinguished by the abdomen being yellowish ochreous — grey in *isidra* — and lighter greyish-brown hindwings; it is somewhat larger. Expanse of wings: 47 mm. Costa Rica.

eusebia.

D. eusebia Drc. is a very much larger species with greyish-brown forewings, the fine black transverse lines are double, notched, the two anterior ones near the base, the third behind the cell; a red-brown spot bordered with black is at the cell-end; the subterminal line is light reddish-yellow, a marginal row of black dots behind it, fringe brown. Hindwing brown, lighter towards the base and at the inner margin, with a small black anal spot parted by white. Expanse of wings: 64 mm. Described from Colombia.

tuna.

D. tuna Schs. has somewhat longer and more slender palpi and narrower forewings than the other species of the genus; forewing light reddish-yellow in the basal half and postmedianly, with a dark-striped median vein, strewn with brown below it; distal half strewn with reddish-brown, with a black subcostal stripe ending in a black subapical spot; the double postmedian line is marked brown with interruptions, the black undulate subterminal line is shaded spot-like above the anal angle. Hindwing greyish-brown. Expanse of wings: 35 mm. Colombia.

patricia.

D. patricia Schs. has light grey forewings with a velvety black oblique streak from the base of the costa to the submedian vein at the undulate anterior transverse line, and a white lunular spot bordered with brown

at the cell-end, with a whitish brightening behind it; the velvety black postmedian line is bent inwards to the cell, reaching neither the costal margin nor the inner margin, followed behind it by a broad brown black-strewn shadow; the grey distal margin is parted by a brown line, marginal line black. Hindwing white with a dark marginal line and strewn with dark at the anal angle. Expanse of wings: 40 mm. French Guiana.

D. staria Schs. Forewing steel-grey in the cell and in the white basal area with reddish-brown transverse stripes, the double black anterior transverse line is partly filled with reddish-brown; a dark streak bordered with white inside is at the cell-end, a red-brown spot above it, similar dusting behind and below the cell-end; a large grey shadow behind the double postmedian line, which is filled with red-brown, extends down to the lowest radial branch, a white spot extends from it to the upper median branch; marginal area whitish, strewn with red-brown, most densely at the apex and anal angle, the white veins densely strewn with black at the ends. Hindwing brownish-grey with a black interrupted marginal line and white, dark-speckled fringe. Expanse of wings: 45 mm. Guatemala.

D. hertha Schs. is a large species with light brown forewings strewn with grey at the base, costal and inner margins, with a dark transverse line through the centre, and a treble dentate postmedian line; steel-grey behind it as far as the black submarginal line, with black internerval streaks bordered with brown outside; distal margin light brown. Hindwing brown. Expanse of wings: 50 mm. Brazil (Petropolis).

D. atrax Schs. is still larger than *hertha*, forewing blackish-grey, lighter basally, with light grey submarginal shadows; the black transverse lines are very indistinct in the dark ground; fringe speckled black. Hindwing white with a narrow dark grey distal margin and dark hair at the inner margin, with the beginnings of dark grey transverse lines at the costal margin. Body dark grey, only the base and end of the abdomen are red-brown. Expanse of wings: 52 mm. Brazil (Rio de Janeiro, Corcovado).

D. dolorosa Schs. (150 f) is closely allied to *atrax*, but the basal costal-marginal half is filled with white excepting the inner margin, the black dentate transverse lines are better visible, the posterior line double, filled with light grey; a black dot in the cell, a brown lunular streak at the end; the distal white border of the dentate subterminal line is confluent with white marginal spots above the anal angle. Hindwing similar to that of *atrax*. Mexico to Costa Rica.

D. nebulosa Dogn. is similar to *dolorosa*. Forewing lilac brown, darkest at the inner margin, mixed with white towards the margin, with a large white, brown-strewn spot in the basal costal-marginal half and a similar curved stripe from the centre of the median vein to the inner margin before the anal angle; two brown lunular streaks at the cross-vein are filled with white, the double black posterior transverse line is interrupted; fringe speckled white and brown. Hindwing brownish-grey with darker veins. Expanse of wings: 45 mm. French Guiana.

D. elongata Drc. is also allied to the preceding species; forewing dark grey, white in the basal costal-marginal half, with a large reddish-brown spot near the apex and distinct black transverse lines only in the inner-marginal half; fringe dark grey. Hindwing purely white. Expanse of wings: 50 mm. Described from Peru.

D. camilla Dogn. Forewing light olive grey with fine black transverse lines, the subbasal line submedianly connected with the anterior transverse line in an X-like way, the posterior line treble, strongly dentate, undulate line double, distally accompanied by a white line; black dusting enclosing a triangular black dot is in the centre of the inner margin between the transverse lines; fringe speckled black. Hindwing white, the costal and inner margins as well as the veins dusted with olive. Expanse of wings: 42 mm. Amazons (Sao Paulo de Olivença).

D. otiosa Schs. Forewing brownish-grey, lighter towards the base, with a whitish area at the distal margin; being broadest between the median nervules, and strewn with reddish-brown, with fine brown double transverse lines and a black marginal line which is undulated analwards; fringe speckled dark. Hindwing white with a dark brown marginal line and yellowish inner-marginal hair. Expanse of wings: 40 mm. French Guiana.

D. tharis Stoll (= *laeca* Schs.) (150 f) is a common well-known species with red-brown forewings, greyish-white at the inner and distal margins, two brown small spots at the distal margin and a large greyish-white round cell-end spot, 3 small costal-marginal spots above it, and 2 small white spots obliquely below it; the brown ground is traversed by numerous dentate transverse lines, the posterior one punctiform, the lines partly light brown also visible on the white ground. Hindwing brownish-grey, a white anal spot parted by blackish-brown at the anal angle, fringe white. From Mexico to Peru and Brazil. — *livescens* f. nov. (150 f) I denominate a somewhat smaller form which is before me from Novo Friburgo and in which the greyish-white parts are darker bluish-grey, the brown colour of the wings mixed with rusty yellow in some places, especially basally and between and behind the cell-end maculae.

D. aemula Schs. (150 f) is similar to *tharis*, somewhat smaller, the brown colour prevailing on the forewing so that only a narrow stripe along the inner margin remains greyish-white; the transverse lines crossing it are very distinct; the white dots of the postmedian line are situate in the brown ground, the brown marginal markings are also augmented. Hindwing as in *laeca*. Guiana, Brazil.

- sabaria*. **D. sabaria** Schs. Basal area of forewing obliquely from the costal margin to the centre of the inner margin dark brown as far as a black median streak, behind it white strewn with yellowish rust-colour; a double median line is cinnamon-brown, extending from the centre of the costal margin to behind the centre of the inner margin and filled with white, strewn with black in the cell; a small black spot at the cell-end; distal area broad brown, darker at the apex, shaded with brown between 4 + 5 and 3 and the submedian fold; the indistinct cinnamon-brown postmedian line is far outside. Subterminal line fine light, widened below 5 and white; cellular veins black, fringe white, speckled black on the ends of the veins. Hindwing brown with a double dark postmedian line, a feeble lighter band behind it. Expanse of wings: 50 mm. French Guiana.
- hyginia*. **D. hyginia** Schs. differs much from the other species. Forewing brown with an olive tint, the fresh insect presumably brighter green with a large white triangular area from the base to the centre of the costal margin to vein 1 before the centre of the inner margin, with fine rusty brown double transverse lines; a blackish-brown spot at the cell-end, a curved red-brown line behind it; blackish-brown strewing between the median and posterior transverse lines between vein 2 and the submedian fold; white, brown-scaled spots in the lower marginal half. Hindwing white, thinly scaled in the disc, brownish at the inner margin, white at the costal margin, with a double postmedian line and a small apical spot. Expanse of wings: 46 mm. Brazil (Rio Purus).
- plebeia*. **D. plebeia** Schs. Forewing brown with finely dentate double transverse lines, the posterior one indistinct, followed behind the cell by a quadrangular dark brown spot and dark brown shadows above it and towards the inner margin; the upper half of the antemedian area dark brown, Isabel-coloured below the cell and at the base of the inner margin, the undulate line of the same colour; a dark brown spot also at the cell-end, followed by an oblique shadow which is angled at the lower cell-end. Hindwing brown with an indistinct lighter postmedian shadow. Expanse of wings: 38 mm. Costa Rica.
- cariosa*. **D. cariosa** Schs. has light brown forewings, the distal half of the costal margin and the base of the inner margin being the lightest parts, with an oblique blackish shadow from the costal margin to the centre of the inner margin and a similar postmedian shadow in the lower two thirds; a red-brown line at the cross-vein, one dot each below it and above it; the brown posterior transverse line is double, shaded with black and grey in the lower half. Hindwing brown, spotted black and light anally. Expanse of wings: 30 mm. British Guiana.
- santiago*. **D. santiago** Schs. is steel-grey on the forewing, the anterior half of the median area whitish, with fine double transverse lines, the distal part of the anterior line black, the interior part lighter, olive, and olive dusting extends from it below the cell towards the base; the whitish anterior half of the median area is distally formed by a black median line with two arches; reddish-brown and olive shading behind the postmedian line, the distal margin behind the red-brown subterminal line is olive with a black marginal line. Hindwing white, costal, distal and inner margins brown. Cuba (Santiago).
- notabilis*. **D. notabilis** Schs. (= *normula* Dogn., *hemicera* Schs.) (150 g). Forewing grey with a large brown oblique area extending from the upper half of the distal margin broadly into the inner margin, with a black cell-end dot; instead of the posterior line there are black and white vein-dots. Hindwing violettish-brown, darkened at the distal margin, with yellowish inner-marginal hair. Guiana, Colombia, Bolivia, Peru, Costa Rica.
- ligneata*. **D. ligneata** Wkr. (= *aconthea* Drc.) (150 g) together with *notabilis* and the two following species forms a group of closely allied forms. Forewing brown, striped darker on the veins, lighter in the spaces between them, without distinct transverse lines.
- puseyae*. **D. puseyae** Dyar (150 g) is similar to *ligneata*; forewing light brown, shaded with dark brown along the basal half of the costal margin and below and behind the cell, distally bordered by the light subterminal shadow; the light, strongly notched single transverse lines are very indistinctly marked by light dots on the veins, the most distinctly in the narrow deep dark brown inner margin; 2 small dots above each other at the cell-end. Hindwing brown, somewhat yellowish in the disc. Peru, Bolivia.
- mephitis*. **D. mephitis** Schs. (150 g) is very much like *puseyae*, easily distinguished by the much thicker discal dots the lower one of which is by far the largest; they are usually confluent in the ♀; the posterior transverse line is more distinctly marked by black double dots filled with yellowish-white. Mexico.
- echina*. **D. echina** Schs. (150 h). Forewing reddish brown, broadly moss-green at the costal margin, moss-green strewing at the distal margin and below the lower cell-end, the fine dentate black transverse lines rather indistinct, white vein-dots behind the distal line; darker strewing in and below the cell, red-brown shading at the base of the inner margin and behind the cell, an irregular marginal shadow is also reddish-brown, darkest analwards; dark streaks at the ends of the veins are followed by light dots, fringe speckled. Hindwing dark brown, thinly scaled with a darker apical shadow divided by reddish-brown. Expanse of wings: 37 mm. Guiana, Colombia.

D. vestona Schs. (= *proba* Schs.) (150 h) has dark moss-green, black-strewn forewings with very *vestona*. indistinct double darker transverse lines and a fine cell-end streak surrounded by a lighter green colour; white vein-dots on both sides of the postmedian line; a subterminal row of small blackish-brown spots. Hindwing greyish-brown with a dark marginal line dotted yellow on the ends of the veins. Mexico.

D. dardania Drc. (150 h) is very similar, but more or less mixed with red-brown, the double transverse *dardania*. lines more distinct, filled with reddish-brown, the veins strewn black and white; the posterior transverse line ends at the inner margin with a small white angular spot. Hindwing greyish-brown, lighter in the disc, with 2 dentate darker postmedian lines. Mexico.

D. arima Schs. is very near to *vestona*; distinguished by quite different hindwings which are broadly *arima*. brownish-grey at the inner margin and distal margin, whitish in the lower half of the cell and behind it, brownish olive at the costal margin, with a double postmedian line and black subterminal line, the postmedian line continued by dots. Forewing brownish olive, strewn with black, the dentate lines similar to those of *vestona*, indistinct, a fine black line bordered with reddish-brown is at the cross-vein; white vein-dots behind the postmedian line and subterminal blackish and reddish-brown internerval streaks; a dark stripe strewn with reddish orange before the centre of the inner margin. Expanse of wings: 40 mm. Brazil (Rio Purus).

D. psalmoida Schs. is a very small species; body dull green. Forewing reddish olive with fine blackish- *psalmoida*. brown transverse lines, the subbasal line double at the costal margin, a fine line at the cross-vein, the postmedian line distally bordered with white at the costal margin, undulate, dentate from 5 to the inner margin, followed by black and white vein-dots which are connected by a very fine undulate line; cellular branches black as far as the margin. Hindwing white, reddish-brown at the inner margin, the costal margin broad reddish olive with the beginnings of dark lines, white subterminally between. Expanse of wings: 29 mm. Venezuela.

D. biundata Wkr. (= *olivata* Pack., *sempiaga* Wkr., *viridescens* Wkr., *mollis* Wkr.) (150 h) is an *biundata*. extremely common and widely distributed species with dull olive green forewings, the single dark brown dentate transverse lines bordered with reddish-brown on both sides, a similar cell-end streak below which there is a more or less distinct spot of blackish dusting; red-brown subterminal wedges, edged with yellowish-white especially towards the apex, and whitish vein-dots before the redbrown-spotted fringe. Hindwing greyish-brown with an indistinct lighter almost straight postmedian line which begins distinctly dentate in the darkened costal-marginal part. North America (Atlantic States) to Brazil and Peru. — Larva thickened in the middle, green with a broad white dorsal band which is strangulated between the 6th and 7th segments and separates behind into the white long caudal points, whilst it is spotted brown laterally especially on the middle segments; head red-brown. It lives on a great number of deciduous trees.

D. subguttata Wkr. Forewing brownish olive, strewn darker brown, and instead of the transverse *subguttata* lines with double rows of blackish spots between the veins; the anterior ones indistinct, the posterior ones more distinct and irregular, the spots between the median nervules and the subapical ones thicker than the others, those between the lower radial branches removed inwards; a round blackish spot in the cell and at its end; undulate line lighter, shaded dark inwards, black streaks before the margin. Hindwing brownish-grey, with brownish hair at the inner margin. Brazil.

D. guttivitta Wkr. (= *albiplaga* Wkr., *meorea* Herr.-Schäff., *einereus* Pack., *harrisi* Pack., *indeter-* *guttivitta*. *minata* Wkr., *doubledayi* Scddr.) (150 h) is very similar to *subguttata*, and very difficult to distinguish in worn specimens. The last joint of the palpus is decidedly shorter, the 2nd joint has outside only a narrow black streak, whilst it is almost entirely black in *biundata*; the slightly curved discal streak is situated in a large light ash-grey halo, the transverse lines are less distinct, and the olive-green colour is mostly not so uniform; on an average, the species is somewhat smaller than *subguttata*. — Larva very different, head green like the body with a red arcuate streak bordered with yellow on each hemisphere; the dorsum exhibits a white line which is treble before and behind the middle, and yellow subdorsal lines, the former line being bordered with red on the 3 first segments, spotted red-brown on the 6th, 9th and 10th segments; smaller red-brown spots on the sides of the 3rd, 9th and 10th segments above the feet. It chiefly lives on maple, but also on oak and apple; chestnuts, beeches and snowball. Atlantic States.

D. virgea Schs. is likewise very similar to *biundata*, and presumably the southern representative; *virgea*. forewing brighter dark olive green, the dark brown transverse lines bordered with a lighter brown, the curved cell-end streak in a light brown halo; the brown submarginal wedges larger, more coherent and very broadly bordered with yellowish especially apically. Hindwing light grey, with yellowish hair at the inner margin; thickly dusted with black at the distal margin. The species is larger. Expanse of wings: 44 mm. Brazil (Petropolis).

D. vivida Schs. is very closely allied to the preceding species, forewing bright green, the brown *vivida*. transverse lines shaded with reddish-yellow and brown, similarly shaped as in *biundata*, the posterior line almost straight to the inner margin; the discal streak is in a large whitish spot; the brown subterminal spots are bordered with whitish, pointedly dentate basally in the upper quarter; white dots on the margin, fringe as

well as mesothorax brown. Hindwing whitish, with darker veins, green at the costal margin with the beginning of a white postmedian line, smoky at the margin, almost quite greyish-brown in the ♀. Expanse of wings: ♂ 46, ♀ 53 mm. A large species from Costa Rica.

muscosa. **D. muscosa** *Mschlr.* is marked like *biundata*, but the ground-colour is a lighter moss-green and the transverse markings are darker green without any yellowish and red-brown tints; the median area is somewhat more intensely strewn with blackish than the rest of the wing, somewhat more intense shading only before the undulate line; a blackish crescentiform streak at the cell-end, the green ground of the wing behind it still somewhat lighter, only the veins being darker. Hindwing very much lighter grey, fringe speckled light and dark green. Expanse of wings: 45 mm. Guiana.

mullinsi. **D. mullinsi** *Schs.* Forewing dark green with a large brown area behind the cell as far as the brown subterminal shadow, a short white inner-marginal streak before the latter, with fine black transverse lines. Hindwing white, reddish-yellow at the inner margin, broadly brown at the costal margin with the beginnings of a dark and light transverse stripe. The margin of the ♀ is broadly darkened. Expanse of wings: ♂ 46, ♀ 60 mm. Costa Rica.

disciplaga. **D. disciplaga** *sp. n.* (150 h) is deep olive green on the forewing, the dark brown, undulate dentate transverse lines are bordered with a lighter reddish-brown on both sides; a similarly coloured reniform macula at the cell-end, the space behind it and below it strewn with blackish, quite black between 2 and 4, distally bordered by two deep velvety black lunules; small red-brown, darker-centred internodal spots subterminally; fringe almost black. Hindwing brown with a straight light postmedian line from before the apex to the anal angle. According to 1 ♂ from West Colombia (Rio Micay) in the Coll. NIEPOLT.

antistes. **D. antistes** *Schs.* is similar to *disciplaga*, dull green, shaded with violettish-brown at the base of the inner margin, with a blackish-brown inner-marginal stripe; the fine double transverse lines are very indistinct, an oblique blackish-brown shadow behind and below the cell-end as far as the postmedian line, this line with a white inner-marginal spot and white vein-dots behind it; the space behind the cell is lilac brown with green veins; small feebly brown subterminal spots, white dots at the ends of the veins. Hindwing blackish-brown with white dots on the ends of the veins. Expanse of wings: 44 mm. Costa Rica.

delira. **D. delira** *Schs.* The brown transverse lines on the moss-green forewing are bordered with rosy red, the green cross-vein is bordered with pink on both sides; a submarginal irregular row of pink spots shaded with brown and bordered with black inwards; fringe grey mixed with brown behind the dark marginal line. Expanse of wings: 31 mm. A smaller species from French Guiana.

lopodites. **D. lopodites** *Dyar* is very similar to *vestona*, but much less green, more blackish-brown, green only at the costal margin, the interior transverse line filled with white, before it at the inner margin there is an ochreous longitudinal blotch bordered with black below; the double posterior transverse line is reddish-brown, filled with white at the inner margin; the subterminal spots are black. Hindwing greyish-brown, darker at the costal margin with the beginning of a light postdiscal line. Expanse of wings: 33—37 mm. Panama, Costa Rica.

bochica. **D. bochica** *Schs.* is likewise allied to *vestona*, but almost without any green or altogether without it, darkened blackish-brown before the antemedian line and in and behind the cell-end, the velvety black discal streak surrounded by light brown; transverse lines double, white vein-dots behind the distal line, and a short white line at the inner margin; as in *lopodites* the veins in the marginal area are black, strewn with white and terminate before the fringe with white dots. Hindwing brownish-grey, whitish-grey in the disc, light brown at the costal margin, enclosing a dark subterminal line distally bordered with white. Expanse of wings: 31 mm. Guatemala.

editha. **D. editha** *Schs.* Forewing light green, violettish-brown in the basal third, mixed with black and green and distally bordered by a double red-brown line, the distal line darker; a fine dentate median shadow is interrupted at the cell-end by a light reddish-yellow spot in which there are 2 dark dots on the cross-vein; a grey shadow from the lower cell-end to the inner angle, postmedian line red-brown, partly double; a fine undulate-linear shadow is interrupted in the lower half, forming 2 spots above the anal angle and followed in the upper half by a darker greyish-black shadow. Hindwing yellowish-white, shaded with reddish-brown on the veins and margin, with a feeble postmedian line and small anal spots. The much larger ♀ has a more distinct postmedian line on the hindwing and a broader red-brown distal margin. Expanse of wings: ♂ 44, ♀ 59 mm. Costa Rica.

manethusa. **D. manethusa** *Drc.* (150 i) is not dissimilar, but much paler on the whole, reddish-brown in the basal third, almost white outside, light greenish in the marginal area excepting the apex, transverse lines broken up into black and white vein-dots. Hindwing greyish-white, darkened apically. Head and thorax greenish-yellow, strewn with a darker colour. Costa Rica.

albovirens. **D. albovirens** *Dogn.* (150 i) is closely allied to *manethusa*; forewing light yellowish-green, mixed with moss-green and brown, darkest in the basal third and in the distal half of the costal margin, traversed by a broad purely white oblique band from the first quarter of the costal margin to the anal angle; transverse

lines only distinct in their beginnings at the costal margin, behind which they vanish in the variegatedly strewn ground of the wing; fringe greenish, speckled black. Hindwing white with greenish margins. Expanse of wings: 37—39 mm. Peru.

D. tricolor *Drc.* is likewise similar, forewing yellowish-white, greenish mixed with brown in the basal third, greenish-brown on the body. Hindwing all white, strewn with green only at the costal margin. Expanse of wings: 45 mm. Colombia.

D. gilboa *Drc.* is also similar. Forewing white, greenish-brown in the basal third, thickly strewn with white, with a greenish-brown postmedian oblique band which is broadest at the costal margin, quite narrow analwards; apex and distal margin dusted with green. Hindwing white, costal margin and fringe greenish. Expanse of wings: 45 mm. South-Eastern Peru.

D. subalbida *Schs.* Forewing green, grey in the basal third, bordered by a darker double line; the fine posterior transverse line is also dark grey, the distal-marginal area dusted with grey with a small whitish spot at the inner margin behind the postmedian line. Hindwing whitish, green at the costal margin, dark grey at the inner margin, with a dark postmedian line which is only distinct at the costal and inner margins, a dark green marginal line and green fringe. Expanse of wings: 37 mm. Brazil (Castro, Parana).

D. infanda *Schs.* (150 i). Forewing almost black in the basal third, strewn with green at the inner margin; the cell is green, whitish towards the end, strewn with red-brown, otherwise green, with a lilac area below the lower cell-end and a black oblique blotch at the base of vein 2; posterior transverse line double, red-brown; small black subterminal spots bordered with grey outside are in the upper half and above the anal angle; distal margin and fringe light green, fringe speckled darker. Hindwing whitish, strewn with blackish at the distal margin, with a small black anal spot and yellowish and reddish inner-marginal hair. Expanse of wings: 39 mm. French Guiana.

D. meretricia *Schs.* (150 i). Forewing light green, dark olive green in the basal third, bordered by the almost straight anterior transverse line; a large yellowish-reddish spot at the cell-end encloses 2 small brown spots, the dentate postmedian line is blackish-brown, double, beginning as a dark costal-marginal shadow; subterminal spots black, removed inwards between the radial branches, fringe speckled black on the ends of the veins. Hindwing pink with a blackish-brown distal margin and postmedian line, fringe green. Costa Rica.

D. tumacona *sp. n.* (150 i) is very closely allied to *meretricia*. Forewing uniformly moss-green, basal area deep black in the costal half, dusted with red-brown below it, distally bordered by the very fine antemedian line; a red-brown spot below the cell-end between 2 and 3, a line above this spot extends to the costal margin; the very fine red-brown postmedian line is only visible in the costal half and at the inner margin: behind it at the costal margin there is a steel-black triangular spot warming into red-brown at the costal margin with the beginnings of 3 or 4 light lines; a black subapical spot, a subterminal black dot only above 3 and one at the anal angle; fringe green with black vein-dots. Hindwing brownish-pink, lighter yellowish-white in the disc, a small black spot at the anal angle, costal margin brownish-grey with the beginnings of light and dark lines; fringe moss-green. 2 ♂♂ from West Colombia (Rio Tumaco) in the Berlin Museum.

D. bactrea *Schs.* (= *erocea* *Dogn.*) (150 i). Forewing green, violettish-brown in the basal third, strewn with black and green, distally bordered by the irregular double black anterior transverse line, a black and grey spot in the cell behind it; discal streak red-brown, surrounded with reddish-yellow, a blackish spot below the distal cell-end; median line interrupted, blackish, the posterior transverse line double, red-brown, shaded with black at the costal margin, inner margin and behind the cell; small black submarginal double spots connected by lilac grey; fringe reddish-brown, speckled black. Hindwing pinkish-brown, dusted with black at the distal margin, most densely so at the apex and anal angle, with a dark postmedian line. Expanse of wings: 33 mm. French Guiana.

D. praestana *Dogn.* is allied with *bactrea* and *viridiana*: forewing green, shaded darker at the base, bordered by a black double line, a dark median shadow extends through the cross-vein; the same double submarginal spots filled with whitish are behind the dark green postmedian line; hindwing pink, darkened greenish at the distal margin and costal margin, the latter with the beginnings of 3 darker lines. Expanse of wings: 40 mm. Ecuador.

D. viridiana *Jones* is very similar, yellowish-green, darkened brown at the base, the double antemedian line filled with brown and almost straight, curved in *praestana*, the postmedian line which is only double in the upper third is followed by a light brown shadow; the submarginal spots are the same. Hindwing yellowish ochre, with a pink hue in the disc, dusted with green at the costal and distal margins, with a broad brown marginal band. The ♀ has quite dark red hindwings. Expanse of wings: ♂ 38, ♀ 47 mm. Brazil (Castro).

D. marginalis *Schs.* Forewing light violettish-brown, green at the base of the costal margin and in the cell, also along the inner-marginal vein and in the space between the median nervules and subterminally, the latter area distally bordered by a curved brown line which is broadly bordered with white inside and extends

from the apex to the upper median nervule; distal margin blackish with green internerval spots, a black spot at the anal angle; transverse lines dark brown, with traces of dents. Hindwing blackish-brown. Expanse of wings: 36 mm. French Guiana.

surinamensis. **D. surinamensis** *Mschlr.* has red-brown forewings, dusted with olive green at the costal margin, in the cell, subterminally, and narrowly at the inner margin; both the transverse lines single, the posterior one dentate, the anterior one only curved; black and white dots behind the distal line on the veins; a large greenish-white reniform macula at the cell-end is centred brown and finely surrounded with black; the undulate line replaced by scalariform black streaks and black double dots above each other before the margin. Hindwing brown, fringe yellowish-white. Surinam.

princeps. **D. princeps** *Schs.* is a larger species with yellowish-green forewings, with a dark oblique shadow from the base of the cell to the inner margin which is confluent here with the fine antemedian line; a dark green oblique shadow extends from the centre of the costal margin almost to the anal angle, greenish-white postmedian vein-spots are between small dark spots; a dark veined shadow is subterminal. Hindwing yellowish-white. Expanse of wings: 45 mm. Costa Rica.

paranensis. **D. paranensis** *Schs.* (150 k). Forewing greyish-white, the first two thirds of the costal margin and the base of the inner margin darker grey, with a green oblique shadow from the base of the costal margin to the centre of the inner margin and the anal angle; distal margin greenish with black ends of the veins. The apical third of the costal margin is broadly bluish-green, double transverse lines are partly traceable. Hindwing white, brown at the costal margin with the beginnings of white transverse lines, inner margin and distal margin narrowly brown. Brazil (Castro, Parana).

arpi. **D. arpi** *Dogn.* (150 i) is similar, larger, the whole basal third beautifully bluish-green, distally bordered by the median line, which is only visible in the lower half, and traversed by the strongly dentate black anterior transverse line; the double dentate postmedian and subterminal lines are more distinct than in *paranensis*. The white hindwing shows pink hair at the inner margin and is strewn with greyish-brown at the distal margin. Expanse of wings: 42 mm. Brazil (Novo Friburgo).

gravis. **D. gravis** *Schs.* Forewing moss-green in the basal half, strewn with blackish as far as the reddish-brown base of the inner margin and below the cell, bordered by the dark antemedian line which forms 3 distal arches and is followed by 2 fine black median lines divergent at the costal margin; the cell-end is reddish-brown, below it a dark brown shadowy stripe bordered with green above and below extends to the anal angle; the apical third of the costal margin is violettish-white, strewn with green, the distal margin below it lilac brown with black veins. Hindwing whitish, brown at the costal margin, separated from the grey apex by 2 short dark lines, inner margin and distal margin shaded with brown. Expanse of wings: 30 mm. French Guiana.

epona. **D. epona** *Schs.* Forewing greyish-green with a large grey area from the centre of the costal margin to the apex near to the brownish-green undulate submarginal line; anterior transverse lines indistinct, the posterior one dark grey, dentate, the ends of the veins brownish. Hindwing light grey with a short brown subapical line. Expanse of wings: 37 mm. Peru.

peralta. **D. peralta** *Schz.* is dull blackish-brown on the forewing with a green basal transverse line and green spots at the costal margin before and in the middle; an oblique dark shadow extends from the cell-end to the anal angle; the postmedian area behind and below the cell is lighter, the distal half of the inner margin all white, two small white spots parted by green are above it; distal margin darkened blackish, with a whitish-grey marginal line; the light brown fringe speckled darker. Hindwing dark brown with traces of a lighter postmedian line. Expanse of wings: 33 mm. Costa Rica.

atilis. **D. atilis** *Schs.* Forewing dull green mixed with brown, with a fine brownish-black inner margin, greyish-black behind the cell from the lower median nervule to the costal margin, with brownish-black veins and internerval streaks; an oval area of green strewn behind the lower cell-end with a white stripe along the upper median nervule; median line black, bordered with green inwards, cross-vein black in a reddish-yellow strigiform spot; postmedian transverse line only double white at the costal margin, darker brown postmedian and subterminal shadows; distal margin shaded with green before the fine black marginal line, brownish behind it with a darker marginal line. Hindwing blackish-brown with a feeble lighter postmedian line. Expanse of wings: 44 mm. Costa Rica.

marusa. **D. marusa** *Schs.* Head and thorax reddish-yellow mixed with brown, abdomen brownish-grey, the two last segments whitish. Forewing brown, costal base and centre of inner margin more reddish-yellow, the centre of the costal margin greenish-yellow with 3 dark lines; the very fine dark median line is double, vertical; a white crescent parted by red-brown is at the cross-vein, inwardly bordered by a narrow dark shadow which extends above vein 2 to the margin; postmedian line red-brown, distally bordered with white, an area strewn with greenish and yellowish-white is behind it between 3 and the costal margin as far as the apex; subterminal line likewise red-brown, distally bordered with white, a broad blackish-brown shadow behind it, the anal area light yellowish-green; a whitish postmedian area between 1 and 2. Hindwing dark brownish-grey. Expanse of wings: 41 mm. Guatemala.

D. mystica Schs. has grey forewings strewn with brown, basal area green with an oblique white sub-basal line, lilac brown in the cell with a reddish-yellow spot at the end, enclosing the red-brown discal streak, a blackish oblique shadow below it extends to the anal angle; green dusting behind the cell obliquely towards the costal margin; the black transverse lines are finely dentate, the posterior one partly double, red-brown spots are before the brown subterminal shadow, a dark oblique subapical shadow behind it. Hindwing brownish-grey, fringe light, dotted black. Expanse of wings: 39 mm. Costa Rica. *mystica*.

D. perplexa Schs. (150 k). Forewing deep red-brown with a violet tint, green at the base, inner margin, distal half of the costal margin and subterminal area excepting two grey stripes between the lower radial and median nervules, with black dentate transverse lines, the posterior one treble, the anterior one double; a black transverse streak at the cell-end. Hindwing white, veins and margins brownish, with a black marginal line. The larger ♀ is lighter, the green more extensive, 3 black spots each before the margin above the anal angle and subapically. Hindwing quite brownish-grey with lighter fringe. Mexico to Costa Rica. *perplexa*.

D. druona Schs. Forewing light yellowish olive, cell and basal area strewn with black, with a blackish shadow from the lower cell-end to the margin between 3 and 1; a blackish-brown streak at the cross-vein; transverse lines undulate-dentate, black and white vein-dots behind them; a faded brown subterminal shadow is widened between 4 and 6. Hindwing brown, olive green at the costal margin with the beginnings of dark lines. Expanse of wings: 37 mm. French Guiana. *druona*.

D. carantis Schs. Forewing dull green at the costal margin, purple brown below it with a light brown patch from the cell-end to the apex; antemedian line black with 2 white dots at the inner margin; a green streak bordered with white at the cross-vein; postmedian line black with white vein-dots, indistinct, the veins behind it strewn black and white; small blackish-brown subterminal spots, a green interrupted marginal line behind them. Hindwing blackish-brown with a feeble lighter straight postmedian line, dusted with green at the costal margin, with the beginnings of dark lines. Expanse of wings: 36 mm. Guatemala. *carantis*.

D. sylla Drc. (= novella Schs.) (150 k) has brown forewings, green at the margins excepting the apex, the dark transverse lines indistinct, shadow-like, the antemedian line double at the costal margin; blackish shading before and below the light brown cross-vein, a small white spot behind the centre of the costal margin; a light brown shadowy stripe before the dark subterminal shadow which terminates above the anal angle; fringe pinkish-brown, speckled darker. Hindwing brownish, scantily scaled, darker at the inner and distal margins, with a dark, distally lighter postmedian line. Mexico to Costa Rica. *sylla*.

D. nystalina Fldr. Forewing greenish olive, mixed with brownish, with double dentate transverse lines, the distal half of the median area broadly darkened at the costal margin, narrowly at the inner margin, enclosing the double dark cross-vein streak in a small light spot; black subterminal wedges. Hindwing brownish pink, with a broad blackish-brown marginal band and a small yellowish anal spot. Expanse of wings: 36 mm. Amazons. *nystalina*.

D. livida Schs. (150 k) is a beautiful species, sexually very dimorphous. ♂ with green forewings with steel-blue spots at the bases of the costal and inner margins, with fine double transverse lines and a small brown cell-end spot surrounded by light green; a dark green oblique shadow from the cell to the centre of the inner margin, bluish-grey shading behind it also in the cell; a dark green postmedian band as far as the broad steel-blue subterminal line, shaded with blackish-brown, a light green spot at the apex. Hindwing brownish-grey, whitish basally, the black postmedian line shaded with light outside. The ♀ has light steel-blue forewings with double notched black transverse lines, the anterior lines shaded with green, the posterior lines with brown, with a brown area behind and below the cell; the thick black subterminal line is bordered with white and brown distally. Costa Rica. *livida*.

D. cariba Schs. Forewing brown with a green basal band traversed by two black lines, the green undulate median band bordered with brown and parted by a brown line, the area behind it light brown and dusted with lilac, grey before the cross-vein and between the median nervules; the treble postmedian line is interrupted by green above the median nervules. Costa and distal margin green, the latter bordered inside by the whitish-green undulate line. Hindwing lilac brown, distal margin broadly purple brown, traversed by a darker band. Expanse of wings: 42 mm. Guatemala. *cariba*.

D. delecta Schs. has olive green forewings dusted with white in the distal half at the costal margin and behind the cell, with double blackish-brown transverse lines, the posterior one spotted white, the median line bordered with white outside at the costal margin; the feeble brownish subterminal shadow is dentate. Hindwing brownish-grey, with a double postmedian line at the costal margin, followed by a small white apical spot. Expanse of wings: ♂ 35, ♀ 45 mm. Costa Rica. *delecta*.

D. apparata Schs. Forewing apple-green with a black basal ray, double black dentate transverse lines, brown spots before the anterior line at the costal margin and below the cell as far as the inner margin, the centre of the costal margin and an oblique blotch between the median nervules are dusted with bluish-white; the light brown cross-vein is surrounded with deep blackish-brown, darker green dusting before it; undulate-linear shadow black. Hindwing brownish lilac, fringe green, the short postmedian line at the costal margin is bordered with white outside. Expanse of wings: 39 mm. Costa Rica. *apparata*.

- remuria*. **D. remuria** Drc. (150 k) has green forewings with fine deeply dentate black double transverse lines and a double row of dots behind the distal line, and fine black veins in the marginal area. Hindwing brownish-white with a broad green costal margin and a double postmedian line in it. Mexico to Brazil, a common species.
- viror*. **D. viror** Dogn. (151 a) is similar to *remuria*, smaller, the lunar arches of the transverse lines filled with violettish-brown like the cell-end spot which is followed by a strongly angled median line, white vein-dots behind the postmedian line, a subterminal row of violettish-brown spots behind them. Hindwing whiter than in *remuria*, tinged with green also at the margin. Bolivia, Colombia.
- jamaicensis*. **D. jamaicensis** Schs. Forewing light green, the ends of the veins fine black, with fine reddish-brown double dentate transverse lines and a large reddish-yellow discal spot, 2 short double transverse lines above it at the costal margin; the postmedian line is finely shaded dark outside, the subterminal shadow reddish-brown. Hindwing light reddish-brown, broadly brown at the distal margin, green at the costal margin, with short darker double lines and a black marginal line. Expanse of wings: 50 mm. Jamaica.
- caluna*. **D. caluna** Schs. is allied to *herbida*. Forewing yellowish-green, with a black basal ray and indistinct darker antemedian and median oblique lines; a dark grey spot behind the dark cell-end streak, a similar one between the median nervules; the undulate line is marked by several small black spots, followed by an undulate light line. Hindwing whitish-grey, yellowish at the inner margin. Expanse of wings: 30 mm. Brazil (Castro, Parana).
- herbida*. **D. herbida** Wkr. Forewing moss-green, strewn with blackish, the most intensely in the postmedian area, with a blackish feeble basal ray and darker green dentate antemedian and postmedian transverse lines and a dark cell-end streak; a spot of dark grey dusting is between the base of the two median nervules; somewhat darker shading is before the lighter green undulate line; fringe speckled green and blackish. Hindwing brownish-grey, yellowish towards the base. Expanse of wings: 40 mm. Described from Brazil.
- lucoides*. **D. lucoides** Schs. is very similar to *herbida*; forewing yellowish-green, strewn with olive green, forming a large spot around the cell-end; the double dark deeply dentate transverse lines are shaded dark green below the cell, the light cell-end streak is shaded dark outside; dark green subterminal lunular shadows, those in the middle being thickest, an olive green shadow behind them; fringe speckled dark, dark internodal dots before it. Hindwing brownish pink with a lighter postmedian shadow. Expanse of wings: 40 mm. Costa Rica.
- barensa*. **D. barensa** Schs. is dark green at the base and inner margin, with 2 irregular black antemedian transverse lines and a whitish spot at the cell-end, the distal half grey strewn with green which forms indistinct spots subterminally and at the margin; a dentate median line and double postmedian line are traceable. Hindwing white, narrowly green at the costal margin with a small dark anal spot. Brazil (Castro).
- foliata*. **D. foliata** Schs. Forewing dull moss-green, strewn with black in the basal half of the inner margin and with single finely dentate black transverse lines, the veins behind the postmedian line are fine black; cross-vein dark brown, a grey shadowy spot below it; brown submarginal internodal spots. Hindwing brownish, moss-green at the costal margin, with 2 short black lines in it, inner margin with brown hair. Expanse of wings: 31 mm. French Guiana.
- edwardsi*. **D. edwardsi** Drc. (= *museosa* Edw., *masta* Schs.) (151 a). Forewing brownish, finely strewn with black and mixed with green, most intensely so in a broad oblique band from the costal margin antemedianly to the inner margin as far as the anal angle, in a small apical spot and before the margin; fine black double transverse lines and a black cell-end streak surrounded by red-brown, a whitish costal-marginal spot above it; small blackish subterminal spots are surrounded by red-brown. Hindwing brownish-grey. The larger ♀ is distinguished by a large white postcellular spot finely strewn with greyish-black, extending from the costal margin to the apex and below as far as the lower median nervule; a grey spot below the cell in the bifurcation of the median nervules. The ♀ is much more common than the apparently very rare ♂ of which I have seen only a single specimen. Mexico, Guatemala, doubtfully from S. W. Arizona.
- baracoana*. **D. baracoana** Schs. (= *habilis* Schs.) (151 a) is similar to *edwardsi*, the ♂ lighter and much less distinctly marked, the grey spot below the lower cell-angle being the most distinct; white vein-dots between black ones are behind the postmedian line. Hindwing more whitish, brownish at the costal and inner margins, a short dentate white postmedian line at the costal margin. The ♀ is easily distinguishable by a large purely white postmedian spot, the subapical spot on the hindwing being much larger, too. Antennae strongly pectinated also in the ♀, plain in *edwardsi*, tegulae white. Mexico to Brazil.
- discata*. **D. discata** Schs. Forewing moss-green with single grey transverse lines, the interior one whitish at the inner margin, the posterior one dotted white on the veins; a white large spot at the cell-end, a smaller one above it at the costal margin; instead of the undulate line there is a blackish indistinct shadow. Hindwing white, with yellow hair at the inner margin, moss-green at the costal margin. Expanse of wings: 37 mm. Brazil (Castro, Parana).

D. albidiscata Schs. has white forewings strewn with brown except a quadrangular purely white *albidiscata*. discal spot and a broad subterminal shadow which is the most distinct at the costal margin; a narrow brown band at the margin is traversed by white veins. Hindwing light brown, scantily scaled, darker at the distal margin. Cuba (Tanamo).

D. splendens Drc. (151 a) is scarcely mistakable for any other species owing to its white forewings *splendens*. with the large green costal-marginal spot of the same oblong shape as in the genus *Rhoda*, as which *splendens* was also described. Panama, Costa Rica to Colombia and Bolivia.

D. lloreda Dogn. (= *amata* Drc.) (151 a). Forewing green, with large brown spots at the inner margin; *lloreda*. the fine brown transverse lines are most distinct at the costal margin, only the postmedian line is better visible. Hindwing whitish-grey, broadly greenish at the costal margin. Colombia.

D. lama Schs. Forewing violettish-brown, costal margin, apex and the space between the veins *lama*. 3 and 4 moss-green with black transverse lines, the anterior one single, the posterior one treble, submedianly connected with a distinct undulate median line by a streak; the postmedian line exhibits a white crescentiform streak at the inner margin, a yellow spot is in the cell-end; small faint brown marginal spots between the ends of the veins; hindwing whitish, brown at the inner and costal margins, the latter with the beginnings of three darker lines. Expanse of wings: 36 mm. French Guiana.

D. poulsoni Schs. (151 b). Forewing green, strewn with blackish, with a broad light reddish-yellow *poulsoni*. inner-marginal stripe as far as the postmedian line, reddish-brown behind it, the space between the median nervules and also the cell-end shaded with brown, vein 3 striped yellowish-white outside, small white vein-dots behind the indistinct double postmedian line. Hindwing whitish, inner and costal margins brown, the costal margin strewn with green. Guiana, Brazil.

78. Genus: **Seirotonta** Grt. & Rob.

The only distinctive mark of the species, the distally concave cross-vein, is too insignificant to found a special genus on it. We separate it nevertheless from the preceding genus, because *bilineata* might be looked for under *Seirotonta*.

Type of genus: *S. bilineata* Pack.

S. bilineata Pack. (= *turbida* Wkr., *associata* Wkr., *ulmi* Harr.) (151 b) is mouse-coloured on the *bilineata*. forewing, generally somewhat darkened between the two fine dark brown dentate and somewhat lighter-edged transverse lines; the cell-end is marked by a black, insignificant streak; submarginal line very feeble. Hindwing lighter grey with a small dark anal spot. — Larva green with white dorsal and subdorsal lines, the latter broader and bordered with yellow and red, almost contiguous with the dorsal line on the first segments and bordered with deep red inside. It lives on elm trees and more rarely on beeches. Atlantic States. — f. **exsanguis** Dyar, *exsanguis*. from Texas, is a smaller and lighter form, more bluish-grey, of a more reddish flesh-colour in the median area, with a more distinct subterminal shadow.

79. Genus: **Dunama** Schs.

Very closely allied to *Disphragis*, distinguished by the somewhat more erect palpus with a longer middle joint and scales instead of hair. Neuration of forewing as in *Disphragis*; hindwing with a straight costal margin. of a broad shape, the costal vein proceeds before the centre of the cell, the nervules arising from the upper cell-angle are not stalked, those from the lower one from one and the same base. Only one small species.

Type of genus: *D. angulinea* Schs.

D. angulinea Schs. Forewing greyish-brown, near the base with a small reddish-yellow costal-marginal *angulinea*. spot; instead of the anterior transverse line there is a dark triangular costal-marginal spot and a round one below the cell; median line double only visible below the cell, the postmedian line is a brown shadow, double vein-dots parted by light behind it, whitish dusting between it and the median line below the cell; light dusting behind the brownish-grey subterminal shadow, then black marginal spots. Hindwing greyish-brown. Expanse of wings: 22 mm. Costa Rica.

80. Genus: **Malocampa** Schs.

Exactly like *Disphragis*, only separated by dense hair and scales of the somewhat concave costal margin of the hindwing in the basal part. Forewing somewhat longer and narrower on an average than in typical *Disphragis*. Many tropical species have been described.

Type of genus: *M. punctata* Cr.

M. punctata Cr. (= *bifurcata* Sepp.) (151 b) is a large well-known species apparently very variable *punctata*. according to different districts. *Ziliante* Stoll in my opinion also belongs to this species and represents a specimen

without the usual darkening at the cell-end. Forewing greyish-white, all the transverse lines broken up into double rows of thick black dots, with a more or less dense greyish-black median shadow which is usually densest at the cell-end and mostly vanishes below it, but it may also be continued to the inner margin; mostly some brownish dusting submedianly and apically. Hindwing whitish, more or less smoky, with dark brown veins and a fine marginal line, more intensely dusted brownish-grey in the ♀ which is often very large. — I cannot decide at present whether a much smaller form — f. n. *illimis* (151 b) — with purer yellowish-white forewings with very scanty dusting and much smaller black dots which are also scantier, almost absent subterminally, with yellowish-white unmarked hindwings, is a distinct species; a similar species is figured in Ann. Carnegie Mus. XV, 1923, pl. IV fig. 19, originating from Bolivia. The type in Coll. DRAUDT is from Mirador, Mexico, and was taken on March 27th 1903. It has therefore surely a wide range.

satis.

H. satis Drc. (= *punctata* Drc., *parvipuncta* Schs.) (151 c) looks like *D. manteo*, the forewings are longer, the whole surface quite uniformly strewn with dark, all the transverse lines broken up into double dots, beginning at the costal margin with oblique brownish streaks; 2 black dots above each other at the cell-end; the light undulate line is shaded somewhat darker inside. Hindwing greyish-brown with yellowish-white fringe and a whitish postmedian line ending in a larger spot at the anal angle. Mexico to Panama, here in a somewhat lighter form.

hibrida.

M. hibrida Dogn. (151 c) is exactly like *Disphragis punctata* Drc. on the forewing, whilst the hindwing is like that of *satis*. Expanse of wings: 39 mm. Colombia.

sorex.

M. sorex Schs. Forewing dark greenish-grey, strewn with brown and black with shadowy transverse lines, the anterior one from the first third of the costal margin to the centre of the inner-marginal vein where it cuts a postmedian line; 2 black dots above each other in the cell-end are in a dark short costal-marginal shadow; behind the postmedian shadow there is a double row of black dots with white ones between them, a submarginal shadow is only visible in the upper two thirds. Hindwing dark brown, with yellowish hair at the inner margin, and yellowish fringe. Expanse of wings: 37 mm. French Guiana.

omaita.

M. omaita Dogn. is somewhat similar to *sorex*; forewing light grey, strewn with red-brown, the two transverse lines not cutting each other, the anterior one double at the costal margin, with single white dots, the posterior one treble at the costal margin, then as a double row of black dots parted by white; the median shadow continued to the inner margin into denser shading, the red-brown subterminal shadow also with single white dots. Hindwing blackish with white fringe, central dot and anal spot. British Guiana.

randauta.

M. randauta Schs. is allied with *omaita* and *sorex*; head and thorax brown and white, abdomen dark brown, reddish ochreous beneath. Basal area of forewing brown and reddish yellow, bordered by a double line; antemedian area blackish-brown in the upper half, intensely strewn with white in the inner-marginal half, distally bordered by the double antemedian line filled with reddish, the rest of the wing reddish-brown with a light reddish reniform macula with 2 brown dots; the double postmedian line is dark brown with black vein-dots, veins blackish, strewn with white, a dark brown subterminal shadow. Hindwing brownish-grey. Expanse of wings: 40 mm. Bolivia.

lupana.

M. lupana Dogn. is yellowish-grey on the forewing, the anterior transverse line notched, the median and posterior ones shadowy, a black line forming three arches is on the posterior line, an irregular subterminal row of spots behind it; two deeper black lines forming semicircular arches are above these markings in the basal and distal halves of the inner margin, the distal one extending up to the cross-vein. Hindwing diaphanous grey, darker at the margin. French Guiana.

lupanoides.

M. lupanoides Dogn. Forewing more yellowish than in *lupana*, strewn with brown, with 3 brown lines at the base, the ground between them being whitish towards the inner margin; extensive brown shading in the distal half of the costal margin, traversed by the median and posterior transverse lines which disappear in the brown ground, the brown spot is distally bordered by a yellowish subapical oblique line; a yellowish undulate line is in the brown margin, black internerval dots behind it. Hindwing brown with yellowish fringe. Expanse of wings: 40 mm. Amazons.

eugenia.

M. eugenia Schs. has greenish-grey forewings with a silky gloss, the curved black basal line bordered with white outside below, the anterior and posterior transverse lines treble, the innermost of the posterior line brown, dentate, shadowy, the others fine, black; a reniform macula finely surrounded by black is at the cell-end, a white dentate line behind brown subterminal spots. Hindwing dark brown with reddish-yellow fringes. Expanse of wings: 57 mm. French Guiana.

maroniensis.

M. maroniensis Schs. (151 c). Forewing slaty grey with brown costal-marginal spots and a black cell-end spot; 2 black vein-dots before the anterior transverse line, single double dots instead of the posterior line, a brown band before them, angled at the lower cell-angle; hindwing brown, veins and margin darker, with a black anal spot parted by light. French Guiana; West Colombia.

M. mayeri Schs. (= *stricula* Dogn.) (151 c). Forewing brownish-grey, darker at the costal margin, *mayeri*. cell and distal margin, strewn with whitish at the base and inner margin, with 3 black double transverse lines; dark velvety brown subterminal spots in the upper half, black internerval spots behind them on the margin, lilac dusting before them. Hindwing lilac brown, veins and margin blackish-brown. French Guiana.

M. piratica Schs. (151 c). Forewing grey, dusted with light brown excepting the margins, the double *piratica*. transverse lines proceed from large black costal-marginal spots, the inner margin behind the anterior line is dark brown and black; a white dot at the cell-end, a brown streak above it, a dark subterminal shadow behind the cell and a small black anal spot. Hindwing blackish-brown, fringe yellowish. French Guiana.

M. bolivari Schs. (151 c) is very similar to *piratica* in the marking, but the forewing is white, mixed *bolivari*. with brown not black at the inner margin, in the ♀ as a triangular surface which is connected with the anterior brown costal-marginal spot by a fine brown line. Hindwing greyish-brown, fringe whitish. Venezuela. ♀ with pectinated antennae.

M. puella Dyar (151 c) looks exactly like *bolivari*, but the ♀ has plain antennae; forewing with a *puella*. very slight yellowish tinge excepting the margins, the ♂ strewn somewhat brownish, with a prominent white double cell-end dot in it, shadow-like traces of a double postmedian line behind it, sometimes with single black vein-dots; fringe speckled white and dark brown. Mexico to Venezuela.

M. albolineata Drc. (151 d). Forewing light greyish-brown with brown costal-marginal spots as in *albolineata*. *puella*, but without the broad triangular inner-marginal spot, only somewhat more intensely dusted with brown which extends to the anal angle; 2 purer white dentate lines and the white cell-end streak are distinctly visible. Hindwing light brown, darker towards the margin with light fringe. Mexico to Brazil, much darker in the south; Mexican specimens from Misantla, Orizaba and Jalapa are of the same silvery white colour as *puella*, only discally very slightly tinged with brownish: — f. n. **mexicana** (151 d), but those from Tabasco are *mexicana*. brownish.

M. argentata Drc. (151 d) is very similar to the white form of *albolineata*, but more silvery grey, with *argentata*. black-dotted veins, a large black spot near the anal angle. Hindwing lighter reddish-grey with a small black anal spot. Costa Rica, Panama.

M. matralis Schs. Forewing dull brown, with a reddish-yellow tinge at the inner margin, the double *matralis*. anterior transverse line only marked at the costal margin, the posterior one composed of grey vein-streaks surrounded by black double dots; 2 small black spots at the cell-end are surrounded by light brown, black internerval dots on the margin. Hindwing dark brown, fringe reddish-yellow, a dark and light anal spot. Costa Rica.

M. friburga Schs. has light brown forewings, whitish at the inner margin, strewn with blackish, and *friburga*. with single dark brown transverse lines, black double dots parted by white behind the distal line, 2 small black spots at the cell-end, a narrow dark subterminal shadow, black internerval dots behind it. Hindwing light brown, darkened at the costal margin, with a darker postmedian line and small dark spots at the inner margin and anal angle. Brazil (Novo Friburgo).

M. sida Schs. (= *sidoides* Schs., *canescens* Dogn.) (151 d) is very similar to *friburga*, smaller, much *sida*. darker brown, contrastingly white at the base of the inner margin and above the anal angle, slightly clouded grey, transverse lines more linear, not so much broken up into dots. Mexico to Brazil.

M. trepsora Dyar (151 e) has broader wings than *sida*, marked almost the same, but without any *trepsora*. white, only with slight traces above the anal angle at the distal margin and a little subcostally at the apex; the beginning of the transverse lines at the costal margin somewhat widened and darkened. Hindwing dark brown, the light fringe speckled dark. Mexico (Zacualpan).

M. lunula Dogn. (151 e). Forewing greyish-white, strewn with brown, with a large brownish-black *lunula*. spot at the submedian base as far as behind the centre of the cell, and a triangular spot, the apex of which is at the cell, the two sides ending at the costal and inner margins shortly before the apex resp. the anal angle, but leaving the margin itself white; double transverse lines almost only visible at the costal margin, discal dot and undulate line white, fringe white speckled with brown. Hindwing blackish, the anal spot parted by white. French Guiana.

M. mammerta Schs. (151 g) is somewhat similar to *lunula*, smaller, of a purer greyish-white on the *mammerta*. body and the basal half of the costal margin of the forewing, not strewn with brown, with a less contrasting white marginal part; transverse lines more distinctly double, the reniform macula larger, roundish, contred dark brown. Hindwing white, feebly dusted with brownish-grey, and with darker veins. Brazil (Rio Purns).

M. obliquata Schs. is a small species with grey forewings, the basal half light brown, white above *obliquata*. the anal angle, with traces of an anterior transverse line, and a row of dots in the centre of the cell; the curved brown median line is bordered with black below the cell and with moss-green at the inner margin, here with a short black line before it, close behind it follow 4 black lines partly filled with brown, partly

whitish-grey; a white streak at the cell-end, a black dot outside above it, then follows a dentate black postmedian line with vein-streaks and small brown spots behind them; the black undulate line is situated towards the costal margin in a brown oblique shadow. Hindwing greyish-brown, whitish basally. British Guiana.

broma. **M. broma** Schs. (= *dentifera* Dogn.). The forewing of this small species is greyish-brown at the base and costal margin, whitish in the median area, strewn with brown in the cell, grey and lilac at the inner margin, dark brown behind it in the upper half, lilac grey below it; a yellow antemedian and postmedian spot below the cell, a white streak at the cell-end; posterior transverse line double, the dentate submarginal line black, only visible in the upper half. Hindwing lilac brown, darker towards the margin. Expanse of wings: 32 mm. French Guiana.

spurea. **M. spurca** Schs. has dingy white forewings scantily strewn with brown, with a large blackish-brown triangular spot from the first third of the costal margin to the apex, extending downward almost to the centre of the inner margin; black vein-dots instead of the posterior transverse line; internerval dots before the margin alternate with black fringe-dots. Hindwing whitish, strewn with brown, with a dark, distally whitish median line. Expanse of wings: 30 mm. Dutch Guiana (Paramaribo).

paramaribena. **M. paramaribena** Schs. Forewing black in the basal half, reddish yellowish-brown behind it, with two light brownish bands in the basal part before the middle, with a large and a small black postmedian spot at the costal margin, another spot above the upper median nervule, fringe speckled black. Hindwing dingy white, light brown at the costal and inner margins. Expanse of wings: 40 mm. Dutch Guiana (Paramaribo).

ecpantherioides. **M. ecpantherioides** Schs. (= *splendens* Drc. 1911 nec 1887, *muscipilosa* Dogn.) (151 e) and the following species are distinguished by yellow hindwings bordered with blackish-brown; forewing brownish-grey suffused with pink, darkened in the basal third, with 4 strong black transverse lines, an irregular dentate double postmedian line and a series of irregular blackish-brown subterminal spots. Hindwing reddish ochre in the basal part and at the inner margin. Brazil.

amanthis. **M. amanthis** Schs. is allied to *ecpantherioides*; forewing grey in the basal half with 3 double transverse lines, yellowish in the distal half, grey only at the distal margin, a black streak at the cell-end and 4 fine black postmedian transverse lines, with oblique internerval streaks at the margin, double fringe-dots at the ends of the veins. Hindwing yellow with a greyish-brown distal margin. Expanse of wings: ♂ 50, ♀ 63 mm. French Guiana.

querula. **M. querula** Dogn. (151 e). Forewing grey, strewn darker and mixed with yellowish basally, in the centre and subterminally, with numerous parallel transverse lines hardly contrasting with the ground-colour, 5 of them in the first quarter of the costal margin more distinctly marked, 3 behind the middle, the innermost more dentate, the second most distinct, and 2 subterminal ones. Hindwing blackish with lighter fringe. Expanse of wings: 47 mm. French Guiana.

queruloides. **M. queruloides** Dogn. (151 f). Forewing grey with a brownish tint and fine black lines: an oblique subbasal one, one before and behind the middle, as well as a subterminal one, with a row of blackish internerval spots before them, two of which below and above the radial branches are removed more towards the margin. a reniform macula at the cell-end is finely surrounded by black. Hindwing greyish-brown. Expanse of wings: 46 mm. Brazil.

medommoca. **M. medommoca** Schs. (151 f). Head white, collar reddish ochre, thorax blackish-brown with white tegulae. Forewing olive grey with a fine black line from the base of the costal margin to the inner margin at the anterior transverse line which is fine black like the undulate-dentate posterior line; a reniform macula at the cell-end is finely surrounded by black, with a black spot below; subterminal black spots. Hindwing dark brown with white fringe. French Guiana.

danala. **M. danala** Drc. (151 e). Forewing dark brown with fine undulate black transverse lines and a reddish-brown spot at the cell-end; a light brown undulate submarginal line, a series of small black spots behind it, the anal ones of which are much larger. Hindwing blackish-brown, yellowish at the base, inner margin and fringe. A large species from Costa Rica and Panama.

obscura. **M. obscura** Schs. (151 f) has violettish-brown forewings with a reddish-brown basal area and an olive oblique shadow from the first basal third to the centre of the inner margin, traversed by an interrupted black line; a large round olive spot at the cell-end, the dentate black postmedian line is double, its distal half in the lighter brown marginal area which is shaded with olive before the apex and anal angle. Hindwing brown with a light anal spot bordered with black above and below. Expanse of wings: 49 mm. Colombia.

bronacha. **M. bronacha** Schs. is allied to *obscura*. Head and thorax blackish-brown, abdomen lighter and more reddish. Forewing blackish-brown, dusted lighter brown, with a reddish ochreous basal area; the fine black transverse lines are bordered with a lighter olive brown; a round reddish olive spot at the cell-end with a small dark centre; white and black vein-dots behind the postmedian line; the brownish olive marginal area has black veins and exhibits a dark subterminal shadow between the apex and vein 4. Hindwing blackish-

brown, lighter basally, with a fine dark median line edged with light, and a black and white anal spot. Expanse of wings: 45 mm. Costa Rica.

M. amphissa Drc. (151 f) is a very large species with broad wings, hardly mistakable for any other *amphissa*, because of the whitish-grey forewing being provided with black veins and two sharply notched transverse lines, and the yellow, black-ringed abdomen. Colombia, Bolivia.

M. boettgeri Drc. (151 f). Forewing blackish-brown, traversed by two undulate black transverse lines, *boettgeri*, behind the cell; a green spot at the cell-end, distal margin and inner margin densely strewn with green scales, marginal line black. Hindwing dark brown with light fringe. Eastern Peru.

M. nigriviridis Dogn. (151 f) has blackish-brown forewings strewn with dark green along the inner *nigriviridis*, margin, also at the costal and distal margins between the veins which are strewn black and white; a small green spot at the cell-end; the black transverse lines are dentate, the anterior one single, the posterior one double, the ground behind it lighter. Hindwing blackish, lighter at the base and fringe. Expanse of wings: 38 mm. Argentina.

M. taetrica Schs. is somewhat similar to the green species of *Disphragis*, the moss-green forewing *taetrica*, with a produced anal angle, light violettish-brown at the base of the inner margin and a similar shadow behind the cell; the fine black transverse lines are double, the posterior line broken up into double rows of dots, a dentate brownish shadow before it around the cell-end to the centre of the inner margin. Hindwing dark brown, lighter towards the base and at the inner margin, with a black and white anal spot. Expanse of wings: 36 mm. French Guiana.

81. Genus: **Magava** Wkr.

♂ antennae serrate, with ciliary tufts, which are long in the basal halves; palpi rising, with a hairy middle joint and very short terminal joint. Forewing exactly like that of *Malocampa*, hindwing broader with a long-haired inner margin, neuration as in *Disphragis*, the costal branch proceeds a little behind the centre of the cell. Three tropical American species.

Type of genus: *M. multilinea* Wkr.

M. multilinea Wkr. (151 g) is unmistakable for its yellowish-white forewing being alternately trans- *multilinea*, versed by numerous orange and violet transverse lines. Costa Rica to Colombia and Bolivia.

M. marginata Schs. (= *incurvata* Jones). Forewing white, scantily strewn with reddish, more densely *marginata*, at the distal margin, strewn with black at the inner margin, with double bluish-black transverse lines, an oblique basal one, a median one which is only double at the costal and inner margins, and a distal one arising near the margin before the apex and extending in an inward curve to the inner angle. Hindwing white, finely strewn with red-brown, with a long hair-pencil at the inner margin. Expanse of wings: 46 mm. Brazil.

M. forensis Schs. is very much like *marginata*, but the hindwing is dark brown with white ends of the *forensis*, fringe; forewing white, strewn with light brown, dark greyish ochre at the base, bordered by the oblique double antemedian line; a white streak with a brown dot at the cell-end, from where a feeble brown line extends to the inner margin; described from Guatemala.

82. Genus: **Thyana** Dogn.

Very similar to *Magava*, separated by a raised hair-tuft on the first abdominal segment, long hair of the cell on the forewing beneath, and with 3 rows of hair on the subcostal vein, cellular fold and median vein of the hindwing beneath; vein 7 of forewing arises from the lower distal angle of the areole, the two next veins stalked from the upper angle; the two pairs of veins arising from the cell-angles on the hindwing are stalked, the costal vein arises from the distal third of the cell. Only 1 species:

Th. sumptuosa Dogn. (151 g) resembles a *Thyatira* in the colour and marking, the brown forewing *sumptuosa*, exhibiting oval white spots, the longest spot extending from the base of the inner margin almost to the fourth fifth and being traversed by 4 transverse lines. Hindwing blackish brown with a white anal spot parted by black. Bolivia, Amazons.

83. Genus: **Rhuda** Wkr.

The ♂ antennae are shorter ciliated than in *Thyana*; the distal margin of the long narrow forewing is not entire, but feebly dentate, neuration as in *Disphragis* excepting the costal vein of the hindwing arising only shortly before the cell-end. Numerous species partly very difficult to separate have been described.

Type of genus: *R. foveola* Cr.

- focula*. **Rh. focula** Cr. (= *basifera* Wkr.) (151 g). This and the following 10 species all exhibit the same character of marking and colouring: the white forewing partly tinged with pink, with a large trapezoid deep olive brown costal-marginal spot, 3 or 4 dentate black transverse lines above the anal angle and a brown darkening from the base of the costal margin obliquely to the anal angle, enclosing a more or less silvery white streak at the base of the inner margin; hindwing coloured yellow of variable extent. *focula* is the oldest species known, large, without bluish-grey dusting at the base of the inner margin, hindwing of ♂ yellowish with narrow brown faded margin, hindwing of ♀ much more darkened. Guiana.
- geometrica*. **Rh. geometrica** Schs. differs from *focula* in the pure white area without the intense strewing and linear marking; hindwing yellow with a broad black distal margin and distal costal half, fringe yellow. Expanse of wings: 62 mm. Brazil (Rio de Janeiro).
- decepta*. **Rh. decepta** Schs. (151 g) is exactly like *focula* on the forewing, while the hindwing is more like that of *tuisa* which, however, is smaller. The under surface is very different and of a complicated colouring. Forewing here dark purple grey, the inner margin as far as the anal angle and a broad stripe below the cell and vein 4 yellow; distal half of costal margin white, with black spots and stripes, subterminally below it a notched whitish undulate line with black wedges before it between 6 and the costal margin, and a black sagittate streak behind it above vein 7; triangular yellowish marginal spots between 5 and 8. Colombia.
- tuisa*. **Rh. tuisa** Schs. neither shows a bluish tint in the basal inner-marginal irroration; the distal border of the costal spot extends from vein 4, at a distance of 4 mm from the margin, obliquely to the costa, and is not rectilinear, but finely dentate; the margin behind the undulate brown marginal line is densely strewn with brown. Hindwing yellow, distal margin and border broadly black. Costa Rica.
- difficilis*. **Rh. difficilis** Schs. (151 g) is larger than the preceding species and differs in the different course of the distal border of the costal spot which extends slightly incurved to the apex, not dentate; the distal margin is brown below vein 5, shaded with yellow above it. Hindwing of the ♀ which is only known hitherto brownish-black with yellow inner margin and fringe, and a yellow postmedian spot between the veins 2 and 5. Costa Rica.
- lorella*. **Rh. lorella** Dyar (151 h). This and the two next species exhibit the basal inner margin below the silvery white longitudinal stripe dusted with bluish, the brown costal spot is long, slightly incurved distally as in *difficilis*, hindwing blackish-brown, the inner margin and a small spot above vein 2 of the hindwing yellowish ochre. Forewing broader and more quadrangular than in the other species. Brazil.
- labella*. **Rh. labella** Dyar (151 h) is a large species with long pointed forewings, marked almost exactly like the following much smaller species, but with entirely ochreous hindwing with a narrow brownish-black distal margin and yellow fringe. Brazil, Novo Friburgo.
- minor*. **Rh. minor** Schs. (= *opalistriga* Rothsch.) (151 h) resembles *labella* in the markings of the forewing, which differ from those of *labella* in their being spotted and interrupted above the anal angle, while in *labella* they are proximally accompanied by a distinct fine black line, distally by an angular white line. *minor* is much smaller, the brown tinge of the costal and inner margins distinctly olive green, the hindwing very broad dark brown at the costal and distal margins, only the disc and inner margin yellow, mixed with brown. Expanse of wings: 43 mm. French Guiana.
- dissona*. **Rh. dissona** Schs. (= *posttriangulum* Rothsch.) (151 h) differs from the preceding species in the costal spot terminating distally rounded into the costal margin and not forming a distinct angle in the centre of the lower radial branch; the white line on the submedian vein extends almost to its centre, the brown inner-marginal ground below it is intermixed with long bluish-white hair-scales. Hindwing yellowish-white, broadly brown at the costal margin, with light brown hair at the base and inner margin, and a black spot at the somewhat extended anal angle. Expanse of wings: 57 mm. French Guiana.
- lesca*. **Rh. lesca** Dyar. The white submedian line extends to behind the centre, the space below it being white and light brown, without any grey or bluish tinge; forewing broad and quadrangular. Hindwing extensively blackish-brown, the disc above the lower median branch and the inner margin light yellowish. Brazil (Castro, Parana).
- diffusum*. **Rh. diffusum** Fldr. (151 i). The silvery white submedian line projects here very much upwards. Hindwing ochreous, broadly blackish-brown at the costal and distal margins. The purer white forewing lacks the pink tinge of the other species, the olive greenish tinge is also absent, it is more reddish brown. Brazil.
- procas*. **Rh. procas** Drc. (151 i) is easily recognizable by its entirely white hindwings exhibiting yellow hair at the inner margin and a triangular blackish-brown spot at the anal angle. The white submedian line on the forewing is continued to the anal angle.
- dimidiata*. **Rh. dimidiata** Herr.-Schäff. (= *endymion* Schs.) (151 i) differs entirely from the preceding very homogeneous forms. Forewing brown in the costal two thirds, separated by a black line, which is notched

towards the distal margin, from the whitish-grey inner-marginal part which is strewn with brown, the transverse lines are indistinct and interrupted, a somewhat lighter brown reniform macula at the cell-end. Hindwing whitish, broadly brownish at the inner margin. Brazil.

Rh. trepida *sp. n.* (151 i) is similar to *dimidiata*, but somewhat larger and much lighter and more *trepida*. unicoloured, strewn with blackish and brown on the whitish ground, without the red-brown colour of the costal-marginal part; of the black longitudinal line only two dents before the margin are present, the whole interior portion, which separates the brown and greyish-white colours in *dimidiata*, is absent here; the other marking as in the latter, the reddish-brown, light-ringed reniform macula very distinct, also a very strongly notched postmedian line. Hindwing white, veins and marginal line finely yellowish, inner margin with yellow hair, body unicoloured brownish-grey except the first yellowish cinnamon-red abdominal segment. One female from Novo Friburgo, type in the Senckenberg Museum.

84. Genus: **Gisara** Schs.

Distinguished from *Rhuda* by much longer erect palpi, the terminal joint being almost just as long as the second which is long-haired. Forewing broader than in *Rhuda*, neuration the same, the distal margin likewise dentate.

Type of genus: *G. proene* Schs.

G. procne Schs. (= *sambana* Drc.) (152 a). Forewing grey strewn with darker grey and brownish *procne*. scales, with a large white anal spot, reddish-brown and yellowish at the apex; transverse lines very indistinct, only a double black basal line is distinct with a small whitish submedian spot behind it, and a somewhat dentate red-brown submarginal line. Hindwing greyish-brown with light fringe. Guiana to Brazil.

G. meyeri Schs. (152 a) is very similar to *procne*, the wings somewhat narrower on an average. *meyeri*. Forewing much darker blackish-grey, strewn with dark red-brown only at the costal margin and in the disc, transverse lines very indistinct; the white anal spot sharply defined inside in a scalariform way. Guiana, also from Colombia (Medina) and Peru (Rio Pachitea).

G. brewsteri Schs. is exactly like *procne* on the forewings, but it has white hindwings with strewn *brewsteri*. brown veins. Expanse of wings: 57 mm. Costa Rica (San José). — **panamensis** *f. n.* (152 a) may be a form *panamen-*
sis. of it; smaller and with narrower wings than *procne*, much lighter, head, thorax and abdomen light reddish-yellow without any grey tints; forewing with the same marking as *procne*, but the hindwing is light reddish-yellow in the basal half with a broad brownish-grey marginal band. 1 ♂ from Panama (Chiriqui); type in the Coll. STAUDINGER, Berlin Museum.

G. ionia Drc. is very similar to the preceding species, forewing reddish-brown, strewn with black *ionia*. and grey at the costal and inner margins, with a double black subbasal line and a large bluish-grey spot above the anal angle, extending upwards to the centre of the distal margin; a postmedian and submarginal row of small black spots, fringe red-brown. Hindwing dark brown, with lighter reddish-yellow hair at the base. Amazons (Manaos).

G. ambigua Dyar is likewise similar, but it is without the light anal spot, marked like *procne*, but *ambigua*. with more distinct transverse lines, the anterior one notched, black, the posterior one brown, with a row of round black spots behind it. Hindwing greyish-brown. Peru.

G. albolimbata Dogn. Forewing light red-brown, strewn with black, especially at the costal margin, *albolim-*
bata. inner margin and subterminally, with a broad silvery white band at the distal margin, which is slightly darkened apically, a subterminal row of black internerval dots in it; behind 2 black cell-end dots there is a postmedian row of small black internerval spots. Hindwing blackish. Venezuela.

G. brauni Schs. (152 a) is much more chestnut-brown, strewn with silvery white and light grey only *brauni*. in the innermarginal area, the rest of the marking exactly the same as in the preceding species, the white anal spot dusted somewhat olive towards the margin, the upper half of the subterminal area intensely strewn with blackish-grey. Hindwing lighter and more brownish than in *procne*, basally still lighter. Colombia (San Antonio).

G. metcalfi Schs. (152 a) is one of the largest species, similar to the following *subrutila*. Wings of an *metcalfi*. oblong shape, the margin more oblique and more dentate than in the others. Head and palpi very light reddish-yellow. Forewing light brown of various tinges, strewn darker, the double transverse lines rather indistinct, the posterior one strongly dentate, behind it another double line with black spots; the white anal area extends up to vein 6, but it gets narrower upwards owing to the dark dusting from the direction of the margin. Hindwing greyish-brown, lighter basally, with white fringe. Bolivia; Peru; Costa Rica.

G. subrutila Dogn. has rusty brown forewings strewn with black and ochre, with a black, light-edged *subrutila*. streak at the cell-end, with black, light-edged postmedian internerval dots and a red-brown zigzag line before them; a white sagittate spot above the anal angle. Hindwing blackish-brown. French Guiana.

85. Genus: **Dasippia** *gen. nov.*

Male antennae finely serrated with ciliary tufts, female antennae plain; palpi very long, the middle joint slender, with appressed scales, the very long terminal joint subuliform, straightly porrect; a short tuft on the vertex. Forewing broad with a sharp apex and a very slight concavity below it, distal margin slightly rounded. Vein 5 arises far above the centre of the cross-vein, 6 from the centre of the long and narrow areole; the 4 lower subcostal branches — the second and third lowest stalked — from the end of the areole; hindwing with the usual neuration, the costal vein branching off behind the centre of the cell. Only 1 species.

Type of genus: *D. didugana* *sp. n.*

didugana. **D. didugana** *sp. n.* (152 b). Forewing dark greyish-brown with finely black-striped veins, the distal half of the costal margin with red-brown internerval stripes bordered with light on both sides; in the lower half of the cell there is a somewhat reddish brown longitudinal stripe extending between the lower radials to the margin; anterior transverse line very indistinctly double below the cell, extending in the cell as a light oblique line far distally as far as the discal fold which is finely striped silvery white, somewhat thickened behind the cell and bordered with black below, continued almost to the margin, after having despatched a short streak downwards on the cross-vein; of the postmedian line only a few dark vein-dots interrupted by light are visible. Hindwing dark greyish-brown with light fringe. Described from a couple from Sa. Cruz (South Brazil); types in the Coll. SEITZ (Museum Senckenberg).

86. Genus: **Talmeca** *Schs.*

Male antennae pectinated almost to the tips, the second palpal joint long, the last joint short; legs long and slender, abdomen with a hair-tuft. Forewing long and narrow with the usual neuration; veins 3 and 4 arise near together from the lower cell-angle, vein 5 above the centre of the cross-vein, 6 from the centre of the areole, 7 and 8 stalked with 9 arise from the lower distal end of the areole. Hindwing: cellular nervules stalked in pairs, or also the two lower ones from the same place at the lower cell-angle; the costal vein arises shortly before the cell-end. Quite a number of species have been described, mostly of a *Nonagria*-like exterior.

Type of genus: *P. perplexa* *Schs.*

perplexa. **T. perplexa** *Schs.* Forewing light reddish-yellow dusted with violet, with a darker cellular shadow towards the margin, a dark cellular dot, black postmedian vein-dots and a row of internerval dots before them; veins of marginal area fine black with marginal dots between them. Hindwing lilac brown, whitish basally and at the inner margin, fringe white. Expanse of wings: 30 mm. Known from French Guiana and Trinidad.

remota. **T. remota** *Dogn.* looks like *perplexa*, but instead of the two postmedian rows of dots it exhibits a more median, distantly separated double row of red-brown streaks. Expanse of wings: ♂ 27, ♀ 29 mm. French Guiana.

lunulata. **T. lunulata** resembles *remota*, but instead of the double brown streaks it has a postmedian brown dentate lunular line interrupted on the veins. The species is apparently somewhat larger on an average, but according to the author himself both may be only forms of *perplexa*. Expanse of wings: ♀ 30, ♂ 35 mm. French Guiana.

dabuisa. **T. dabuisa** *Schs.* is reddish olive on the head, thorax and the last abdominal segments, the rest of the abdomen lighter and more yellowish. Forewing light yellowish-red, scantily strewn with brown, with a yellow stripe below the cell and vein 2 as far as the margin; base of cell shaded with brownish, a thick black spot at the cross-vein; a brown streak along vein 4 extends to a double row of black vein-dots; transverse lines composed of vein-dots, the anterior line double; greenish subterminal internerval shadows and a row of dots. Hindwing brownish, fringe white. Expanse of wings: 33 mm. Panama (Canal Zone).

agathosa. **T. agathosa** *Schs.* Head and thorax reddish olive, abdomen brown, the two last segments yellowish, ventrum white. Forewing light reddish ochre, inner margin suffused with olive, a similarly coloured stripe extends above the median vein and vein 4 to the margin; transverse lines reddish-brown, the anterior one double, the posterior one also double, followed by a double row of black vein-dots with white between them; discal spot yellowish; marginal area narrowly white with reddish olive internerval shadows before it. Hindwing dark brownish with white fringe. Expanse of wings: 33 mm. Brazil, Rio Purus.

dubiosa. **T. dubiosa** *Dogn.* is a larger species, the white forewing strewn with pink, more brownish in the inner-marginal half, with a brown longitudinal band through the cell as far as the margin, brownish veins and a double subterminal row of dots; a brown streak at the cell-end and a double row of dots below the cell as far as the inner margin, thick black internerval dots on the margin. Hindwing brownish, fringe speckled. Expanse of wings: 40 mm. Amazons (São Paulo de Olivença).

T. offa Schs. (152 b) is somewhat like *dubiosa*, but without the pink tinge, strewn with brownish *offa*. excepting a white longitudinal blotch below the brown longitudinal stripe, the rows of dots are altogether absent, hindwing white, the veins strewn with brown towards the margin. Expanse of wings: 33 mm. Bolivia.

T. biplaga Schs. is a very small species with lilac-brown forewings and 2 large black spots, one *biplaga*. below the distal half of the cell, the other one submarginally between the lower radial branches; traces of fine double transverse lines, and 3 black internerval longitudinal streaks before the margin, black dots before the fringe between the veins. Hindwing dingy white with a greyish-brown distal margin and white fringe. Expanse of wings: 28 mm. French Guiana.

T. suffusa Dogn. Forewing yellowish ochreous dusted with lilac, with a fine black antemedian line *suffusa*. and a black cellular dot; a blackish oblique submedian shadow as far as the lower cell-angle and a very broad marginal shadow are connected by a rusty brown longitudinal shadow between the median vein and the inner margin; a postmedian double row of black vein-dots, black internerval dots on the margin. Hindwing yellowish-white, veins and margin brownish. Expanse of wings: 26—32 mm. French Guiana.

T. invisa Schs. resembles *suffusa*, forewing lilac brown, strewn darker, with an oblique shadow behind *invisa*. the cell-end to the centre of the inner margin; double antemedian and postmedian rows of black dots, and one dot in the cell; veins of marginal area strewn with black with dots between them on the margin. Hindwing whitish with a greyish-brown margin. Expanse of wings: 27 mm. Known from Dutch Guiana.

T. curtoides Dogn. (152 b) is one of the smallest species, forewing white with a reddish flesh-coloured *curtoides*. tinge, dusted with yellowish-green at the costal and inner margins, below the median vein and in the cell-end, with a black cell-end streak surrounded with white, a postmedian black and green dentate line, 3 black, white-strewn streaks behind it below the apex; undulate line yellowish-green, dentate, black internerval dots surrounded by white are on the margin. Hindwing yellowish-white, blackish in the marginal half dusted with pink. French Guiana.

T. scirpea Schs. has white forewings with a light moss-green longitudinal shadow through the cell *scirpea*. to the distal margin, the inner margin and a short subapical streak are also green; black and green dentate antemedian and postmedian lines, the posterior line double and with a double row of dots behind it. Hindwing light lilac brown. Expanse of wings: 25 mm. French Guiana.

T. pulchra Schs. (152 b). The costal margin, a stripe above the median vein and the inner margin *pulchra*. of the forewing are brownish lilac, the cell-end and a stripe below the cell to the distal margin moss-green; vein 4 dark violet; the other veins violet strewn with white, partly bordered with lilac; dark oblique streaks at the costal margin, 2 before the middle, and 3 behind it, a white spot between the two last ones; a black dot on the cross-vein, the end of the median vein is striped white; a postmedian double row of black vein-dots, green internerval streaks before the margin and black marginal dots. Hindwing blackish-brown, fringe yellowish. Expanse of wings: 30 mm. Bolivia.

T. gnoma Schs. is similar to *pulchra*; forewing lilac grey, strewn darker with a green stripe in the *gnoma*. lower half of the cell and widened behind it to the margin, a stripe below the median vein and the anal half are also green; double black and brown antemedian and postmedian transverse lines interrupted on the veins, black and white vein-dots behind them. Hindwing brownish-grey with white fringe. Costa Rica.

T. consociata Schs. Forewing violettish-grey, the apical third of the costal margin, a stripe below *consociata*. the median vein and the lower median nervure, a spot at the cell-end and the inner margin light green, a violet streak surrounded with white is at the cell-end; a postmedian double row of black dots interrupted by white; the margin is shaded with lilac brown with black internerval dots bordered with white inwards. Hindwing lilac brown, fringes white at the ends. Expanse of wings: 27 mm. French Guiana.

87. Genus: **Boriza** Schs.

Male antennae ciliated, the short porrect palpi with a tiny conical terminal joint; a small hair-tuft on the frons. Forewing relatively short and broad with the same neuration as in the preceding species. Veins 3 and 4 of hindwing arise separately, vein 6 stalked with 7, the costal vein near the cell-end. Half a dozen of tropical species are known.

Type of genus: *B. crossaea* Drc.

B. crossaea Drc. Forewing dark brown, somewhat lighter analwards with several greyish-brown *crossaea*. dentate postmedian transverse lines. Hindwing white with a large blackish-brown triangular spot at the anal angle. Mexico.

B. trajecta Dogn. (= *giacomelli* Koehler) has grey forewings with a broad black longitudinal line *trajecta*. traversing the cell and terminating on vein 5, with a postmedian double row of black vein-dots. Hindwing

of a pure white colour. The male antennae of this species are pectinated, plain at the ends. Described from Paraguay.

- tonac.* **B. tonac** Schs. (152 c). Forewing light grey with fine brown internerval longitudinal lines and a black basal and inner-marginal ray; postmedian vein-dots in a broad lighter area, a black dot in the lower cell-end also in lighter surroundings. The male shows the basal half much darker, also the apex of the wing, which contains a few thicker blackish-brown rays. The type described is a female of a rather common aberration with a blackish-brown longitudinal patch from the lower cell-end to the margin between the veins 2 and 4.
- pauperata.* — The more common form without this spot I denominate: **pauperata** f. n. (152 c). Mexico.
- fuscitincta.* **B. fuscitincta** Dogn. The yellowish-brown forewing is dusted with violet, grey in the centre of the costal margin, with a black basal ray from the base of the costal margin; both the transverse lines very feeble, dentate, blackish, in grey dusting, a yellowish spot at the cell-end; median area somewhat lighter, yellowish subterminal internerval spots, some of them with black streaks. Hindwing brownish. Expanse of wings: 49 mm. French Guiana.
- povera.* **B. povera** Schs. is very different; forewing light pinkish brown with a black basal dot and two transverse lines, the anterior one angled in the cell, the posterior one obliquely from the apex to the centre of the inner margin and touched by a dark costal-marginal shadow. Hindwing blackish. Expanse of wings: 32 mm. British Guiana.
- ignatia.* **B. ignatia** Schs. Head and thorax Isabel-coloured, abdomen with blackish bands. Forewing light reddish-yellow, slightly dusted greenish, broadly red-brown and strewn with black at the inner margin and in the postmedian area excepting the costal-marginal part, intensified in the median area above vein 1 and forming a blackish-brown longitudinal streak; transverse lines marked by black scales, the anterior one double at the costal margin, 2 rows of black scales behind the posterior line, the veins here scaled black and white; apex dusted white with a black streak between 7 and 8, shorter streaks between 5 and 7. Hindwing white, shaded with reddish-yellow at the inner margin and narrowly at the distal margin. Expanse of wings: 38 mm. Brazil (Blumenau).
- argenti-punctata.* **B. argenti-punctata** Dogn. is very different. The brownish-yellow ground of the forewing with red-brown veins and several transverse rows of silvery white internerval spots bordered with dark brown; three dark violettish-brown spots: at the base of the costal margin, the second behind it extends to the lower cell-angle and along the postmedian spots back to the costal margin, the third above the anal angle. Hindwing diaphanous white. Expanse of wings: ♂ 37, ♀ 46 mm. French Guiana.

88. Genus: **Chadisra** Wkr.

A very large genus most of the species of which had been assigned to the genus *Blera* Wkr., but which were now united with *Chadisra*; the species with a more pointed apex of the forewing had belonged to *Blera*, those with a rounded apex to *Chadisra*, no other anatomical differences having existed. The male antennae are shortly ciliated, the short hairy palpi hardly project beyond the frons; neurulation not different from that of the neighbouring genera; vein 5 of forewing arises from above the centre of the cross-vein, 6 from the centre of the areole; 3 and 4 of forewing arise together from the lower cell-angle, 6 stalked with 7 from the upper cell-angle, the costal vein proceeds near the cell-end. The species occur only in Central and South America and are often very sexually dimorphous, so that it is sometimes difficult to separate them.

Type of genus: *Ch. bipars* Wkr. from Ceylon. (Vol. X, p. 636, pl. 84 f).

- politia.* **C. politia** Cr. (= *ceruroides* Wkr., *rogenhoferi* Fldr.) (152 c) represents the typical species of the genus *Blera*. Forewing white, slightly strewn with grey with finely dentate black transverse antemedian and postmedian lines shaded with dark brown on the averted sides, the posterior line much broader; the latter proceeds near the apex and extends in a distally concave bow almost to the anal angle; 3 more or less distinct fine undulate brownish transverse lines in the median area, and a streak at the cell-end, oblique scalariform streaks between the veins before the margin. Hindwing whitish, smoky at the margin. Colombia, Guiana, Brazil. DYAR proposes to separate *ceruroides* which is said to differ in the postmedian line being more excurved above the anal angle.
- nitida.* **C. nitida** Schs. has silvery white forewings strewn with single brown scales, with small brown costal spots from which two finely dentate black transverse lines proceed, the posterior one of which forms an inward dent on vein 6 and is accompanied outside by a fine brown shadow which is double behind the cell; the marginal line is composed of lunular streaks, with black dots between them on the ends of the veins. Hindwing whitish, brownish on the veins and margin, with brown hair at the inner margin. Expanse of wings: ♂ 31, ♀ 34 mm. French Guiana.

C. serra *sp. n.* (152 c) is allied to *nitida*; forewing silvery white, scantily strewn with blackish-brown, *serra*. more densely in a triangular inner-marginal area, with 2 sharply notched black transverse lines, the anterior one proceeding from a triangular dark brown costal-marginal spot, the posterior one from a tiny spot in the centre of the costal margin, then extending almost parallel to the distal fifth, forming a sharp angle on the lowest subcostal branch, from where it runs dentated to the inner margin; it is followed by a red-brown dentate line which ends behind the cell in a large dark brown triangular costal-marginal spot containing long black wedges which project distally from the brown spot as black notches; before the postmedian line there is another indistinct reddish-brown line, a white crescent at the cell-end is composed of turned-up scales; blackish-brown arcuate streaks before the margin, small black spots behind them on the veins. Hindwing white, veins and margin narrowly brownish, inner margin with brown hair. 2 ♂♂ from Joinville (Brazil), type in the Senckenberg Museum.

C. hymen *Dyar* (152 d) has longer and narrower forewings than *serra*, of a silvery grey colour, shaded *hymen*. with brown subbasally in the costal-marginal half, also subterminally except the space between the veins 3 and 4; the black postmedian line is coherent only in the lower half, with a black longitudinal ray behind it between the median branches; a purely white crescent at the cell-end, a brown spot between the veins 4 and 5 near the margin; the marginal line is composed of black angular streaks. Hindwing whitish, brown at the distal margin with a white anal spot. British Guiana.

C. larca *Schs.* is very near to *hymen*; forewing white strewn with grey, with a large violettish-brown *larca*. spot near the base of the costal margin as far as into the cell, bordered by fine black lines, the distal one of which is dentately continued to the inner margin; the posterior transverse line is partly double, lilac brown shading behind it, interrupted below vein 4 and containing black longitudinal streaks. Undulate line purely white. Hindwing greyish-brown with white cellular and inner-marginal stripes and a broad darker margin, spotted black at the anal angle. French Guiana.

C. rubiginosa *Dogn.* is also allied to the preceding species, separated by intensely red-brown irroration *rubiginosa*. and red-brown markings, so that only the distal margin exhibits the light silvery grey ground-colour; the white spot at the cell-end is S-shaped, a white cellular dot before it. The other markings as in the preceding species, but more blurred in the brown ground. French Guiana.

C. infanta *Dyar* (152 d). Forewing silvery greyish-white, with a red-brown triangular spot subbasally *infanta*. at the costal margin, edged by black lines, a few brown costal-marginal striae behind it; of the postmedian line only two spots behind the cell are present and a larger L-shaped streak filled with brown between the median nervules; subterminal area brown only in the upper half; undulate line and discal spot white. Hindwing brownish with a white postmedian band. Peru, Bolivia.

C. velha *Schs.* is somewhat like *infanta*; forewing silvery white, scantily strewn with grey, more *velha*. densely at the inner margin, with brown costal-marginal spots, a very large one below them before the centre, all finely bordered with black, the middle spot continued to the centre of the inner margin; postmedian line double, shaded with brown at the inner margin, in the upper half outside with a purple brown band enclosing 3 black small triangular spots; marginal line similar to that in the preceding species. Hindwing white, brownish-black in the distal half of the costal margin and at the margin. Brazil, Colombia.

C. finiana *Schs.* Head and thorax white, intermixed with brown, abdomen white, the 4th and 5th *finiana*. segments brown. Forewing white, strewn with light cinnamon; a brownish-black antemedian area between the subcosta and the median vein, bordered by an irregular black line, a feeble brownish shadow in the median area, and a white lunar spot at the cross-vein; postmedian line double, the interior portion shadowy, brownish, the exterior portion a very fine black line, with a broad sand-brown shadowy spot behind it between 4 and the costal margin, bordered outside by the white dentate subterminal line; a dark hook-line between 2 and 3, and a brownish spot above the tornus; marginal area between 4 and the apex dark with black marginal lunae, white below them. Hindwing white, blackish-brown at the distal margin, with a short curved apical line. Expanse of wings: 34 mm. Colombia.

C. arecosa *Drc.* (= *cacobule* ♀ *Dyar*) (152 d). The white forewing is strewn with brown and grey, *arecosa*. with a broad brown subbasal band, dying away towards the inner margin, with small brown costal-marginal spots and a very large subapical one with a smaller one below it. Hindwing light grey with a brown margin. The ♀, described as *cacobule*, looks quite different: forewing grey, the brown subbasal band traceable, with fine black transverse lines, a yellowish-white cell-end streak and 2 dots before it, with a distinct blackish-brown undulate line ending below in 2 small spots. Panama.

C. torresi *Dogn.* (= *perilleus* *Schs.*) (152 d) is similar, forewing light brownish-grey, with a large *torresi*. brownish-black spot subbasally at the costal margin, and a black undulate line behind it; an angular dark grey line in the median area and two light patches in the cell; the irregular black postmedian line is interruptedly shaded with brown outside, the undulate line broad white with small irregular black spots before it. Hindwing white, broadly dark grey at the distal margin. Brazil, Ecuador.

- lemoulli*. **C. lemoulti** Dogn. (= *hollandi* Schs.) (152 b) is another variation of the preceding species with purely white forewings with 2 very large and 2 small blackish-brown costal-marginal spots, without any other markings except a few brown scales at the anal angle. Hindwing white. The unknown ♀ may be grey and very different. French Guiana.
- tenuis*. **C. tenuis** Schs. (= *costaricensis* Dogn.) (152 e) is a smaller not rare species, marked somewhat like *larca*: forewing dull silvery white, scantily strewn with black, with fine black median and postmedian lines, with small brownish strigiform spots at the costal margin between them; behind the postmedian line follows a series of large light brown spots distally centred with black, interrupted between the veins 3 and 4; a fine black scalariform line on the margin. Hindwing white with a narrow brownish distal margin. Widely distributed from Mexico to Brazil. The ♀ shows the whole centre of the wing and the subterminal area darkened blackish-brown with a slight pink tinge.
- modulata*. **C. modulata** Schs. (152 e) is allied to *tenuis*, forewing dark grey, whitish at the inner margin at the base and in the middle, with fine black transverse lines and a white undulate line which is straight in the upper half, then twice interrupted; the black marginal line is straight in the upper half, bordered with white inside, with brown outside, then undulate, white outside. Hindwing white, brownish at the margin, quite brown in the ♀. Costa Rica.
- luculenta*. **C. luculenta** Schs. (152 e). Forewing light brown, strewn with blackish below the basal third of the cell, with a double black antemedian transverse line filled with white; the median area behind it is broad white, traversed by dentate black lines and distally bordered by a double postmedian line which is removed far inwards on the upper median nervule, so that the median area ends very narrow at the inner margin; black subterminal wedges in the upper half and small brown spots in the lower half. Hindwing white, black at the distal margin. Costa Rica.
- peirreta*. **C. peirreta** Dogn. Forewing bluish-grey, white at the base and in the centre of the margin, with fine double transverse lines and a white cell-end streak surrounded with brown. Hindwing white with a small black anal spot. Expanse of wings: 35 mm. Trinidad.
- hibrida*. **C. hibrida** Schs. Forewing grey, with a brown tinge before the centre, the anterior double transverse line filled with lighter brown, a white streak at the cell-end and a blackish-brown shadow behind it; the posterior transverse line is velvety blackish-brown shaded with brownish behind it; the distal margin behind the white undulate line is whitish dusted with brown, most densely so in the upper half. Hindwing whitish, greyish-brown at the margin. The ♀ differs in a velvety black undulate line bordered with white outside, and darker hindwings. Costa Rica.
- multifida*. **C. multifida** Schs. Basal half of forewing dark brown enclosing a darker transverse line which is double at the costal margin; a dark brown cellular spot is bordered with reddish-yellow on both sides, the posterior transverse line is velvety black, distally shaded with brown in the upper half, bordered with white in the lower half, with a velvety black longitudinal streak behind it between the veins 4 and 6, and a dark spot below it; a dark brown submarginal shadow contains black streaks in the upper half, a white dentate line behind them. Hindwing white with brown marginal line and spots at the apex and anal angle. Expanse of wings: 30 mm. French Guiana.
- chorista*. **C. chorista** Schs. Forewing white, strewn with grey, with brown costal-marginal spots and a black straight antemedian line bordered with white on both sides, a white streak at the cross-vein; the black postmedian line is shaded with brown distally, broadest above the inner margin and here with a black longitudinal streak behind it; the whitish undulate line is broad. Hindwing whitish, brownish at the margin. Expanse of wings: 38 mm. Guatemala.
- comana*. **C. comana** Dogn. Forewing white, dusted with brown and strewn with yellow, with a darker basal band bordered with yellow, and a white cell-end dot; behind the brown postmedian line follows a broad brownish-black band, interrupted by a yellow spot between the veins 3 and 4; black, white-dusted streaks are in the brown marginal area between the yellow veins. Hindwing blackish, fringe light. Expanse of wings: 36 mm. Described from a ♀ from French Guiana.
- flavodiscalta*. **C. flavodiscalta** Dogn. (= *distinguenda* Roths.) (152 e) is easily recognizable by the broad yellow discal streak on the light yellowish-grey forewing with very sinuate chestnut-brown subterminal shading. Hindwing grey, whitish in the costal-marginal half. French Guiana.
- ocrea*. **C. ocreata** Dogn. (152 e) has brownish ochreous forewings strewn with lilac grey, with indistinctly double transverse lines and a white ring-macula and reniform macula, surrounded by lilac; the broad subterminal band is light lilac grey, bordered inside by a black line. Hindwing white with a blackish marginal band. Expanse of wings: 43 mm. Bolivia (Songo).
- collema*. **C. collema** Schs. (= *praelauta* Schs.). The basal third of the costal margin on the forewing and the cell are whitish, strewn with brown, the rest brown excepting the marginal area which is white above the upper median branch and strewn with brown, transverse lines black, the posterior

line bordered with white; a dark grey shadow in the cell-end, dusted light brown before it; black subterminal spots near the costal margin and inner margin, the latter spots smaller. Hindwing brownish, darker distally. Costa Rica.

C. lauta Schs. has light brown forewings, white at the distal margin and strewn with grey, broadest *lauta*. in the middle and above the anal angle; inner margin purely white, the veins strewn with black and white, traces of black transverse lines in the brown area; the dentate marginal line is dark grey. Hindwing white with a dark marginal shadow. Expanse of wings: 31 mm. British Guiana.

C. lautina Dogn. is very closely allied to *lauta*. Forewing grey, partly mixed with reddish-yellow, with *lautina*. black fragmentary transverse lines; a white crescent at the cell-end with a white spot before it; a black crescentiform line in the white marginal area. Hindwing dingy white with a blackish marginal band. Expanse of wings: 37 mm. French Guiana.

C. ulrica Schs. Body brownish sand-coloured, intermixed with white, with a darker collar. Forewing *ulrica*. sand-coloured, dusted with brownish-grey subcostally, with brown transverse lines, the anterior ones only visible below the cell, the posterior line dentate, forming two blackish-brown crescents above the inner margin, another fine blackish-brown line behind it, being vertical between 6 and 4, then undulated to the inner margin, a brownish-black streak behind it above 2, and smaller ones above it, followed by the faint white subterminal line. Hindwing white, costal and distal margins brown. Expanse of wings: 38 mm. Amazons.

C. ezrana Schs. is similar to *lautina*. Body brownish, intermixed with white. Forewing light reddish *ezrana*. brown, costal margin, inner margin, and marginal area strewn with white, with short black basal longitudinal streaks; transverse lines indistinct, darker, double, the anterior one filled with white; 2 small black spots at the cross-vein; the brown subterminal shadow bordered with white distally, more purely white and widened below 4; marginal area spotted white. Hindwing brownish-white with darker veins and a broad dark margin and 2 white lines above the anal angle. Expanse of wings: 41 mm. Brazil (Rio Purus).

C. celsa Schs. is near *tenuis* (152 e) and *lauta*; anterior body white mixed with brownish, abdomen *celsa*. drab, somewhat ochreous basally, white at the end. The white forewing is strewn with brownish, less so in the marginal area; the dark transverse lines are fine, the antemedian line bordered inside with a purer white, scaled black behind it on the median vein and submedian fold, a small white spot at the cross-vein; a broad brown shadowy band behind the fine postmedian line, spotted black analwards, faded brown subterminal shading. Hindwing white, narrowly brown at the margin and the ends of the veins. Expanse of wings: 36 mm. Bolivia (Rio Songo).

C. emeteria Schs. differs from the similar *extranea* (153 a) in its lighter colouring and intermixed *emeteria*. reddish-yellow markings. Thorax brownish sand-coloured, more reddish on the vertex and collar, intensely mixed with white on the tegulae, abdomen brownish above. Forewing silvery white, scantily strewn with brown sand-colour, with double blackish-brown transverse lines, the subbasal line cutting a reddish-yellow spot at the base of the inner margin, the antemedian line filled with brown downward from the cell and distally bordered with reddish-yellow, a yellow crescent at the cell-end; brown dusting at the inner margin before and behind the postmedian line; a subterminal row of black internerval streaks and spots. Hindwing white, broadly brownish at the margin. Expanse of wings: 36 mm. Brazil (Rio Purus).

C. argentata Drc. Forewing dark brown with a silvery shine, with a yellowish-brown basal line and *argentata*. cell-end spot, with fine dentate black median and postmedian transverse lines; the distal margin is broadly silvery grey with a series of black marginal streaks. Hindwing greyish brown, with yellowish hair at the inner margin. Expanse of wings: 45 mm. South-Eastern Peru.

C. fitilla Dogn. (152 f) has white forewings marked brown, with double transverse lines, the anterior *fitilla*. one interrupted in the cell, the posterior one followed by dentate-like striation enclosing black spots, a white undulate line behind it; upper half of marginal line straight, lower half undulate. Hindwing white with a black costal-marginal and distal-marginal band. The ♀ is much darker with darker hindwings. Expanse of wings: 43 mm. French Guiana.

C. paragorna Schs. (152 f) is allied with *fitilla*; body brown intermixed with white hairs. Forewing *paragorna*. brownish olive, intensely dusted with white, especially basally and at the costal margin with double blackish-brown dentate transverse lines, with a white streak behind the anterior line below vein 2, the posterior line removed inwards on 5, filled with white between 2 and the inner margin, black streaks behind it between 5 and 8, and a larger spot below vein 2; marginal area more or less white. Hindwing white, broadly smoked at the margin, darker in the ♀. Panama (Lino), Brazil (Rio Purus).

C. albolilacea Dogn. Forewing white in the basal half, distally light violet with black strewing, 4 *albolilacea*. sharply dentate fine black lines in the white part, a double line on the border of the two colours; a similar

postmedian line and a shadow in place of the undulate line; marginal line dentate. Hindwing blackish with darker veins and marginal band and white fringe. Expanse of wings: 42 mm. French Guiana.

varona. **C. varona** Schs. (= *florella* Drc.) (152 f) has white forewings strewn with olive grey, an olive brown band is somewhat narrower in the cell and edged with black lines, connected at the inner margin with the double postmedian line the distal portion of which exhibits small black vein-dots; a triangular olive grey subapical spot at the costal margin. Fringe white and speckled dark. Hindwing brownish-black with yellowish fringe. Brazil (Castro, Parana). DYAR places also *Dognina peruda* to this species, distinguished by whiter forewings and white hindwings.

batama. **C. batama** Schs. Forewing brown, whitish at the base and inner angle, with a long white subapical spot enclosing 4 small black spots at the costal margin; dark double transverse lines are rather indistinct, a dark median shadow between them with a lighter cellular spot. Hindwing yellowish-white, brownish distally. Expanse of wings: 36 mm. Brazil (Rio de Janeiro).

zabena. **C. zabena** Schs. (152 f) is somewhat similar, forewing brown dusted with violettish-grey, the lower half of the distal margin white strewn with black, and the same white long costal-marginal spot enclosing 4 small black spots and 2 dark longitudinal streaks behind it; the double transverse lines very indistinct. Hindwing dark brown, lighter basad. Mexico.

zabenilla. **C. zabenilla** Dogn. (152 f) is very similar to *zabena*, but somewhat smaller, with narrower wings, the brown colour more extensive, the white subapical spot at the costal margin much smaller and dusted with grey, the lower half of the distal margin quite brown, intermixed with very few white scales; the other markings are exactly the same. Hindwing lighter, more whitish. Guiana, Colombia.

malocampoides. **C. malocampoides** Dyar. Forewing olive green strewn with grey, with round lighter spots at the base of the inner margin, anal angle and subapically at the costal margin, the veins finely strewn with black; of the fine black dentate transverse lines only the median line is double, the distal one and interior one single, the former with black vein-dots behind it; a dark brown shadowy spot at the cell-end encloses a black dot; light small roundish spots on the margin, the fringe speckled dark. Expanse of wings: 40 mm. Peru.

cucullioides. **C. cucullioides** Schs. (= *lignosa* Dogn., *pigritia* Dogn.) (152 f). Forewing light brown, strewn darker, especially behind the middle, narrowly whitish at the margin, with fine black veins; transverse lines faded, strongly notched, a thick black dot behind the postmedian line between the median nervules. Hindwing whitish, narrowly brownish at the margin with black veins and marginal line, and an anal spot parted by light. Colombia, Brazil.

89. Genus: **Rincodes** Schs.

Separated from the following genus *Talmenia* by the serrate antennae, erect stronger palpi, and long scale-tuft on the abdomen. Neuration exactly the same as that of *Talmenia*. Only 1 species:

Type of genus: *R. minuta* Drc.

minuta. **R. minuta** Drc. may coincide with *clara* Cr. IV, t. CCCC, fig. L, nec t. CCCXI. Forewing dark brown with 2 long metallic silvery stripes, the first in the cell near the base, the second behind it almost to the margin, before which there is a series of dark brown internerval stripes. Hindwing reddish-brown with a darker margin. Expanse of wings: 40 mm. Amazons, Manaos.

90. Genus: **Talmenia** Mschlr.

♂ antennae studded with short ciliary tufts, the feeble palpi porrect, scantily haired. Forewing with an obliquely rounded distal margin; vein 5 arises from the centre of the cross-vein, 6 from the centre of the arcole, 7 and 8 stalked with 9 from the apex of the areole, vein 10 arises before its end. Costal margin of hindwing somewhat convex in the basal half, apex pointed, neuration not different from that of *Chadisra*. Only 1 species:

Type of genus: *T. arsilonchoides* Mschlr.

arsilonchoides. **T. arsilonchoides** Mschlr. has light yellowish loam-coloured forewings with finely striped brownish veins and similar internerval stripes, a faint darker longitudinal submedian patch from the base to the margin between the lower radials; 2 dark dots at the cell-end; one above the other, another dot in the centre of the cell; no transverse lines whatever, a few dark vein-dots instead of the posterior line. Hindwing whitish, feebly brownish at the margin, inner margin with brown hair. Guiana.

91. Genus: **Ophitis** Fldr.

Founded upon one species, scarcely different from *Gisara*; only separated by the somewhat shorter palpi, broader forewings with a somewhat rounder distal margin; no difference in the neurulation.

Type of genus: *O. magnaria* Fldr.

O. magnaria Fldr. (152 h) is a very large blackish-brown insect with a darkened basal part which is distally bordered by a notched line, a spot like a reniform macula at the cell-end, a notched postmedian line behind it, only visible in the discal part; subterminal area somewhat lighter, enclosing a whitish undulate line, 3 thick black spots before it in the lower half; apex parted by white. Hindwing greyish-brown with a dark marginal band. Brazil.

92. Genus: **Meragisa** Schs.

A large genus of very homogeneous insects with densely hairy body and legs, also the second joint of the palpus is densely hairy, the last joint very short, hidden in the hair. The male antennae are studded with ciliary tufts as in all the preceding genera. Forewing relatively narrow, costal margin somewhat convex at the base, distal margin broad, rounded; neurulation exactly the same as in *Chadisra*. Nearly all the species have light forewings with notched mostly double transverse lines of a characteristic course.

Type of genus: *M. valdiviesoi* Dogn.

M. valdiviesoi Dogn. (152 h). Forewing greyish-white, the fox-coloured median area bordered by double black transverse lines, the anterior line oblique to the centre of the inner margin, the posterior line arising shortly before the apex, extending to the anal angle in two flat distally concave bows; a fine black crescentiform line before the margin, the lower half of which is as usual scalariform. Hindwing yellowish with a broad brownish-grey marginal band and a median shadow before it. Ecuador.

M. boliviana Dogn. is very closely allied, the forewing somewhat more intensely strewn with black, the anterior transverse line less oblique and less dentate, the distal line less distinct and more irregular than in *valdiviesoi*, only 4 mm distant from the anterior line at the inner margin, the median area more red-brown with a violet tinge. Expanse of wings: 53 mm. Bolivia.

M. semifulva Drc. Forewing greyish-white, the transverse lines red-brown, dusted with yellow basally and in the median area, with a yellow spot at the cell-end, a submarginal row of black spots. Hindwing blackish-brown with yellow inner margin and fringe. Expanse of wings: 57 mm. Peru.

M. simeona Schs. is somewhat similar to *boliviana* by the brown-strewn median area; the same strewing is below the base of the cell; wings white, dusted with brownish cinnamon at the inner margin in the basal two thirds; the thick double anterior transverse line is chestnut-brown, finely dentate, the posterior line very indistinct and fine; a fine blackish-brown line bordered with white is at the cross-vein; small orange cinnamon spots behind the blackish-brown subterminal line, a curved black line at the margin. Hindwing brownish sand-coloured with a light reddish-yellow inner margin and white fringe. Expanse of wings: 45 mm. Monte Tolima, Colombia (Quindiu Pass).

M. siavina Schs. Forewing grey strewn with brown, the usual double transverse lines are brown, with a dark cell-end streak bordered with white. Hindwing dull blackish-brown, inner margin and fringe yellowish-white. The ♀ shows the transverse lines and the distal half of the median area filled with brown, the hindwing with brown hair at the inner margin. Expanse of wings: ♂ 55, ♀ 58 mm. Costa Rica.

M. medionigra Dogn. Forewing grey strewn with red-brown in the basal area, at the costal margin and in the marginal area, the median area is black with a still darker cell-end streak in it, bordered by double transverse lines. Hindwing blackish, yellowish at the inner margin and fringe. Expanse of wings: 47—48 mm. Colombia.

M. cloacina Dogn. (152 g) introduces a group of very similar species which are difficult to separate; forewing white strewn with grey, with double black transverse lines and a black cell-end streak. Hindwing blackish, yellowish hair at the inner margin, fringe white. Colombia, Ecuador, Peru.

M. salvina Schs. is near *pallida* and *cloacina*, but not so purely white because of the brown strewing of the white forewing; the extreme costal margin is reddish-yellow, the subbasal line yellow, scaled brown distally, both the double reddish-brown transverse lines filled with yellowish, the anterior line interrupted distally in the cell; a dark median line from the costal margin to the median vein, bordered with yellow outside at the cross-vein. Hindwing brownish sand-coloured with a reddish-yellow inner margin and white fringe. Abdomen reddish-cinnamon basally. Expanse of wings: 54 mm. Guatemala (Cayuga).

M. vistara Schs. is also similar; larger, forewing silvery white strewn with reddish-brown; the double black transverse lines are filled with reddish olive like the subbasal line which is double at the costal margin; a white spot at the cross-vein with a black and reddish-yellow line, a fine dark line above it at the costal

margin; the usual black oblique submarginal streaks with small black marginal spots behind them. Hindwing brown with a reddish-yellow inner margin, a blackish-brown postmedian line and traces of a subterminal line, fringe white. Expanse of wings: 63 mm. Colombia (Buena Vista).

darida. **M. darida** Dogn. is more strewn with brown and discernible by a different course of the subterminal double line extending quite straightly between the veins 3 and 4, while in *cloacina* it forms a more distally removed dent. Expanse of wings: 48—50 mm. Peru.

dasra. **M. dasra** Dogn. (152 g) is smaller, with fragmentary transverse lines, the subterminal line forms a straight line between the veins 2 and 4. South-Eastern Peru.

pallida. **M. pallida** Schs. (152 g) differs in its purer silvery white forewings which are sparingly strewn with black, the transverse lines only double at the margins, single in the disc. Hindwing lighter brownish-grey, still lighter at the inner margin and in faint traces of a postmedian line. Expanse of wings: 45 mm. Brazil (Castro, Parana).

politioides. **M. politioides** Schs. (= *politia* Drc. part., *proxima* Schs.) (152 g). The greyish-white ground is strewn with brown and black, the black double lines are filled with yellowish scales, the marginal line is dusted with yellow inwards, like the ends of the veins. Hindwing blackish, yellowish basally. From Mexico to Brazil.

marcata. **M. marcata** Dogn. (152 i) has purer white forewings, much more distinctly black transverse lines, small black round spots behind the distal line between the veins 2 and 3, and 5 and 6; the reniform macula is almost rectangularly bent in the middle and is composed of 2 fine black lines which are open above and below; marginal line dusted somewhat yellowish as in *politioides*. Hindwing grey. Expanse of wings: 48 mm. Colombia.

inalbata. **M. inalbata** Dogn. (152 h). Forewing silvery white with double red-brown transverse lines, the anterior one rather straight, the posterior one from near the apex to the third quarter of the inner margin, removed distally between the veins 3 and 4. Hindwing as in the preceding species. Expanse of wings: 46 mm. Peru.

albescens. **M. albescens** Schs. (152 h) has white forewings sparingly strewn with light brown, with double dentate transverse lines, the anterior one black, interrupted below the cell, the interior part of the posterior line light brown, distally removed between 3 and 4; a dark brown streak at the cell-end, a very strongly dentate marginal line on the margin. Hindwing whitish-grey, yellowish in the basal half, a median line, a broad marginal shadow and the veins are darker brownish-grey. Costa Rica to West Colombia.

innoxia. **M. innoxia** Schs. is the only *Meragisa* without the double black marginal dots on the ends of the veins and thereby invariably to be determined; forewing olive greenish-grey, the dark double transverse lines similar as in all the others, filled with whitish, with another double almost straight basal and subbasal line, the space behind the postmedian line somewhat darker. Hindwing dark brown with yellowish fringe. Expanse of wings: 46 mm. Mexico (Tabasco), Panama (Chiriqui), Costa Rica.

dejecta. **M. dejecta** Schs. has likewise greenish-grey forewings, but with the usual black double dots on the ends of the veins, the double black transverse lines filled with yellowish ochre, the anterior one extinct below the cell, another fine dark line before the posterior line, so that it becomes threefold. Hindwing brownish-black, yellowish at the inner margin and fringe. Expanse of wings: 54 mm. Costa Rica.

euthymia. **M. euthymia** Schs. differs from the similar *innoxia* and *submarginata* in its colour and white fringe; forewing white, thickly strewn with brown sand-colour, both the brown transverse lines double, the posterior one only traceable; the brown subterminal line is also double, it forms but one crescent between 6 and 4 and is interrupted inwards on 3; the blackish-brown broken marginal line is distinctly bordered with white inside; fringe white, a black punctiform line before it. Hindwing dark greyish-brown, reddish-yellow at the inner margin, with a dark curved line at the anal angle. Fringe white. Expanse of wings: 51 mm. Santo Domingo, Peru.

caeca. **M. caeca** Dogn. Forewing lighter or darker slate-coloured, the black double transverse lines filled with brown, the posterior one bordered with brown also outside; white dusting before the oblique black marginal streaks, the ends of the veins are also white, finely bordered with black. Hindwing blackish, base and inner margin yellowish. Expanse of wings: 40—45 mm. South-Eastern Peru.

montana. **M. montana** Schs. is grey on the forewing, dusted with brown, with the usual double lines, the anterior one brown, the posterior one black bordered with ochre in its interior part, the exterior part brown distally bordered with grey, with a brownish shadow in the upper half behind it; yellow and black scales on the cross-vein, the inner margin shaded somewhat brownish. Hindwing brownish-black, light brown at the base and inner margin. The ♀ shows blacker transverse lines, the anterior one faded and shaded with black below the cell. Expanse of wings: 50 mm. Peru.

M. *sidata* Schs. is darker than *politioides*, intensely strewn grey and reddish-yellow, the transverse *sidata*. lines of the same course as in *politioides*, filled with a somewhat greenish colour; fringe yellowish. Hindwing dull brown with yellow fringe. Expanse of wings: 49 mm. Venezuela.

M. *thryeston* Drc. is allied to *sidata*, but the forewing is silvery white strewn with black, with a yellow *thryeston*. basal spot surrounded by black, the transverse lines black, scaled yellowish, fringe white. Hindwing black with yellow inner margin and fringe. Expanse of wings: 50 mm. Peru.

M. *limosa* Schs. has blackish forewings strewn with grey along the costal margin and apex, the trans- *limosa*. verse lines quite indistinct in the dark ground, only the submarginal line is somewhat more distinct; a short black longitudinal streak behind the cell. Hindwing whitish, dusted with black at the margins, with a small black anal spot. Expanse of wings: 48 mm. Brazil.

M. *submarginata* Schs. (= *julia* Drc.) (152 i). Forewing greenish-grey strewn with dark brown, lighter *submar-* grey at the base of the inner margin, the double black transverse lines of the usual course, the posterior line *ginata*. distally shaded with grey, small grey submarginal spots bordered with dark velvety brown inside. Hindwing black, inner margin and fringe ochreous. Peru.

M. *mochosema* Schs. Forewing reddish-olive strewn with blackish-brown, the vertical anterior transverse *mochosema*. line blackish-brown, twice interrupted on the veins, a double median line close behind it; a few black scales behind the white discal streak; the double subterminal line behind the fine postmedian line begins near the apex and is filled with dark olive between the costal margin and 6, and between 2 and 3; a feeble irregular shadow behind it; the brown marginal line bordered with white inside recedes below 6 and extends undulated to vein 2, from where it forms oblique marginal streaks. Hindwing brown with a double white-marked anal-angular line and white fringe. Expanse of wings: 41 mm. Teffé, Amazons.

M. *arida* Schs. (= *basifera* Rothsch.) (152 h, i). Forewing greenish whitish-grey, strewn darker, with *arida*. a broad dark brown basal area enclosing 2 blackish transverse lines; a postmedian and submarginal transverse row each of small roundish white spots scaled yellow and black outside. Hindwing whitish, inner and distal margins smoky grey, quite brown in the ♀. Guiana, Colombia, Bolivia.

M. *arenosa* Schs. Forewing dingy white, strewn with grey and light brown, especially at the costal *arenosa*. margin and in the median area, with a brown oblique basal shadow below the cell; dark brown lines at the cell-end and dusted reddish-brown lines between them are connected with a large brown costal-marginal spot before the apex, small brownish internerval spots on the margin, no transverse lines whatever. Hindwing scantily scaled, brown, yellowish-white at the inner margin and base. Expanse of wings: 33 mm. French Guiana.

M. *seitzi* sp. n. (152 i) is near to *arenosa*, but much larger; forewing white, strewn with brown, most *seitzi*. densely so at the costal margin and in the median area basally below the cell with a blackish-brown triangular spot extending obliquely to the inner margin, with several double blackish-brown notched fine transverse lines, one also in the middle; a dark brown reniform macula at the cell-end is edged with white on both sides; a large blackish-brown costal-marginal spot behind the postmedian line extends pointed to the apex and forms a dent downward distally above the uppermost radial branch; 2 large blackish-brown spots above the anal angle, regular submarginal lunar spots distally filled with brown. Hindwing brownish-grey. Described from 2 ♀♀, one from Paramaribo, the other from Bolivia, in Coll. SEITZ. Type in the Senckenberg Museum.

M. *polycarpa* Schs. is closely allied with *arenosa* Schs. Forewing white thickly strewn with reddish- *polycarpa*. brown, which is condensed to a dark shadow apically; subbasal line double, a grey spot behind it at the inner margin, both the transverse lines double, dark brown. the posterior line with long dents as far as the marginal line which is composed of black lunules, more of small spots towards the apex; fringe speckled white and brown. Hindwing reddish-brown, dark brown at the margin, fringe white. Expanse of wings: ♂ 34, ♀ 35 mm. Rio Purus (Brazil).

M. *phastioides* sp. n. (152 k) is easily recognisable. The pale yellowish ground of the forewing is *phastioides*. densely strewn with blackish-brown, producing an olive impression; the double subbasal line together with the treble antemedian line in the basal third of the costal margin down as far as the median line forms a quadrangular blackish-brown spot by denser strewing, this spot extending shadow-like through the lower half of the cell as far as behind the postmedian line; a short dark streak at the cross-vein, a fine strongly curved line behind it; postmedian line threefold, from near the apex in a straight line obliquely to vein 3, receding a little below it, and curved almost to the anal angle, whitish in the interior portion, distinctly filled with light blue between 2 and 4, the exterior portion filled with blackish-brown between 2 and 4 and 6 and the costal margin; subterminal area much lighter owing to the very scanty strewing, the margin itself darker again, containing a somewhat punctiform marginal line. Hindwing red-brown, cell and costal margin above it lighter, a dark double streak filled with whitish at the anal angle. Fringe whitish. 2 ♂♂ from Rio Putumayo, Mocoa, Colombia; February 1921, in the Berlin Museum (WERNER HOPP leg.).

rufipuncta. **M. rufipuncta** Drc. (152 i) is the most easily discernible species with silvery grey forewings with fine black double lines, large red-brown round spots, one at the base, one in the cell, two behind it and one at the anal angle. Hindwing greyish-black, yellow at the base and inner margin, fringe speckled yellow and black. Peru.

93. Genus: **Phastia** Wkr.

Extraordinarily near to the preceding genus, chiefly separated by the more slender, straightly porrect and not so thickly haired palpi and also more slender hairless legs. Costal margin of hindwing straight, distinctly convex at the base in the preceding species. No difference whatever in the neuration. Half a dozen of tropical species are known.

Type of genus: *P. basalis* Wkr.

- basalis*. **P. basalis** Wkr. (152 k). Forewing greenish olive with an oblique blackish stripe from the first quarter of the costal margin to the anal angle, strewn with reddish-brown below it, with a light round, dark-centred macula at the cell-end and a distally concave postmedian line. Hindwing brownish-grey. Colombia, Brazil.
- alcimede*. **P. alcimede** Drc. (152 k). Forewing dark brown, a reddish spot at the base and 2 yellowish transverse lines, a postmedian and submarginal row each of small greyish-white spots, the latter row containing black dots. Hindwing dark brown with somewhat lighter fringe. Panama to Ecuador, Colombia and Bolivia.
- duronio*. **P. duronia** Drc. (152 k) is light reddish-brown on the forewing, with a white subbasal line bordered with dark brown outside, a very oblique transverse row of black dots behind it from near the apex to the centre of the inner margin; a curved submarginal row of black dots edged with white inside. Hindwing dark brown with lighter fringe. Costa Rica, Panama.
- umbrata*. **P. umbrata** Schs. (= *rufolineata* Dogn.). Forewing light brown, shaded with grey basally, also at the distal margin above each vein; a round reddish-brown spot above the base of the inner margin, indistinct darker brown transverse lines proceed from the shaded lilac and grey costal margin, a whitish undulate-linear shadow before the margin. The whitish ground of the hindwing is densely dusted with lilac brown. Expanse of wings: 30 mm. French Guiana.
- ochreata*. **P. ochreata** Schs. looks quite different: forewing ochreous above the median vein and the lowest radial branch, violettish-brown below it with a grey submedian shadow; the base of the cell, the outermost costal margin and the two upper radial branches are violettish-brown. Hindwing smoky grey, darkest at the inner margin, the ends of the veins and a marginal shadow reddish-brown. Expanse of wings: ♂ 32, ♀ 36 mm. French Guiana.

94. Genus: **Euphastia** Dogn.

The only small species is similar to the preceding species, but the second palpal joint is somewhat more hairy; vein 5 of the forewing arises from the centre of the cross-vein, and 6 and 7 of the hindwing are not stalked, but arise from the same base, and the costal vein arises before the cell-end.

Type of genus: *E. nubila* Drc.

- nubila*. **E. nubila** Drc. (= *ophidera* Dogn.) (152 k). Forewing yellowish ochreous with a slight greenish tinge, a blackish transverse band at the base and another one beginning in the cell, bending distally above the inner margin and rising again subterminally, terminating at the cell-end in a thick black small round spot; subapically strewn with brown. Hindwing light brownish, darkened at the margin. Guiana, Colombia.

95. Genus: **Dugonia** Schs.

The only species has longer palpi with a smooth terminal joint, antennae of the ♀, which is only known so far, serrate, with ciliary tufts basally, then only ciliated as far as the middle. Hind tibia with 2 pair of long spurs. Forewing long and narrow, margin slightly undulate-dentate; veins 3 and 4 from the lower cell-angle, 5 from the centre of the cross-vein. Areole short, arising from the cell-end, 6 from the upper cell-angle, 7—10 from the end of the areole. Hindwing with a straight costal margin and a rounded apex; 4 and 5 from the lower cell-angle, 6 and 7 from the upper cell-angle, 8 arises before the centre of the cell.

- eliera*. **D. eliera** Schs. Forewing chestnut-brown, dusted with cinnamon-orange at the inner margin, expanded analwards as far as between 2 and 3, before which there is a white triangular spot and a white streak above it as far as the margin; double postmedian and subterminal rows of blackish-brown spots, and a brown oblique shadow from the cell to the apex; small white lunules subterminally between 5 and 1. Hindwing brown, cinnamon-orange at the inner margin and strewn with white and spotted black. Expanse of wings: 30 mm. French Guiana.

96. Genus: **Euxoga** *Mschlr.*

♂ antennae ciliated, the rather long palpi with thick but smooth hair, with a longer terminal joint. Forewing broad with a straight costal margin and indented distal margin as far as the upper median branch, then obliquely to the inner angle. Neuration not different from that of all the preceding species except the costal vein of the hindwing arising nearer at the centre of the cell.

Type of the genus: *E. argenteopunctata* *Mschlr.*

E. argenteopunctata *Mschlr.* (= *senilis* *Dogn.*) has brown forewings strewn with blackish, the two transverse lines marked by single rows of silvery white dots, the reniform macula is also represented by 4 small silvery spots arranged cross-like; the subterminal line is composed of a double row of white dots, the interior row being situate on the veins, the exterior one between them; a darker shadow extends before these two rows. Hindwing yellowish-grey, brownish at the margin. Expanse of wings: 34—41 mm. Dutch Guiana. *argenteo-punctata.*

E. amatura *Schs.* Head and thorax white, strewn with reddish-brown, abdomen brown above, white basally, at the end and beneath. Basal half of forewing light drab, strewn with brownish-black, more densely in the marginal area; subbasal line double, one antemedian and median line each, slightly separating below the cell, a white spot above vein 1; an olive, white-edged line at the cross-vein, continued above and below towards the base; the fine dark postmedian line is dentate, a light grey line behind it, with double black and white vein-dots behind it; then follows a dark brown shadow extending from 6 to the costal margin and from 2 to the anal angle; a large light grey spot at the apex and a similar lunular line before the margin. Fringe brown. Hindwing blackish-brown, lighter basally, with a white inner-marginal stripe. Expanse of wings: 30 mm. Amatura, Amazons. *amatura.*

E. pistacina *Dogn.* differs from *amatura* in the light green basal half of the costal margin and the somewhat deeper basal spot which is likewise light green, the distal half of the cell of the same colour; marginal area lighter reddish-brown, containing 4 black marginal spots, the white anal spot and the yellow strewing behind it are more or less indistinct. Expanse of wings: 37—39 mm. French Guiana. *pistacina.*

E. balba *Dogn.* (= *caudatula* *Schs.*) (153 a). Forewing brownish-white with a pink tinge, more purely white at the costal margin, spot-like white dusting in the centre of the margin, one brown spot each in the basal area and in the centre of the cell, and 3 white transverse lines. Hindwing reddish-brown with a white anal fold and a caudiform hair-tuft at the anal angle. French Guiana. *balba.*

97. Genus: **Goaxis** *Schs.*

Separated from the preceding genus merely by the margin not being smoothly edged but dentate, its concavity not beginning already at the apex but only at vein 6.

Type of genus: *G. singularis* *Schs.*

G. singularis *Schs.* (153 a) has brown forewings, strewn with blackish at the inner margin, the darkest in a triangular shape behind the base, with double dentate black transverse lines filled with lighter reddish-yellow, and a black discal streak bordered with white on both sides. Hindwing blackish-brown, fringe lighter. Brazil. *singularis.*

G. fuscifasciata *Dogn.* Forewing light reddish-yellow dusted with white, the transverse lines broken up into rows of dots, the posterior line double, an oblique shadow behind the yellowish-red cell-end streak, which is bordered with light, extends to the dent in the centre of the margin. Hindwing reddish-brown, blackened at the apex and margin. Expanse of wings: 22 mm. French Guiana. *fuscifasciata.*

G. fertilis *Dogn.* Forewing red-brown strewn with light violet; behind the white-edged discal spot follows a very large black ocellus, the centre and upper edge of which are strewn with violet; a strongly angled lilac line is on the margin. Hindwing blackish with a pink hue, and black and white fringe; a caudiform hair-tuft at the anal angle. Expanse of wings: 31 mm. French Guiana. *fertilis.*

98. Genus: **Maschane** *Wkr.*

Likewise allied to the two preceding genera, but the forewing lacks the angle at the distal margin which is very round, especially at the inner margin; costal margin very convex as far as beyond the centre, apex very pointed. Vein 5 removed almost up to the upper cell-angle, the rest of the neuration not very different from that of the preceding species, only vein 9 arises, separated from 8 and 7, from a little before the distal angle of the areole. Veins 3 and 4 of hindwing arise separately. Few tropical species are known.

Type of genus: *M. erratipennis* *Wkr.*

erratipennis. **M. erratipennis** Wkr. has violettish-grey forewings, dusted with reddish purple brown in the costal-marginal area and at the anal angle, the whole wing watered with violettish-grey striae which are bordered with whitish on the inside; the transverse lines are replaced by 2 broad faded shadowy bands, the anterior one extending from the first third of the costal margin to the base of the inner margin, the second from near the apex to the distal third of the inner margin, the inner margin between these two bands is shaded with blackish; a dark streak at the cell-end. Hindwing white. Expanse of wings: 26—29 mm. Brazil.

simplex. **M. simplex** Wkr. Forewing monotonously purple brown, similarly marked as *erratipennis*, but without the watery striations, the two shadowy bands much narrower and somewhat less oblique; indistinct internerval dots before the margin. Hindwing not purely white but with a slight grey hue, darkened at the margin. Described from Brazil. Expanse of wings: 28 mm.

rubricosa. **M. rubricosa** Dogn. Forewing yellowish-pink with a lilac tint above a black, white-strewn oblique line from the apex, chestnut-brown below this line, dusted with violet towards the base; a black subcostal spot before the first third of the costal margin, and a dot below it, from which an oblique band extends to the line which ends in a white subapical spot, 2 smaller ones below it. Hindwing red-brown, yellowish basally and at the costal margin, fringe yellowish. Expanse of wings: 26 mm. French Guiana.

leechi. **M. leechi** Drc. Ground-colour of forewing light reddish yellowish-brown, a dark brown line from the apex obliquely to the base of the inner margin, distally bordered with a lighter colour. Hindwing of the same colouring. Amazons. Expanse of wings: 34 mm.

frondea. **M. frondea** Schs. (= *costipuncta* Roths.) (153 a) lacks the oblique line; forewing light brown, warming into yellowish at the distal margin, dusted with violet at the base and median area, and at the costal and inner margins; a black dot at the cell-end; costal margin very convex, with a velvety brown broad stripe in its centre. Hindwing light reddish-brown, lighter towards the base. The species seems to be rather variable, particularly in the intensity of the more or less dark violet dusting. Expanse of wings: 34 mm. French Guiana.

99. Genus: **Rifargia** Wkr.

This genus is a parallel branch of *Heterocampa* (*Disphragis*) or *Malocampa*, almost nearer to the latter owing to the hair at the base of the hindwing beneath; the only mark of distinction is that the ♂ antennae are not pectinated but tuftedly ciliated. This genus also abounds in species and forms. A monography treating upon them will have to subdivide the genus into several subgenera. The genus contains many large species often of a beautiful colouring and marking, such as the *picta*-group.

Type of genus: *R. xylinoides* Wkr.

xylinoides. **R. xylinoides** Wkr. (= *cloelia* Schs.) is brownish-black on the forewing, tinged with moss-green at the costal and inner margins as well as behind the cell, with a black-edged reniform macula at the cell-end; both the transverse lines indistinctly double, the anterior one extending to the inner margin in three arches, the posterior one dentate and with black and white vein-dots which reoccur at the base of the fringe; a light brownish-yellow patch divides the apex from where it extends below the median vein almost to the base. Hindwing greyish-brown. Expanse of wings: 36 mm. Brazil.

mortis. **R. mortis** Schs. (153 a) is allied to *xylinoides* and was treated at last by its author as a synonym to *Disphr. gelduba* (p. 970). I had mentioned there that I consider it to be different, because in my opinion the ♂ of *gelduba*, which undoubtedly looks very similar, is to be distinguished by its pectinate antennae and to be placed to *gelduba*. Forewing dark blackish-grey, strewn with moss-green at the centre of the costal margin, with a velvety black cell-end streak; traces of darker transverse lines, the posterior one with white vein-dots; a light reddish-yellow shadow divides the apex, an indistinct dark submarginal shadow below it extends to the anal angle above which there is a black thick dot. Hindwing dingy white, strewn somewhat brown at the costal and distal margins. Expanse of wings: 33—35 mm. From Guiana to Argentina.

muscosa. **R. muscosa** Dogn. is near *mortis*; forewing greenish-grey, partly strewn with lilac grey, with the same transverse lines as in *mortis*, the anterior one more distinct, double, and likewise with white vein-dots; the light apical oblique streak is narrower and much longer, extending to the middle radial vein. Hindwing more purely white, only brownish at the costal margin and apex. Expanse of wings: 30 mm. Argentina.

morula. **R. morula** Dogn. also belongs to this group and has blackish-grey forewings extensively strewn with green basally, in the centre of the costal margin, in the distal half of the cell, submedianly and at the margin; all the markings very difficult to discover in the dark ground, the posterior transverse line marked by a double row of white vein-dots, the black cell-end streak distally dusted somewhat red-brown; black subterminal dots

bordered with white are at the anal angle and above it; *morula* is without the white vein-dots at the base of the fringe in the preceding species. Expanse of wings: 27 mm. Likewise from Argentina.

R. moha *Dogn.* (153 a) likewise resembles the colouring and marking of *D. gelduba*; grey with a green *moha*, and yellow admixture especially in the disc, a large yellowish oval spot behind the cell, distally bordered with black; a white subterminal spot is subanal, 2 irregular black lines above it. Hindwing blackish. Venezuela, Colombia, Bolivia.

R. occulta *Schs.* is larger than the preceding species, forewing blackish-brown, the veins strewn with *occulta*, black and light grey; a round spot at the cell-end is strewn with brown in the centre and finely surrounded with white, the fine black dentate postmedian line is feebly double; a light reddish-yellow spot at the apex contains a black streak, a light marginal shadow below it and black marginal lunae behind it. Hindwing blackish-brown, fringe yellowish. Expanse of wings: 54 mm. French Guiana.

R. onerosa *Schs.* is smaller than *occulta*, forewing darker violettish-black, partly mixed with moss- *onerosa*, green, especially at the base, distally bordered by a curved light line; transverse line dark brown, bordered with reddish-brown, the posterior line followed by a series of small dark brown shadowy spots, a dark brown ring filled with a lighter colour is at the cell-end; 2 red-brown subterminal streaks above the anal angle and in the centre, and a large reddish-yellow apical spot strewn with red-brown; small light red-brown spots before the undulate black marginal line. Hindwing violettish-brown with a dark anal spot and yellowish fringe. Expanse of wings: 45 mm. French Guiana.

R. phanero stigma *Dyar* (153 b) is allied to the two preceding species, but easily discernible by a round *phanero stigma*, white apical spot; forewing dark brown, more greyish in the median area, bordered by the double transverse lines which are filled with chocolate-brown; the elliptical discal spot is composed of an outer white ring divided into small spots, finely bordered with brown inside and filled below with a small ochreous spot; yellowish blotches are between the small subterminal white vein-spots. Hindwing as in the preceding species. British Guiana.

R. stellata *Schs.* is another large species with dark brown forewings, light brown between veins 2 and 4, *stellata*, and between 5 and 6, strewn with white on the veins and at the inner margin; a purple black spot behind the large discal spot which is strewn with yellowish-white and bordered with black and white; a fine white line extends from the white apical spot downwards. Hindwing dark brown with yellowish fringe. Expanse of wings: 54 mm. British Guiana.

R. indecora *Schs.* is a smaller species, forewing grey, darker in the basal half, with a reddish-brown *indecora*, spot below the base of the cell, and brown strewn in the cell and above it; behind the black cell-end streak follows a large diffuse black spot which is continued to the apex by blackish-brown shading; traces of a black undulate postmedian line. Hindwing blackish-grey. Expanse of wings: 32 mm. Dutch Guiana.

R. testaceata *Dogn.* is allied to *indecora*; the white ground of the forewing is strewn with reddish yellowish- *testaceata*, brown, more intensely in the distal half, with the same basal spot below the cell as in *indecora*, the similarly coloured antemedian line strongly dentate; the centre of the black reniform macula is strewn with grey, the grey subterminal band strongly dentate in the lower half. Hindwing blackish, fringe whitish. Expanse of wings: 32 mm. French Guiana.

R. discrepans *Schs.* Forewing dark drab with a round brown basal spot below the cell, traversed by *discrepans*, a dark brown, partly double line, the similar postmedian line is interrupted between the veins 2 and 3, accompanied below it on each side by a velvety brown side, with a red-brown shadow and an almost straight dark line in the upper half outside; one streak each above and below vein 5, and a velvety brown subapical luniform spot. Hindwing dark brown, lighter basally with a black and white anal spot. Expanse of wings: 47 mm. French Guiana.

R. litura *Schs.* (= *maeulata* *Dogn.*). Forewing light brown, strewn with dark brown, a blackish *litura*, spot below the base of the cell and black irregular undulate transverse lines; before the dark cell-end streak the lower cell-end is crossed by a blackish oblique shadow, 2 subterminal black spots below and above the centre between the black and grey spotted veins; the lighter undulate line is not strewn, round black internerval spots behind it, and double marginal dots behind these spots. Hindwing violettish-brown, darker at the margin, with a black and white anal spot. Expanse of wings: 51 mm. French Guiana.

R. tulira *Schs.* is somewhat similar to *litura*, strewn darker in the basal half, the anterior double *tulira*, transverse lines only distinct at the costal margin, the double almost straight median line filled with a lighter reddish-brown, dark spots before the postmedian line, not behind it, a large, light-edged irregular spot is at the cell-end, and the black marginal spots are replaced by a single marginal line which is slightly thicker only between the veins. Hindwing dark brown with a dark anal dot and light fringe. Expanse of wings: ♂ 45, ♀ 49 mm. French Guiana.

- sator*. **R. sator** Dogn. is near to *discrepans*, forewing light violettish-brown with black veins, the grey spot at the base of the cell is traversed by a black streak, a lighter reniform macula bordered with black inside is between the partly double transverse lines; the veins are partly dotted white on the transverse lines, a black subterminal streak below vein 2, a red-brown streak above it, red-brown clouding behind the cell, grey clouding above it, and a black subapical streak above the latter. Hindwing brownish, with a dark marginal band and a black and white anal spot. Expanse of wings: 39—41 mm. South-Eastern Peru.
- exarmata*. **R. exarmata** Dogn. is allied to *sator*, *discrepans*, and *tulira*, but more monotonously brown, with a slight violet shine at the inner margin, without the red-brown basal strewing and without the black subbasal streak of *sator*; an intense black streak at the anal angle, a white spot on the fringe behind it. Expanse of wings: 36—41 mm. French Guiana.
- rufidiscata*. **R. rufidiscata** Dogn. is very similar to *litura*, forewing brownish olive with 2 blackish-brown basal spots, black double dentate transverse lines, and a reddish-brown discal spot bordered with black; the postmedian line despatches on vein 6 an oblique shadow to the apex, enclosing a dentate line with white vein-dots; 2 dents of the postmedian line are closed on the veins 3 and 4 forming a ring-like figure; the light undulate line shows 3 bends. Hindwing blackish, fringe yellowish-white, a black and white anal spot. Expanse of wings: 46 mm. East Colombia.
- incisura*. **R. incisura** Dogn. (= *terebroides* Rothsch.). The brown forewing is grey and strewn with green at the costal margin, postdiscally, in the centre of the inner margin and subterminally in 2 spots, with 4 double transverse lines, the two posterior ones of which are strongly incised between the veins and 3; a light line before the fine black subterminal line, the former almost straight in the upper half, dentate below it. Hindwing brown with a black and white anal spot. Expanse of wings: 57 mm. French Guiana.
- versuta*. **R. versuta** Dogn. Forewing violettish-brown, yellowish ochreous in a large triangular discal spot and above it at the costal margin in an oblong spot which is extended towards the apex, with single black dentate transverse lines, 3 somewhat darker undulate lines behind the postmedian line, the distal subterminal one of which is bordered with lighter outside. Hindwing brown. yellowish basally. Expanse of wings: 48 mm. Amazons.
- demissa*. **R. demissa** Schs. (153 b). Forewing greenish whitish-grey, intermixed with red-brown and black scales, with dark brown double dentate transverse lines, 2 small black spots behind the postmedian line below the middle, 3 similar spots above them, the latter extending obliquely to the apex; 2 oblique brown lines at the cell-end in a brown median shadow, a reddish-brown subterminal shadow before a black interrupted lunular line. Hindwing greyish-black, with lighter hair at the inner margin. Expanse of wings: 41 mm. French Guiana.
- brioca*. — f. **brioca** Schs. differs in a coherent black band behind the postmedian line being somewhat dentate outside. Expanse of wings: 45 mm. British Guiana.
- auscharia*. **R. auscharia** Schs. is easily recognisable by the punctiform lines in the distal half of the forewing; forewing white strewn with black and brown, more olive grey in the postmedian area; the double brown transverse lines are very indistinct, the posterior line with blackish-brown vein dots, 2 more rows of dots behind them, the marginal line is also punctiform; fringe white with brown vein-dots. Hindwing white, dusted with smoky grey, veins and margin darker. Expanse of wings: 42 mm. Venezuela (Valera).
- possida*. **R. possida** Schs. Forewing from the base to the cross-vein and from there obliquely to the anal angle white, scantily strewn with black, brownish sand-coloured in the apical area, strewn with white in the marginal area; the anterior and posterior transverse lines are double, dentate, a quadrangular brownish spot strewn with white and edged with blackish-brown between the anterior line and the subbasal line at the costal margin, extending into the cell; a blackish-brown median line is united with a black cell-end streak; a blackish-brown lunular line at the margin; fringe with dark vein-dots. Hindwing white with a small dark anal spot. Expanse of wings: 39 mm. Porto Velho (Amazons).
- extranea*. **R. extranea** Schs. (153 a). Forewing grey strewn with dark brown, so that only the basal third of the costal margin and the distal margin remain grey, the inner margin being darkest as far as the postmedian line; the anterior black transverse line is threefold, the posterior one brown, filled with grey, followed by a brown shadow with velvety brown internerval streaks which become stronger towards the costal margin, and are absent altogether in the inner-marginal third. Hindwing whitish with a broad black costal margin and distal margin and brown inner-marginal hair. This description refers to the ♀; the ♂ probably belonging to it has lighter grey forewings strewn with yellow and white at the inner margin, at the transverse lines and at the cell-end. Expanse of wings: 38 mm. French Guiana.
- notabilis*. **R. notabilis** Schs. Forewing brownish ochreous with a greenish-grey costal margin and a similar oblique band from the base of the cell to the inner margin; distally bordered by a fine brown line; the space behind the cell, which is closed by a black streak, is grey and contains 2 undulate lines, a red-brown postmedian line is visible below this dark grey area; a fine velvety black submarginal line, its lower half being distally removed as far as the margin. Hindwing whitish with a smoky black costal margin and inner margin. Expanse of wings: 44 mm. French Guiana.

R. corda Drc. (= *grisca* Schs.) (153 b) has silvery grey forewings, the costal margin shaded brown, *corda*, with a small black basal spot and dark brown double transverse lines, the posterior one transformed into a broad brown band before which there are single deep black spots. Hindwing whitish with a broad dark grey marginal band. Expanse of wings: ♂ 40, ♀ 43 mm. Colombia.

R. phasma Dogn. Forewing greenish ochreous (the fresh specimen probably of a purer green), the *phasma*, basal half of the inner margin black with fine black transverse lines composed of deep lunae; the distal half of the cell and the postdiscal area behind it darkened by extensive black shading, a black subterminal shadow reaches neither the costal margin nor the inner margin. Hindwing yellowish-white, blackened at the costal and inner margins, grey at the distal margin. Expanse of wings: 38 mm. Brazil and Argentina.

R. spontiva Dogn. (153 b) is a beautiful species coloured green and red-brown, the greenish-white *spontiva*, ground traversed by numerous partly olive black partly red-brown dentate transverse lines, a very broad dark olive green oblique band between them extends from the first quarter of the costal margin to the anal angle before which it disappears; a still darker triangular spot behind the cell at the costal margin almost to the apex; the 3 distal postmedian lines are broken up into dots, the ground between them partly filled with red-brown. Hindwing blackish, the anal spot parted by white. French Guiana, Colombia.

R. elgiva Schs. (153 b) is a large species, greyish-brown mixed with black, the distal half of the forewing *elgiva*, of a somewhat purer brown, with dark veins and fine blackish-brown double transverse lines and basal ray; the dark ring-macula and reniform macula are surrounded by white; the undulate line is a dark dentate shadow. Hindwing reddish-brown, the black anal spot parted by white. Expanse of wings: 55 mm. French Guiana.

R. imitata Drc. is a strange insect exactly like the well-known *Proelymiotis aequipars* (144 g); forewing *imitata*, light greenish-grey, broadly dark brown in the basal half, distally bordered with black, with a small dark brown spot near the apex, one above the anal angle and a somewhat larger quadrangular one between veins 3 and 4; black submarginal streaks. Hindwing greyish-brown, darkened at the margin, with a black anal spot. Trinidad.

R. mistura Schs. (= *cossoides* Roths.) (153 c) is one of the largest species; forewing greenish-grey, *mistura*, mixed a little with brown, deep chocolate-brown in the basal third in the costal-marginal half, and with a similarly coloured apical spot, with more or less distinct double brownish transverse lines and a fine black subterminal line; whitish brightening postdiscally below the apical spot. Hindwing dark brown, fringe lighter. Expanse of wings: 67 mm. Guiana, Brazil (Amazons).

R. albidivisa Dogn. is very closely allied to *mistura*, separated by a more curved double anterior trans- *albidivisa*, verse line, with more white dusting behind it, a merely rounded reniform macula which is entirely reniform in *mistura*, 2 white-strewn spots before the posterior transverse line at the inner margin. This species described from French Guiana is also somewhat smaller. Expanse of wings: 64 mm.

R. lemoulti Schs. (153 c) is somewhat similar to the preceding species, but the dark basal part is replaced *lemoulti*, here by a light, reddish-yellow area distally bordered by red-brown lines and longitudinally traversed by fine red-brown lines; apex light reddish-brown with deep black longitudinal streaks. Hindwing dark brownish-grey with light reddish-yellow fringe. Expanse of wings: ♂ 63, ♀ 76 mm. Guiana, Brazil.

R. culpata Schs. is still larger than *lemoulti* and very similar; distinguished by lighter reddish-brown *culpata*, hindwings with a dark median line distally bordered with reddish-yellow, and a broad darker brown subterminal shadow; forewing darker grey, the basal third darker, more brownish, the reniform macula at the cell-end is larger, the red-brown apical spot with a darker border without black streaks in it. Expanse of wings: ♂ 69, ♀ 83 mm. Costa Rica.

R. biplaga Roths. (153 d) is a very large easily recognisable species from the *lemoulti*-group, similarly *biplaga*, marked, but the forewing is mixed with lighter and darker brown and exhibits 2 very characteristic greyish-white spots at the inner margin, separated by the median shadow; a reddish-brown spot at the base of the inner margin, and a long black streak at the apex. Hindwing dingy brown with a darker, distally lighter median shadow. Peru, Bolivia.

R. everiti Schs. is also a very large species. Forewing whitish, strewn with reddish-brown and *everiti*, ochre, a black irregular spot at the base of the costal margin; transverse lines black, the anterior one double, connected with the basal spot by a black spot below the cell, the cell above it whitish; the oval white reniform macula is narrow, bordered with blackish-brown; a reddish-brown subterminal shadow below 4 extends to the margin and anal angle; a thick black oblique streak extends from the postmedian line towards the apex. Hindwing brownish-black with an indistinct postmedian line and a black and white anal spot. Expanse of wings: ♂ 65, ♀ 80 mm. French Guiana.

- impexa*. **R. impexa** *sp. n.* (153 c). Forewing yellowish-grey strewn with black, the larger basal part as far as the very large reniform macula and below it almost quite black, so that only the area of the reniform macula, the subterminal and marginal areas as well as the inner margin remain dingy greyish-brown; the markings in the basal part are quite extinct; the reniform macula shows inside above a roundish projection in the cell, producing the shape of a heart or trefoil-leaf, at its interior edge there is a Y-shaped black mark, and a : -shaped mark at its exterior edge, the centre between these two lines filled with reddish-brown; the costal margin above it is likewise light, traversed by 2 very oblique black lines the distal one of which is connected with the pointed dents of the postmedian line behind which there are black and white vein-dots; the marginal area shows traces of a light undulate line clouded blackish on both sides. Hindwing dark brownish-grey, fringe light. Described from a ♂ from Paramaribo; type in the Senckenberg Museum.
- nugax*. **R. nugax** *sp. n.* (153 c) is very similar to *impexa* in the marking, but the forewing is red-brown, the inner margin, the distal cell-end and an oblique shadow from there to the margin between the veins 2 and 3, as well as the margin behind the whitish dentate subterminal line are shaded blackish; the reniform macula shaped like a trefoil-leaf and the costal margin above it are greenish-white; the fine black transverse lines are distinct here, the anterior one indistinctly double, the posterior one distinctly double, forming an acute angle between veins 4 and 5 towards the reniform macula; a red-brown longitudinal stripe near the anal angle contains a black streak. Hindwing greyish-brown, darker at the margin, yellowish at the base, fringe yellowish-white. From a ♂ from Brazil, Coll. SEITZ in the Senckenberg Museum.
- albidula*. **R. albidula** *Dogn.* is a smaller species very similar to *Chadisra infanta*. Forewing silvery white with a black basal spot and 3 blackish-brown transverse lines, a large brown triangular spot behind the foremost line at the inner margin, a large costal-marginal spot behind the postmedian line down to the centre of the wing, enclosing darker internerval streaks. Hindwing lustrous white with a small anal spot. The ♀ is more intensely strewn with brown and has a brown angular cell-end band and blackened hindwings. Expanse of wings: ♂ 34, ♀ 42 mm. French Guiana.
- myconos*. **R. myconos** *Schs.* (= *pupula Dogn.*) (153 d). Forewing light grey with 3 irregular darker basal lines and a V-shaped black line in the cell; behind the double postmedian line follows a series of small black internerval spots, a large spot of dense black dusting is before the black submarginal line. Hindwing whitish in the basal half, dark grey distally. Colombia, Brazil.
- praerupta*. **R. praerupta** *Dogn.* is near *myconos*; the white forewing is strewn with brown with brown double transverse lines and a brown reniform macula surrounded by black; subterminal internerval dots are removed farther inwards between the veins 4 and 6 and distally shaded with brown; a spot of brown strewing is also behind the postmedian line at the costal margin. The ♀ is more intensely marked. Hindwing as in *myconos*. Expanse of wings: ♂ 39, ♀ 42 mm. French Guiana.
- condita*. **R. condita** *Schs.* (= *presbytica Dyar*) (153 d). Forewing white strewn with black in the basal third, distally bordered by a straight black line which is double below the cell, and traversed by a black line which is double at the costal margin. Forewing distally light brown, darkened towards the apex, the reniform macula surrounded with black, and with a double red-brown postmedian line behind which there are large black spots in the upper two thirds. Hindwing white with a black marginal band. Guiana.
- cassandra*. **R. cassandra** *Schs.* (= *longula Drc.*) (153 d). The white forewing is strewn with grey and light brown, the veins interruptedly striped black, with rather indistinct double grey transverse lines and a large red-brown spot at the cell-end, edged and traversed by dark lines; subterminal line whitish, bordered with red-brown in the upper half outside. Hindwing white with a dark grey marginal line and blackish hair at the inner margin. Venezuela, Colombia.
- felderi*. **R. felderi** *Schs.* (153 d) is an extremely common and widely distributed species with white forewings, very scantily strewn with black, with fine double dentate transverse lines, the reniform macula surrounded with black; behind the postmedian line there are small more or less distinct black internerval spots in a red-brown subterminal band. Hindwing white with a black anal spot. Mexico to Peru.
- bichorda*. **R. bichorda** *Hmps.* is probably a somewhat larger insular form, more densely strewn with brownish and without the red-brown subterminal band. The white hindwing is strewn with brown at the margin in the only ♀ described. Expanse of wings: 46 mm. Nassau (Bahamas).
- haitia*. **R. haitia** *Schs.* is somewhat similar to *bichorda*; forewing light drab, white strewn with brown at the costal margin, white with black strewing basally below the cell; both the transverse lines double, brown and black, the posterior one very fine and scarcely darker than the ground, a large erescent surrounded by black is at the cell-end; subterminal shadow brownish, double in its upper half. Hindwing white, narrowly brownish at the margin. Expanse of wings: 35 mm. Haiti.

R. nebulosa Schs. (153 d) is a rather variable species very closely allied to the preceding ones; forewing *nebulosa*. greyish-white, the disc lighter and scantily strewn with brown, with the same lines as in *felderi*, and brown dusting behind the postmedian line especially towards the costal margin. Hindwing white with a grey inner margin and distal margin. The ♀ is greyer with a brown costal spot at the base and grey hindwings. Mexico, Costa Rica. — f. **medioclara** Schs. which may be a distinct species has almost black forewings with a white area at the cell-end and a blackish shadowy stripe behind it in the cell-end. Hindwing white with narrow black veins and margins. Costa Rica. *medioclara*.

R. lineata Drc. (153 e) is probably one of the most common *Notodontidae* of a very vast range; it looks *lineata*. rather much like *felderi*, but it is much larger and especially the median area is more mixed with brownish, the posterior transverse line quite red-brown, close behind it follows an almost straight black line behind which there is a black notched shadow, a large white spot below it and reddish-brown strewing above the anal angle. Hindwing yellowish-white with a broad grey marginal band. Florida and Mexico to Brazil.

R. distinguenda Wlr. (= dubia Möschlr.) (153 e) is likewise very common and widely distributed, *distinguenda*. similar to the preceding species; forewing greyish-white, quite similarly marked, but more intensely strewn, the double transverse lines finer, often hardly noticeable, the basal area more or less brownish, with fine black internerval streaks subterminally. Mexico to Brazil.

R. dissepia Schs. is very closely allied to *distinguenda* and may be a form of it; forewing white, densely *dissepia*. strewn with light brown, the anterior transverse line is absent, the posterior one only single, a brown median shadow before it; subterminal line whitish, dentate, some black streaks behind it in the upper half and above the anal angle. Hindwing white with a broad black margin. The median area below the cell and a shadow at the cell-end are blackish-brown in the ♀. Expanse of wings: 45—47 mm. Costa Rica.

R. guianensis Schs. Forewing silvery white strewn with dark brown and similar markings; one small *guianensis*. triangular spot each at the bases of the costal margin and inner margin, traversed by an oblique dentate line, 5 costal-marginal spots between the centre and the apex; the centre is crossed by a fine partly double line before and behind which the strewing is denser; a velvety brown postmedian line is dentate only in the lower half, dark streaks behind it towards the costal margin, and a fine undulate line behind them. Hindwing white, broadly dark brown at the inner margin, narrowly at the distal margin. Guiana.

R. bianca Schs. (153 e). Forewing white, scantily strewn with brown, broadly light brown at the *bianca*. apex, a similar small spot also at the inner angle, the median and distal transverse lines very indistinct, 2 fine dark lines at the cell-end; 2 parallel black lines from the base of the costal margin to the first quarter of the inner margin, an almost straight thick black line is before the margin with small black internerval spots behind it. Hindwing white with blackish veins. Brazil.

R. apella Schs. (153 e). Forewing light brown with a large white irregular triangular area in the centre, *apella*. enclosing a black ring at the cell-end; transverse lines black, the submarginal line being most distinct. Hindwing brownish-white, dark brown at the distal margin. Brazil, Colombia.

R. cinga Schs. is very similar to *apella*; forewing silvery white strewn with grey and fine double black *cinga*. transverse lines and reniform macula; a broad reddish-brown oblique shadow traverses the median area from near the base of the costal margin to the inner margin at the posterior transverse line which extends down almost straightly and only shows 2 outward bends above the inner margin; marginal area iridescent reddish-brown dusted with white and with a black subterminal line the dents of which in the lower half extend to the margin. Hindwing reddish-brown. Expanse of wings: 54 mm. British Guiana.

R. causia Schs. (= titus Koehler) (153 e). Forewing white in the basal half and in an area near the *causia*. distal margin, the rest light brown, strewn with grey here and there and separated from the white by a black line; 2 short black parallel streaks behind the cell, and a very angular submarginal line, the veins of the marginal area black. Hindwing white with a brown anal streak. Brazil.

R. tethys Schs. Forewing dark grey with brownish transverse shadows and black transverse lines. *tethys*. the interior one double, the distal one single; a yellow spot bordered with black is at the cell-end, and black internerval spots edged with yellow inside are before the margin, a white crescentiform apical spot at the costal margin, yellow vein-dots on the base of the fringe. Hindwing brown, yellow at the base. Expanse of wings: 45 mm. Brazil (Rio de Janeiro).

R. brunnea Mschlr. Forewing red-brown, dusted with a lighter reddish-yellow along the costal margin *brunnea*. and below the median vein and from there between the veins 5 and 6 to the margin; both the transverse lines fine black, the anterior one forms 3 bows to the inner margin, the posterior one is double, dentate, removed considerably inwards between the veins 3 and 2; the veins behind it are black strewn with white; a large whitish reniform macula at the cell-end, its centre filled with reddish-brown, and finely surrounded with black, a thick black longitudinal streak extends from it outwards: undulate line light, dark brown shading before it. Black

double dots are before the margin in the interspaces. Hindwing brownish-grey, fringe yellowish-white. Guiana.

chocotoa.

R. chocotoa Dyar is near *tetys* and has monotonously chocolate-brown forewings, shaded somewhat blackish in the basal area; the two transverse lines are indistinctly double, the anterior one forms 3 bows, the posterior one is dentate on the veins, with black and white vein-dots behind it; a dark streak at the cell-end, somewhat lighter behind it; instead of the undulate line there are small indistinct blackish spots between the veins, each with a light halo on the outside; black oblique internerval streaks before the margin. Hindwing brownish-grey, lighter yellowish towards the base, long yellowish hair at the inner margin. Fringe yellowish-white. Expanse of wings: 66 mm. Colombia.

grandi-macula.

R. grandimacula Dogn. Forewing silvery grey finely strewn with greyish-brown and with double brown dentate transverse lines, the anterior one and posterior one uniting submedianly; a strong black crescentiform streak is at the cell-end, a broad blackish shadow behind it extends to the postmedian line and appears brownish towards the costal margin, fringe speckled white and brown. Hindwing blackish, spotted black and white at the anal angle. Expanse of wings: 42 mm. French Guiana.

picta.

R. picta Schs. (153 f) is the chief representative of a beautiful group of more variegated species; forewing violettish-brown mixed with grey, more reddish-brown at the costal margin, the two colours separated by a broad white stripe above the inner-marginal vein, which stripe does not extend to the margin and is bordered with black above and with olive below; a large light postcellular area is interrupted by a broad grey stripe bordered with black above and below; the postmedian line is shaded with olive. Hindwing whitish with brown veins and marginal line, brown inner-marginal shading and a dark inner-marginal spot. Guiana, Colombia.

intermedia.

R. intermedia Rothsch. (153 f) is intermediary between *picta* and *merita*; forewing reddish cinnamon with a broad reddish-brown longitudinal band to the centre of the margin with a pink tint, the longitudinal band above the inner-marginal vein reddish-yellow, more greyish outside. Hindwing reddish-yellow, brownish at the margin. The ♀ is larger with darker hindwings. Venezuela.

merita.

R. merita Schs. Forewing violettish-brown below the inner-marginal vein, olive above it, with a short white basal ray below the cell; a broad light violet band extends from the first quarter of the costal margin to the centre of the margin and turns darker distally, the distal three quarters of the costal margin above it are broad dark violettish-brown with 2 black lines in it; the fine postmedian line is double. Hindwing brown, blackish at the distal margin with a fine reddish-yellow line in it. Expanse of wings: 52 mm. British Guiana.

variegata.

R. variegata Dogn. differs somewhat from the diagnose of the genus in the antennae being set with lamellae. Forewing covered with scales of various colours, white, yellow and green at the base, then follow on the lilac and green ground 3 black parallel lines, the costal margin above the lilac and pink cell is white, the space below the cell lilac and green like the space behind it, only admixed with white at the margin; the black postmedian line is partly double, traversed by the black veins. Hindwing yellowish-white, brownish at the margin. Expanse of wings: 44 mm. Brazil (Novo Friburgo).

castrena.

R. castrena Jones. Forewing yellowish ochreous, dusted with red-brown and blackish, red-brown in the basal area and at the cell-end and behind it, with double dark dentate transverse lines, the posterior one filled with a lighter colour; a subterminal row of small reddish-brown luniform spots, 2 small black luniform spots before them in the lower half; an intense black streak at the cell-end connects 2 very dark shadows at the costal margin and below the cell. Hindwing yellowish-brown. Expanse of wings: 40 mm. Brazil (Castro, Parana).

rothschildi.

R. rothschildi n. nom. (= *muscosa* Rothsch. nec Dogn.) is an insect with very remarkably narrow wings, the generic position of which is not quite certain. Forewing greyish-green, watered black, pinkish-brown in the median area with double dentate black transverse lines, ring-macula and reniform macula, and a darker triangular apical spot. Hindwing brownish orange at the base as far as the inner margin, dull brown outside. Head and collar chestnut-red like the first two abdominal segments. Expanse of wings: 53 mm. Surinam.

100. Genus: **Grafiria** nov.

I establish this genus for a very remarkable insect described as *Rifargia*, from which it differs chiefly in the longer palpi with a rather long drooping beak-shaped or snout-shaped terminal joint. Wings very long, narrow, distal margin of forewing concave in the lower half, the slender abdomen projects considerably beyond the short narrow hindwings. The origin of vein 5 of forewing is removed down to the centre of the cross-vein, vein 6 arises right behind the beginning of the areole, not from its centre. Hindwing as in *Rifargia*.

Type of genus: *G. steinbachi* Rothsch.

G. steinbachi *Rothsch.* (= *speciosa* *Schs.*) (153 f). Forewing red-brown, mixed with light grey and *steinbachi*. greenish in the inner-marginal area and at the distal margin, the two colours bordered by a jet-black, inwardly faded line which forms 3 pointed dents outside and reaches the distal margin below the apex on the lowest subcostal branch; a feeble blackish longitudinal shadow extends through the lower half of the cell to the black line; the transverse lines are marked by single black, distally whitish dots, two of which are also in the cell one above the other. Hindwing whitish with a smoky brown marginal line and inner-marginal hair. The ♀ is much larger, of a duller colouring and thinly scaled. Bolivia, Amazonas, South Brazil.

101. Genus: **Afilia** *Schs.*

♂ antennae pectinated, ♀ plain. Palpi very short. The long narrow forewing lacks the arcole as in the following genera, for which reason vein 6 arises with 7—10 on a joint stalk. The costal vein of the hindwing arises nearer at the base, vein 6 arises with the subcostal vein from the same basis without a stalk. Only 2 species:

Type of genus: *A. cinerea* *Schs.*

A. cinerea *Schs.* (153 f) is an insignificant grey insect strewn with black, with fine indistinctly double *cinerea*. transverse lines which are mostly bordered with reddish-brown, and a distinct black lunar streak at the cell-end; small blackish undulate-linear spots are traceable, a fine black submarginal line is straight in the upper half, scalariformly interrupted below. Hindwing dingy white, greyish-brown in the ♀. The basal part is occasionally filled with brown. Mexico.

A. oslari *Dyar* (= *moqui* *Barnes*) is very similar, but much more intensely marked black, the transverse *oslari*. lines slightly bordered with reddish-brown on the averted sides, a broad triangular darkening before the anterior one at the costal margin. Hindwing white, very feebly smoked at the apex and distal margin. Arizona.

A. venadia *Schs.* Head and thorax brownish mixed with white, abdomen reddish cinnamon, more *venadia*. orange at the base. Forewing whitish scantily strewn darker at the base, costal margin and median area, the antemedian and marginal areas reddish-brown; the fine transverse lines are double, blackish-brown and brownish cinnamon; subterminal line dentate, interrupted on the veins. Hindwing white, dusted with reddish-brown. Expanse of wings: ♂ 28, ♀ 30—39 mm. Venadio (Mexico).

A. purulha *Schs.* Body like that of *venadia*, but forewing more monotonously grey, the subbasal and *purulha*. anterior transverse lines double, black, the antemedian line removed almost into the centre, connected with subbasal line by a black streak, the posterior line more brownish and more spotted. Hindwing purely white. Expanse of wings: 38 mm. Guatemala (Purulha).

102. Genus: **Scevesia** *Dyar.*

Distinguished from the preceding genus by more strongly pectinated antennae of the ♂, longer erect densely hairy palpi with a straightly porrect terminal joint. Vein 5 of forewing removed up near to the upper cell-end, the stalk of 6 with 7—10 very short. Hindwing as in *Afilia* except the vein 5 being nearly quite absent. Only 1 species:

Type of genus: *S. broidricci* *Dyar.*

S. broidricci *Dyar.* Forewing monotonously dark grey with a white, black-edged luniform spot at the *broidricci*. cell-end. Fine black subterminal internodal dots and a few small irregular blackish spots in the basal half. Hindwing smoky grey. Expanse of wings: 47 mm. Mexico (State of Hidalgo).

103. Genus: **Lobeza** *Herr.-Schäff.*

A well characterized genus of similar large species of a mostly whitish colour with strongly notched transverse lines. The ♂ antennae are shortly pectinated to the tips, the short hairy palpi erect, the strong abdomen tufted laterally. Vein 5 on the broad forewing arises from the centre of the cell, 6 from the upper cell-angle. The costal vein on the hindwing is connected with the centre of the cell by a short veinlet. Most of the numerous species are very difficult to separate.

Type of genus: *L. aglone* *Herr.-Schäff.*

L. aglone *Herr.-Schäff.* (153 g) is probably one of the largest species, the white forewing scantily and *aglone*. coarsely strewn with black, the double strongly notched transverse lines bordered somewhat rusty brown on the averted sides. Hindwing white. Brazil.

L. lateralis *Wkr.* resembles *aglone*, but it is much smaller, the forewing more densely strewn, the *lateralis*. transverse lines more distinct, deeply notched, strewn with yellowish on the averted sides; at the cell-end

there is a streak strewn with yellowish on both sides; oblique black fine streaks before the margin are scalariformly arranged below each other. Hindwing white, with yellowish hair at the inner margin, and with a fine black marginal line. Abdomen yellow above, with strong deep black lateral lines. Brazil.

gilberta. **L. gilberta** Schs. Head and thorax greyish-white, abdomen cinamon-brown with white dorsal spots, anal ring whitish, ventrum white, with drab bands. Forewing white, strewn with blackish-brown, very little in the median area; anterior transverse line fine, dark, with a few reddish-yellow scales, interrupted inwards below the median vein, then extending to the centre of the inner margin; cross-vein purely white with a dark dot in the lower cell-angle; postmedian line fine, with chestnut-brown scales, double below 3; fringe slightly scaled dark only at the ends of the veins. Hindwing white with a fine dark median line with vein-dots and a faint dark postmedian shadow. The ♀ is more densely strewn dark with more distinctly marked lines, the fringe spotted dark between the veins. Marginal half of hindwing dusted with brownish sand-colour. Expanse of wings: ♂ 58, ♀ 70 mm. French Guiana.

huacamaya. **L. huacamaya** Schs. Head and thorax white and blackish-brown, metathorax black mixed with orange; abdomen white with drab segmental lines, ventrum reddish-yellow. The white forewing is scantily strewn with black, the fine reddish-orange antemedian line strewn with black, almost touching the median line at the inner margin, a small ring at the cross-vein before the median line; the postmedian line is composed of blackish-brown lunules, a purer white area is before it, an orange ochreous parallel line behind it, blackish-brown and orange strewn behind this line as far as the whitish subterminal area. Hindwing white, suffused with brownish in the cellular spaces. Inner margin reddish, the veins and median line brown. Expanse of wings: ♂ 60, ♀ 83 mm. Peru (Rio Huacamaya).

petropolia. **L. petropolia** Schs. resembles the ♀ of *huacamaya*, the brown abdominal bands interrupted dorsally. Forewing white, strewn with black, more densely so subterminally; the anterior transverse line ends behind the centre of the inner margin; a small purely white spot in the lower cell-angle; fringe with large black spots; marginal line thickend on the veins, interrupted in *huacamaya*; hindwing brownish with a dark marginal line, broad white costal margin and fringe. Expanse of wings: 85 mm. Brazil (Petropolis).

maronia. **L. maronia** Schs. Front body white, collar and tegulae very little intermixed with brown; abdomen brownish-grey above with white segmental lines, white beneath. Forewing white, scantily strewn with black and brownish, a purely white area before the postmedian line; anterior transverse line doublé only at the costal margin, contiguous with the indistinct orange ochreous median line at the inner margin; a dark streak at the cross-vein; postmedian line double, the interior part blackish-brown, the exterior part lighter, more deeply bent inwards between 2 and 3, undulate-dentate; subterminal line white, marginal line dark. Hindwing brownish, white at the costal margin. Expanse of wings: ♂ 68, ♀ 85 mm. French Guiana.

venica. **L. venica** Schs. Anterior body white intermixed with brown, abdomen brown with reddish-cinnamon segmental lines, white beneath. Forewing white scantily strewn with blackish-brown, the blackish-brown double antemedian line interrupted inwards below the median vein, cross-vein white; the feeble median line forms distal dents on the veins; postmedian line black at the costal margin, double, deeply dentate at the inner margin, the exterior part below very indistinct, brownish ochreous. The white hindwing is suffused with brown, with a dark median line. Expanse of wings: 58 mm. Venezuela (Merida).

rhenia. **L. rhenia** Schs. is the only species of the *aglone*-group with purely white hindwings. Anterior body as in the preceding species, abdomen reddish-cinnamon above with whitish segmental lines, only the first and last segment white, ventrum white. Forewing white, scantily strewn with blackish-brown; anterior transverse line feeble in the ♂, stronger in the ♀, double at the costal margin, vertical and somewhat punctiform as far as below the cell, then somewhat undulate to the inner margin towards the median line; cross-vein white; postmedian line undulate-dentate, double only in the ♀; ♂ without a marginal line which is fine dark in the ♀. Hindwing white. Expanse of wings: ♂ 62, ♀ 84 mm. Colombia (Muzo; Medina).

medina. **L. medina** Schs. (153 g). Anterior body brownish-grey, metathorax with white tufts which are bordered with brown and orange. Abdomen white with brown subdorsal spots. Forewing white, the antemedian area strewn with blackish-brown excepting the base of the inner margin; anterior transverse line blackish-brown, spotted from the costal margin to below the cell, scaled orange below that; median area scarcely strewn at all; postmedian line composed of small spots, strewn with olive brown behind it, most densely so at the said spots; marginal line fine, fringe white. Hindwing white, base and inner margin reddish-yellow, a brown line extends from the costal margin to the anal angle. Expanse of wings: 67 mm. Colombia.

arnoula. **L. arnoula** Schs. Thorax white and light brown, collar darker brown. Abdomen light brown above with darker bands, whitish beneath. Forewing white, strewn with chestnut-brown, a subbasal spot at the costal margin, transverse lines red-brown, strewn with orange, the anterior line extends to the centre of the inner margin, a feeble lighter line behind the exterior line; a black dot in the lower cell-angle; a broad white subterminal band. Hindwing brownish cinnamon with a slightly darker median line. Fringe white, brownish at the anal angle. Expanse of wings: 65 mm. Peru (Carabaya).

genebrarda. **L. genebrarda** Schs. (153 f). Anterior body white, scantily intermixed with darker, collar brown, bordered with white. Abdomen brown above, intermixed with orange, the 2 last segments more white. Forewing white,

strewn with red brown, the lines composed of black, red-brown, and orange scales, the posterior line double, the interior part thicker, distally angled on vein 3, then vertical to the inner margin; a small blackish-brown spot at the cross-vein, a red-brown dot above it, a darker shadow behind it; traces of a whitish subterminal line; a dark lunular line at the margin is thickened on the veins. Hindwing light reddish-yellow and dusted grey from the base to behind the dark median line, with brown veins, margin broadly brownish cinnamon; fringe white. Expanse of wings: 60 mm. Peru (Rio Huacamaya).

L. abdjesa Schs. Anterior body drab, tegulae intermixed with white, thorax more brown; abdomen *abdjesa*. blackish-brown above, with lighter segmental lines, intermixed with white basally and dorsally, the two last segments white mixed with brown. Forewing white, strewn with chestnut-brown, the lines composed of blackish-brown and orange scales, the anterior one meeting the indistinct median shadow at the inner margin; the posterior line is vertical, slightly incurved between 3 and 2; subterminal line white, irregular; marginal line red-brown, projecting on the veins. Hindwing brown, fringe white. Expanse of wings: 60 mm. Bolivia (Incachaca).

L. gunthierna Schs. Forewing white and brownish cinnamon; abdomen nut-brown above, with light drab *gunthierna*. hair, the last segment white and cinnamon-brown. Forewing white, strewn with brown and black; a very fine, feeble parallel line before the antemedian line which is strewn with blackish-brown and orange; cross-vein streak with a fine black line; the posterior transverse line is coloured like the anterior one, followed by a chiefly orange parallel line; subterminal line purely white, irregular, the fine dark brown marginal line enters into the fringe above and below the ends of the veins. Hindwing dark brownish, fringe white. Expanse of wings: 65 mm. Bolivia (Songo). It is near *favilla*, but it has broader wings and different genital organs.

L. favilla Dogn. (153 g) is greyer, more densely strewn with blackish, the broad brownish-grey transverse *favilla*. lines single, a whitish brightening behind the distal line, and the undulate line is also whitish. Hindwing greyish-brown. Ecuador, Colombia.

L. friburga sp. n. (153 h) is somewhat similar to *favilla*. The whitish ground of the forewing is very *friburga*. densely and coarsely strewn with black and dark brown, scantily with orange; antemedian line double, oblique, of almost the same course as in *dentilinea*, but deep black, distally scaled orange; a large white reniform macula at the cell-end; postmedian line very thick and deep black, almost rectangularly produced between 3 and 4, the postmedian area behind it strewn darker, excepting a purely white line, and projecting with 2 darker pointed notches between 2 and 4 towards the whitish subterminal line; marginal line black, coherent, projecting on the veins, with thick black spots between them on the fringe. Hindwing black. Thorax black intermixed with long white hair. Abdomen black above, orange beneath. From a ♀ from Novo Friburgo in the Coll. NIEPELT.

L. dentilinea Schs. (153 h). Forewing grey with 2 darker red-brown, strongly notched transverse lines, *dentilinea*. the anterior one only dentate at the costal margin, the cell-end streak likewise red-brown. Hindwing blackish-grey, lighter at the distal margin. Abdomen blackish-grey, with deep yellow bands beneath, and yellow lateral tufts. Brazil (São Paulo). Expanse of wings: 66 mm.

L. smithi Drc. Forewing greyish-white densely strewn with red-brown, only the broad red-brown *smithi*. anterior transverse line is visible. Hindwing likewise greyish-white. Abdomen yellowish-white above, all white beneath. Expanse of wings: 62 mm. Colombia.

L. schausi Dogn. (153 g). Forewing white, densely strewn with black and yellow, with 2 black trans- *schausi*. verse lines, the posterior one almost straight, distally accompanied by a black shadow, with a purer white filling between, black crescents at the margin, a black dot behind each of them. Hindwing brownish with traces of a lighter median line; abdomen also brownish. This species described from Venezuela is between *aglone* and *favilla*.

L. obliquilinea Schs. Forewing white strewn with brown, most intensely in the basal area which is *obliqui-* bordered by the double brown antemedian line; a black dot below the base of the cell, and a dark inner- *linea*. marginal shadow; the interior part of the double postmedian line only extends to behind the centre of the cell; undulate line white, shaded darker inside. Fringe white with brown spots. Hindwing blackish-grey, broadly brown at the inner margin, with darker veins and white fringe. Abdomen yellowish-brown above, white beneath. Expanse of wings: 50 mm. British Guiana.

L. irrorata Schs. is allied to *schausi*; forewing white, scantily strewn with brown and yellow; between *irrorata*. the double strongly dentate transverse lines, which are more densely strewn with brown and especially yellow, there is an almost straight median line, slightly dentate only on the veins, distally followed by broad white colour; an irregular brown marginal line in the purer white marginal area. Hindwing white with a dark median line. The ♀ is more densely strewn with brown. Abdomen blackish-brown, with lighter brown segments and a white dorsal line, white beneath. Expanse of wings: ♂ 69, ♀ 90 mm. Costa Rica.

turnina. **L. turnina** Schs. Anterior body cinnamon-brown, intermixed with white, abdomen rusty brown with darker bands. Forewings brown, more cinnamon-brown in the basal area; subbasal line and antemedian line double, interrupted by the veins, mottled darker brown, more prominent owing to intermixed white scales. Median area more intensely strewn with white, a cinnamon-brown spot bordered with white is at the cross-vein; the double dentate postmedian line is cinnamon-brown, the two transverse lines connected by a black submedian streak; a dark brown subterminal shadow with black vein-streaks, a light brown spot at the apex. Hindwing brown, olive-grey at the base. Expanse of wings: 39 mm. French Guiana.

minor. **L. minor** Schs. (153 h). Forewing greyish-white, strewn with brown, most densely so in the basal area which is oblique-triangularly cut off, from the first third of the costal margin to the centre of the inner margin, bordered by a dark undulate line; lightest is the median area before the irregular oblique postmedian line which is almost united with the anterior line at the inner margin; submarginal area and distal margin dark grey, the veins in this part white. Hindwing smoky grey. Abdomen golden brown above, white beneath. The ♀ is lighter. French Guiana.

fassli. **L. fassli** Dogn. is very different and is distinguished by longer palpi and the costal vein of the hindwing arising without a cross-bar to the cell from its centre. Forewing white with broad red-brown markings, a broad median band forming an acute angle at the cell, the basal part of the same colour, bordered by a black line parallel to the median band, margin broad blackish. Hindwing sooty brown, abdomen blackish-brown, with ochreous ringlets, black beneath. Expanse of wings: 52 mm. Bolivia.

suprema. **L. suprema** Schs. (153 h) differs from the other species in the absence of transverse lines. Forewing of ♂ white, with dark red-brown veins, especially the subcosta, median vein and submedian vein; costal margin fine black. The base of the white hindwing is somewhat orange-haired. Forewing of ♀ reddish-brown, the distal part strewn with grey between the veins, hindwing dull brown with white fringe. Abdomen in both sexes black, with orange bands beneath. — Larva yellow, probably green in life, with red transverse bands above the joints, and red subdorsal lines beginning from the 5th segment, red beneath, head black. Food-plant not mentioned.

104. Genus: **Oiozona** Drt.

Only one very peculiar species with a Geometrid-like habitus, yet only to be ranged under the *Noto-dontidae*. The slender palpus with a slightly drooping terminal joint is correct, prolonged in the ♀. Antennae lamellate, in the ♂ with short double pectinations. The abdomen projects beyond the hindwing. Forewing broad with a sharp apex and slightly undulated margin. Neuration similar to that of *Lobeza*, but with an areole on the forewing on which vein 5 arises a little above the centre of the cross-vein, and 6 from below the upper cell-angle, 7—9 stalked. Hindwing very characteristic by the entire fusion of 8 with 7 for two thirds of the length of the anterior edge of the cell after forming a large basal sling.

geometrica. **O. geometrica** Drt. (154 b). Head and thorax bone-white, collar rusty yellow, abdomen and base of tegulae blackish. Forewing sepia-brown with white veins in the median and marginal areas, with 3 whitish transverse bands strewn with brown, the two anterior ones often strangulated spot-like, marginal area of a purer bone-white colour. Hindwing whitish, the ♀ smoky towards the margin. Peru.

105. Genus: **Lusura** Wkr.

Distinguished from the preceding genus by much longer palpi, longer-pectinated antennae, and veins 3 and 4 of the hindwing arising more separated. A few insignificant species.

Type of genus: *L. discalis* Wkr.

discalis. * **L. discalis** Wkr. has blackish-grey forewings strewn with brown, the darker, only curved, not dentate transverse lines hardly noticable in the dark ground; the exterior cell-end shaped like a quadrangular spot is filled with light reddish-brown, its distal border being formed by a straight fine black cell-end streak; instead of the undulate line there is a slight brightening behind which there is one fine black longitudinal streak subapically and at the anal angle. Hindwing white with a grey marginal band. Brazil.

altrix. **L. altrix** Stoll (= *chera* Stoll, *megalops* Sepp, *simois* Wkr.) (154 a) is not dissimilar to *discalis*; forewing somewhat lighter brownish, darkened blackish only before the antemedian line and behind the distally broadly lighter postmedian line in the shape of broad shadowy bands, transverse lines slightly notched, the distal cell-end not lighter; a fine black streak at the cell-end, and a submarginal row of fine blackish internerval streaks, a thicker subapical longitudinal streak. Hindwing whitish. Guiana, Colombia.

L. ancha Schs. is a larger species with broad wings, of a different exterior. Forewing brownish-black *ancha*, with fine indistinct transverse lines, the posterior one composed of small triangular black spots distally edged with whitish-grey; another fine transverse line in the middle, followed by a distinct black line extending to below the cell, bordered with white outside below the cell and connected with a crescentiform streak before the cell-end by a dark streak; 2 black dots at the cell-end itself, 4 small whitish spots behind them; a black undulate submarginal line. Hindwing of the same colouring. Expanse of wings: 40 mm. Paraguay.

L. plorabilis Schs. Forewing steel-black strewn with grey, brownish in the cell and at the base of *plorabilis*, the inner margin, the transverse lines broken up into small dark velvety brown spots, brown shading behind the distal line with 2 rows of small dull brown spots; centre of costal margin strewn with white; a dark brown spot at the cell-end, dark brown lunar streaks at the dusted brownish distal margin, distally edged with reddish-yellow. Hindwing smoky brown. Expanse of wings: 45 mm. French Guiana.

L. falsimonia Dogn. Forewing coal-black, lighter brownish ochreous at the inner margin, below the *falsimonia*, cell and at the margin, still lighter in the cell-end and from there widened to the costal margin; transverse lines broken up into thick black internodal dots as in *plorabilis*, and also a submarginal row of black dots. Hindwing blackish, fringe light. Expanse of wings: 36 mm. French Guiana.

106. Genus: **Nesebra** Schs.

Antennae of both sexes shortly pectinated as far as beyond the middle; palpi slightly drooping with a very short terminal joint. Forewing rather long and narrow, veins 2—4 at equal distances from each other, vein 5 arises from the centre of the cross-vein, 6 from the upper cell-angle, hindwing as in *Scevesia*, but vein 6 on a short stalk with 7, 8 from the centre of the cell.

Type of genus: *N. norema* Schs.

N. norema Schs. Forewing brown, with a velvety brown oblique streak below the base of the cell with *norema*, a white spot behind it, lighter brown in the disc, bordered by a curved brown double line with a black line behind it; behind the uniformly bent postmedian line follows at first a whitish shadow, then a brown one; marginal area grey mixed with lilac, with a subterminal row of small brown spots. Hindwing brown. The ♀ is larger, greyer, with indistinct transverse markings and a postcellular row of small blackish spots. Expanse of wings: ♂ 35, ♀ 46 mm. French Guiana.

107. Genus: **Gluphisia** Bsdv.

This genus being also represented in the palaearctic region (cf. Vol. II, p. 295) occurs in North America in a series of forms which are combined in but two species now. The ♂ antennae are pectinated to the tips, those of the ♀ plain; palpi short, hairy. They are small, insignificantly coloured species with rather narrow forewings; vein 5 arises from the centre of the cross-vein, 6 from the upper cell-angle; hindwing with the usual neuration, vein 8 arises only near the cell-end.

Type of genus: *G. crenata* Esp. from Europe.

G. septentrionis Wkr. (= *septentrionalis* auct., *clandestina* Wkr., *trilineata* Pack.) (154 a) is the smallest *septentrionis*, and most insignificant species; forewing ash-grey, very variably lighter or darker, with more or less distinct transverse lines edged with whitish, and a dark shadowy band behind the anterior line, the median area generally yellowish strewn with black; the submarginal line is twice obtusely broken. Hindwing lighter or darker ash-grey. — f. **ridenda** Edw. (154 a) is lighter grey, the broad median band of a clear light reddish-yellow *ridenda*, colour. — f. **rupta** Edw. is still somewhat lighter whitish-grey with a narrower yellow median band the black *rupta*, border-lines of which cut each other at the inner margin, a darker shadowy band following behind the distal transverse line, absent in *ridenda*. Both forms from Colorado and Montana. — f. **albofascia** Edw. Forewing *albofascia*, more yellowish-grey with a broad dark subbasal shadowy band; median area yellowish-grey with a broad black shadowy band behind it. Hindwing with a faded broad dark band in the marginal quarter. From Utah. — f. **formosa** Edw. is a lighter grey form, chiefly from Texas, with almost white hindwings; the median band *formosa*, of the forewing is quite light flesh-coloured or yellowish, parted by a darker median line which is thickened on the veins; interior transverse line very strong and deep black. — f. **wrightii** Edw. is very intensely strewn *wrightii*, with black, the light median band very dark, light reddish-yellow only above the inner margin in a quadrangular spot, parted by a black median line; postmedian area densely shaded with black as far as the dentate submarginal line. Hindwing dingy white with a darker submarginal shadow. California. — f. **quinquelinea** *quinquelinea*, Dyar, from the Pacific Coast, is a more insignificant form with 5 distinct transverse lines on its grey ground. — Larva green with yellow subdorsal lines and red double dorsal spots except on the 4th and 5th segments. It lives on aspen-trees.

lintneri. **G. lintneri** Grt. (154 a) is a somewhat larger species for which even a special genus, *Eumelia* Neum. & Dyar, was established. Forewing ash-grey or mouse-coloured, with black transverse lines, the anterior one straight, not curved, and with an indistinct cross-vein streak; median area and a small basal spot loamy yellow, small yellow black-scaled submarginal spots. Hindwing just as dark as forewing with a distinct post-
avimacula. median line and a lighter shadow behind it. — f. **avimacula** Huds. has also an ash-grey median area, only intermixed with some yellow scales at the border-lines, containing a dark median area, and a very distinct yellow reniform macula surrounded by black is at the cell-end, the basal spot below the cell is also yellow
slossoni. surrounded by black. — f. **slossoni** Pack. is lighter ash-grey, the basal fifth blackish-brown, the two yellow
severa. spots of *avimacula* are whitish-grey here. — f. **severa** Edw. is a large strong form with a broad blackened median band and the yellow spots of *avimacula*. Hindwing with a blackish median band with a lighter filling;
danbyi. this form flies in California — f. **danbyi** Neum. is a large, very light yellowish loam-coloured form with a scarcely visible lighter median area and feeble transverse lines; the reniform macula is also very fine and
normalis. indistinct. California. — f. **normalis** Dyar is smaller than the preceding forms, the median area yellowish, a very narrow grey tinge on the averted sides of the transverse lines; reniform macula very distinct, filled with grey. — The larva is diaphanous light green with a yellow lateral line and lives on *Populus tremuloides* and *balsamifera*.

108. Genus: **Nagidusa** Wkr.

Antennae of ♂ pectinated to the tips, of ♀ plain; a small tuft on the head. Forewing long and narrow with an oblique margin and a rather pointed apex; as in all the neighbouring genera it lacks the areole, vein 5 arises above the centre of the cross-vein, 6 is stalked with 7--9. Hindwing as in *Gluphisia*. Few tropical American species.

Type of genus: *N. xylocampoides* Wkr.

xylocampoides. **N. xylocampoides** Wkr. (= *exyra* Drc.) (154 a) is a large species with light brown forewings strewn with grey, with a large quadrangular grey costal-marginal spot and a few small dark brown costal spots near the apex. Hindwing white, yellow at the inner margin with a brown marginal line. Venezuela.

cinescens. **N. cinescens** Schs. (= *miranda* Dyar). Forewing grey with fine undulate double black mostly indistinct transverse lines and a dark cell-end streak; an indistinct subterminal shadow, with black vein-streaks and internerval streaks towards the costal margin; fringe speckled dark. Hindwing smoky grey with a whitish postmedian line. Expanse of wings: 47 mm. Mexico, Arizona.

suavis. **N. suavis** Dyar (154 a) is smaller and more slender than the preceding species, forewing violet bluish-grey, strewn with yellowish ochre and red-brown at the costal margin, with red-brown double transverse lines filled with yellowish-ochre, the cell-end macula of the same colouring. Hindwing whitish, fringe greyish-brown, with brown apical lines. Mexico.

mycomba. **N. mycomba** Dyar is also similar, greyish-blue, abdomen black; forewing strewn with black, with double indistinct transverse lines, the posterior one shaded dark behind the cell and above the inner margin; the undulate line is composed of large faded spots between the fine black veins of the marginal area. Hindwing brownish-grey with a light median line at the costal margin and inner margin. Expanse of wings: 42 mm. Mexico (State of Hidalgo).

109. Genus: **Ellida** Grt.

Like the preceding genus, but the origin of vein 5 of forewing is removed down to the centre of the cross-vein, and veins 3 and 4 of the hindwing arise from the same base, not separately. Only one North-American species:

Type of genus: *E. caniplaga* Wkr.

caniplaga. **E. caniplaga** Wkr. (= *transversata* Wkr., *gelida* Grt.) (154 b) is monotonously ash-grey with a contrastingly brown head and collar, the forewing with 3 distinct antemedian transverse lines, the outermost of which extends close to the brown discal spot; 2 indistinct postmedian lines are marked by vein-dots, a submarginal row of small irregular brown spots. Hindwing dark ash-grey. Larva unknown. Canada, New York, Maine.

110. Genus: **Fentonia** Btlr.

Separated from *Ellida* only by the antennae being pectinated not quite to the tips, and by somewhat longer porrect palpi. Forewing somewhat broader, no difference in the neurulation. The genus, also known as *Macrurocampa* Dyar, contains beside a number of Eastern Asiatic species also 3 American species, two of which occur in North America.

Type of genus: *F. marthesia* Cr.

F. marthesia Cr. (= *tesella* Pack., *turbida* Wkr., *elongata* Grt. & Rob.) (154 b) has exactly the exterior *marthesia* of a *Heterocampa*, but no areole on the forewing; greyish-white with a dark blackish-grey basal third distally bordered by a notched double line; postmedian line double, irregularly dentate, followed by a light undulate line behind it, bordered inside by a darker shadow which is only distinct in the upper half of the wing and forms large blackish spots above the anal angle. Hindwing whitish-grey, darkened in the ♀, the postmedian line distally light. The abdomen bears 6 dark dorsal tufts. Forewing occasionally with a somewhat greenish tint. Larva, resembling a larva of *Cerura* by its two long caudal points, grey with a yellow red-spotted dorsal stripe and yellow oblique lateral streaks on 3 segments each; the first segment exhibits a short red cone. It lives on oaks and beeches, and on being molested it sputters forth a fine jet of a liquid, like the larvae of *Cerura* do. Maine to Georgia and Texas; it is said to occur also in Mexico, Guiana, and Brazil.

F. dorothea Dyar on the whole shows the same scheme of markings as *marthesia*, but the basal area *dorothea* is not separated by a darker colour, but also the distal half is brownish-grey like the basal area; the double black transverse lines are distinctly and somewhat more regularly dentate than in *marthesia*; the light notched undulate line is shaded dark inside in its whole length, with 2 thick black small spots above the anal angle; a black double streak at the cell-end represents a narrow reniform macula; hindwing darker greyish-brown, lighter towards the base. California.

F. amazonica Btlr. (154 b) may correspond with the Brazilian specimens identified as *marthesia*; basal *amazonica* third of forewing chocolate-brown, traversed by 3 undulate jet-black transverse lines, distally bordered by the double notched black antemedian line; the distal half of the wing is whitish, finely strewn with reddish-brown, a fine black streak at the cell-end; the postmedian line extends similarly as in *marthesia*, but it is somewhat more oblique, the two double lines more separated, more regularly dentate; the light whitish undulate line is more deeply notched. Hindwing whitish, brownish at the margin. Amazons.

111. Genus: **Notela** Schs.

Like the preceding genera and also without an areole on the forewing, separated by a high frontal tuft. Vein 6 of forewing arises from the upper cell-angle, separated from the stalk of the veins 7—10. Vein 3 of hindwing arises from the same base with vein 4, 6 on a short stalk with 7. Only 2 closely allied species.

Type of genus: *N. jaliscana* Schs.

N. jaliscana Schs. (154 b). Forewing grey strewn with black, especially the veins are blackened, with *jaliscana* brownish shading between the veins and at the indistinct transverse lines, only the posterior one being occasionally distinct and double, dentate; a black dot generally in the lower cell-angle, an oblique row of black streaks below the apex. — **f. ramosa** nov. (154 b) I denominate a common form with a black submedian ray which *ramosa* begins at the base of the inner margin and extends obliquely upwards to the first third of vein 2, below which it is continued to the second third, ending obliquely upwards on vein 4 at the margin, a black anal spot below it. Hindwing whitish. Mexico.

* **N. angustiora** B. & McD. has longer narrow forewings of the same ash-grey colour strewn darker, *angustiora* the double transverse lines more or less broken up into dots, especially the posterior line which is followed by a reddish-brown shadow; a black double streak in the cell, followed by a whitish brightening, an indistinct reniform macula at the cell-end, and black dots before the margin. Hindwing light smoky grey. Arizona.

112. Genus: **Euharpyia** Schs.

Separated from the preceding genus by the antennae being pectinated only in the basal halves, with a long porrect hair-tuft at the base of the antenna; the middle joint of the porrect palpus is longer than in the preceding species. Neuration as in *Notela*. Only 1 species.

Type of genus: *E. comita* Schs.

E. comita Schs. (154 b). Forewing brown in the basal and distal thirds, more grey in the median area, *comita* the anterior double transverse line removed far to the centre, the posterior double line filled with whitish, with vein-dots; small black dots above the anal angle and towards the costal margin before and behind the reddish-brown undulate line. Hindwing light brown, darker distally. Peru, Bolivia.

113. Genus: **Eunotela** Schs.

Like *Euharpyia*, but the palpi are erect, and the hair-tuft at the base of the antenna is absent. Vein 3 of hindwing arises separated from 4.

Type of genus: *E. pallida* Schs.

pallida. **E. pallida** Schs. (154 c) is very similar to *E. comita* on the whole, but of a much lighter colouring; marking also the same except the black subterminal spots which are absent here, and the undulate line is a fine black line with some brownish shading before it towards the apex. Hindwing white, a few black scales at the anal angle. Brazil (Castro, Parana).

tropica. **E. tropica** Schs. is very similar, but at once discernible by its brown hindwings. Forewing light grey, shaded with light brown basally, the double postmedian line very indistinct and interrupted, instead of the absent black subterminal line there are short black vein-streaks before the marginal line; the velvety black crescent at the cell-end is very distinct. Expanse of wings: 40 mm. Venezuela.

collaris. **E. collaris** Schs. Thorax grey with a contrastingly velvety brown head and collar. Forewing brown mixed with reddish-yellow basally, in the cell and in the marginal area, the whitish basal ray strewn with black, a white discal spot bordered with black above, with brown beneath, with a whitish area before it; the double brown anterior transverse line begins with a large brown costal-marginal spot; veins partly strewn with black and white, the postmedian vein is composed of white vein-dots; black dots bordered with grey are between the veins of the marginal area. Hindwing greyish-brown, lighter towards the base. Expanse of wings: 39 mm. Colombia.

bipunctata. **E. bipunctata** Jones. Forewing yellowish-white, dusted with brownish basally, with a yellowish-brown costal-marginal spot behind the postmedian line, a black basal ray and a double anterior transverse line, the interior part of which is faded brown, the exterior part black; 4 dots in the cell, a dark streak at the end; the posterior transverse line is composed of a threefold row of vein-dots; undulate line brown, with one black anal spot each before and behind it, one black spot each before it on the middle radial vein and at the apex; fringe white with small black spots. Hindwing yellowish, veins and margin brownish. Expanse of wings: 34 mm. Corcovado (Rio de Janeiro).

basitincta. **E. basitincta** Dogn. is near *bipunctata*; forewing white strewn with brown, yellowish ochreous basally, with a red-brown border-line; the dentate brown postmedian line is dotted on the veins, followed by a less distinct interrupted line and a red-brown costal spot; reniform macula and undulate line likewise red-brown. Hindwing white, brownish at the margin. Expanse of wings: 32 mm. Amazons.

chacoa. **E. chacoa** Schs. Anterior body reddish-brown, tegulae whitish olive grey, abdomen greyish-brown. Basal area of forewing loamy grey, median area grey, brownish behind it, a brown antemedian shadow bordered by a fine blackish-brown double line, a brown line bordered with white is at the cell-end; the fine postmedian line is bordered with whitish, dark vein-streaks behind it, then a brown shadow meeting an angle of the postmedian line on vein 4; whitish and reddish scales before the fine submarginal line in the lower half. Hindwing white with a fine brown marginal line. Expanse of wings: 27 mm. Argentina (Chaco).

114. Genus: **Pontala** Wkr.

This genus contains only two peculiar species of conspicuous wing-contours, the distal margin forming an angle on vein 5, and one strong dent each at the anal angle and in the centre of the very much indented inner margin. Vein 5 arises from the upper cell-angle, 6 from the apex of the areole. Hindwing as usual.

Type of genus: *P. rubrana* Wkr.

rubrana. **P. rubrana** Wkr. Forewing purple brown with fine red-brown transverse striae bordered with yellowish inside; marking exactly like that of *calpe*, the oblique line from the apex is black, distinctly bordered with light violettish-grey on the outside, faded inside; the second oblique line from the distal-marginal dent is very indistinct, quite absent in some specimens; a thick black subapical dot at the distal margin, another dot above the anal angle. Hindwing whitish, brownish at the distal and inner margins. Brazil.

calpe. **P. calpe** Fldr. (154 c). Forewing deep red-brown with a violet reflection, a fine darker oblique line from the apex to the inner-marginal indentation, another line from the distal-marginal angle to the anal angle. Hindwing dark greyish-brown. Brazil.

115. Genus: **Apela** Wkr.

Separated from the preceding genus only by the rounded distal margin without an angle on vein 5, with broader wings, the basal half of the costal margin rather convex; neurulation the same. A few tropical species have been described.

Type of genus: *A. divisa* Wkr.

A. divisa Wkr. (= *strigata* Mschlr.) (154 c) is a most variable species, if the specimens presumed to *divisa*. belong together are really identical, the inner margin being sometimes very deeply dentate, sometimes quite straight. Forewing copper-red dusted with purple violet, darkened before the purple black oblique line which is bordered somewhat lighter distally, except the broad light costal margin; fringe and inner margin likewise darkened purple blackish, especially at the inner-marginal dent; an oval surrounded by blackish is at the cell-end, a ring-macula in the cell; two distantly separated fine blackish arcuate antemedian lines, the distal one of which ends near the postmedian line at the inner-marginal dent. Hindwing brownish-grey, somewhat lighter towards the base, fringe light. The bright rusty yellow collar contrasts with the purple violet thorax. Colombia.

A. acutidivisa Rothsch. is reddish-cinnamon on the forewing with a yellowish tint, with a deep red- *acutidivisa*. brown oblique band which is faded inside, distinctly defined outside, and extends from the apex into the inner-marginal dent, a very fine antemedian line is very deeply notched. Hindwing brownish pink. Expanse of wings: 38 mm. French Guiana.

A. neobule Drc. (154 c). Forewing yellowish-brown, almost quite yellow along the costal margin, the *neobule*. dark oblique line of *acutidivisa* is double here, a submarginal row of very fine brown dots, and 2 small round spots in the cell; antemedian line very fine. Hindwing reddish-brown, lighter towards the base. Costa Rica.

A. lilacina Dogn. (154 c) resembles *neobule*, but the forewing is dusted with violet, greenish-yellow at *lilacina*. the anterior half of the costal margin and at the anal angle, with a greenish-yellow reniform macula. Hindwing light brownish. French Guiana.

A. picturata Dogn. The inner-marginal dent is prolonged into a small tail twice as long as in the preced- *picturata*. ing species. Forewing red-brown with a yellowish tint, with brownish veins in the postmedian area; a white subbasal double line of an elliptical shape, a large brown cellular spot behind it, and a somewhat smaller rounder one at the cell-end; the brown oblique line is distally set with white vein-dots; 2 dark dots above the anal angle. Hindwing brownish, fringe whitish. Expanse of wings: 35 mm. French Guiana.

A. archimma Schs. ♂ antennae with short ciliary tufts. Anterior body fawn-coloured, intermixed with *archimma*. whitish. Forewing cinnamon-red, suffused with purple, a strong dent at the inner margin; the fine oblique bent subbasal line is partly bordered with white, like the fine excurved antemedian line; the fine white postmedian line is bordered with red-brown inside and extends from the apex behind the inner-marginal dent; ring-macula and reniform macula surrounded by fine dark rings; marginal area slightly strewn with black, a light brown spot at the anal angle. Hindwing fawn-coloured, costal margin lighter. Expanse of wings: 37 mm. Amazons (Rio Ica).

116. Genus: **Dylomia** Fldr.

Structure very similar to that of the preceding genus, but forewing with an obtuse apex and a rounded not indented inner margin; vein 5 arises near the upper cell-angle, 6 from the centre of the areole; the rest of the neuration almost the same; 3 and 4 of hindwing arise either stalked or from the same base. The costal vein branches off from the centre of the cell. Several mostly delicate tropical species have been described.

Type of genus: *D. tortricina* Fldr.

D. tortricina Fldr. (154 d). Forewing deep red-brown with a yellowish-white costal-marginal stripe and *tortricina*. a very large reflecting violet discal spot; the scaled dent at the inner margin is blackish-brown. Hindwing brown with a whitish inner-marginal area. Brazil.

D. ciliata Fldr. (= *consobrina* Schs.) (154 d). Forewing light reddish-yellow with a fine yellowish *ciliata*. ochreous costal margin and a violet spot in the centre of the costal margin; an undulate dark yellow antemedian transverse shadow and a similar dot at the cell-end; a brownish shadow containing white vein-dots is before the red-brown marginal line, a dark violet shadowy stripe scaled lilac is behind it. Hindwing light reddish-yellow, red-brown at the margin. French Guiana, Amazons.

D. ochreata Schs. Forewing ochreous, costal-margin red-brown except the postmedian part remaining *ochreata*. yellow; an irregular darker antemedian shadow, the inner margin before it is shaded lilac; a red-brown dot at the cell-end; a dark yellow submarginal line with white vein-dots is before the dark lilac marginal shadow. Hindwing ochreous, lighter towards the base. Expanse of wings: 29 mm. French Guiana.

D. caesia Fldr. (154 d) is light violettish grey on the head, thorax, and forewing, with a blackish-brown *caesia*. arcuate streak basally below the cell, and a straight postmedian line extending from the darkened brownish-grey apex to the centre of the inner margin, after having formed a right angle on the inner-marginal vein; a very fine parallel line extends before it, 3 blackish small spots behind it before the centre of the margin. Collar, abdomen, and hindwing are bright orange. Brazil.

- delicata.* **D. delicata** Schs. Forewing violet with a brownish ochreous costal margin which is lighter in the distal half, brownish ochreous shading in the centre of the cell; a red-brown antemedian shadow below the cell, the distal half of the inner margin is brownish ochreous; a dark dot in the cell-end, a reddish-yellow subapical streak, a brownish ochreous submarginal shadow below it, fringe reddish-yellow. Hindwing dingy white, dusted with violettish-brown in the distal half. Expanse of wings: 20 mm. French Guiana.
- suavis.* **D. suavis** Jones. Forewing light yellowish-brown, reddish-yellow at the costal margin, shaded somewhat darker in the marginal area; the oblique fine, slightly curved anterior transverse line ends at the inner margin in a long sealed dent, the stronger postmedian line terminates near it in a short sealed dent and comes straightly from the apex; an indistinct subterminal row of small obsolete dark lunular spots, and 2 small spots in the cell-end connected by a dark line; fringe red-brown, prolonged at the inner margin. Hindwing iridescent yellowish. Expanse of wings: 31 mm. Brazil (São Paulo).
- fragilis.* **D. fragilis** Schs. (= nubiloviolaceus *Rothsch.*) (154 d) has light yellow forewings broadly shaded violet and lilac at the costal and distal margins, with a dark brown cell-end dot and a brown notched shadow below the cell-end, distally bordered by a dark brown line, and a white submedian dot; the inner margin behind it is grey and brown, distally bordered by a short white line; a brownish-ochreous shadow bordered with dark brown on both sides is situated before the lower half of the margin. Hindwing dingy white, reddish-brown at the inner and distal margins. Expanse of wings: 30 mm. French Guiana.
- pulverea.* **D. pulverea** Schs. Forewing brown, densely strewn with lilae excepting the distal half of the inner margin and the marginal area; a white oblique line shaded brown inside extends from the apex to the basal third of the inner margin, a white vertical line from vein 2 to the inner margin; one black dot each at the cell-end and subapically, 2 white dots in the upper third of the distal margin; the veins between the cell-end and the oblique line are brown. Hindwing reddish-brown, lighter towards the base. Expanse of wings: 28 mm. French Guiana.
- germana.* **D. germana** Schs. (154 d) is similar, violettish-brown on the forewing, strewn with lilae at the margins; a light oblique line inwardly shaded with brown extends from a black subapical dot to the centre of the inner-marginal vein and bends then distally to the inner margin, towards its angle a similar line extends from the base of the costal margin; a black dot at the cell-end. Hindwing reddish-brown, lighter towards the base. Expanse of wings: 31 mm. French Guiana.
- diversa.* **D. diversa** Dogn. is distinguished by 2 different tints into which the brown oblique line, distally bordered with lilae and extending similarly as in *pulverea*, divides the forewing, the colour above it being reddish flesh-coloured with a lilae tint, below it dark lilae with a reddish flesh-coloured spot; a brown spot in the centre of the costal margin, a small brown dot in the cell, a thick black dot at the apical beginning of the oblique line. Hindwing brownish ochreous, lighter towards the base. Expanse of wings: 26—29 mm. French Guiana.
- transversa-ta.* **D. transversata** Dogn. is allied to the following species; forewing white, strewn with ochre, reddish-yellow at the costal margin, a reddish-ochreous oblique line extends from the apex straight to the first third of the inner margin; a small black dot in the cell-end. Hindwing white, with a slight pink tint at the margin. Expanse of wings: 32 mm. Amazons.
- diagonalis.* **D. diagonalis** Fldr. (154 d). A fine blackish oblique line extends from the apex of the bone-coloured forewing to the first quarter of the inner margin, a small black dot is in the cell-end. Hindwing greyish-white. Amazons.

117. Genus: **Naprepa** Wkr.

The members of this genus number among the largest *Notodontidae* known; they resemble gigantic *Lophopteryx* in colour and scheme of markings. ♂ antennae tuftedly ciliated; the erect palpi have a rather long short-haired middle joint and a very short terminal joint; the mesothorax exhibits a high tuft the end of which is slightly split. Forewing with a dentate distal margin, the inner margin with a sealed dent. Vein 5 arises from the centre of the cross-vein, 6 from the areole near the upper cell-end. Hindwing with the usual neuration, the costal vein proceeds before the cell-end.

Type of genus: *N. camelinoides* Wkr.

camelinoides. **N. camelinoides** Wkr. (154 e) exactly resembles a gigantic *Loph. camelina* and is invariably easily recognizable by the yellow, black-curled abdomen. Brazil (Espírito Santo).

cyllota. **N. cyllota** Drc. (154 e) is quite similar to the preceding species, but the abdomen is light grey, the base and anus reddish-yellow, each segment with a broad black ring. — The larva is very stout on the 3rd and 4th segments, the first segments are light bluish-green, laterally with white, black-ringed spots, the rest of the body bright green with subdorsal white, red-ringed spots and a white undulate lateral line. Food-plant unknown. Mexico, Honduras, Panama.

N. houla Dyar (= *fuscounubilata* Rothsch.) (154 e) is somewhat smaller with broader wings, otherwise *houla*, of the same colouring and marking, though the district of the scaled dent is less scaled white, the same being the case at the anal angle of the hindwing. At once discernible by the unicoloured brown abdomen without black rings. Mexico to Venezuela.

N. flexifera Schs. is most similar to *houla* and apparently only separated by somewhat narrower wings. *flexifera*. Costa Rica.

N. elongata Schs. (154 f.) has the longest and narrowest wings and correspondingly a much longer abdomen. Colouring and marking almost the same as in the preceding species, but the row of light vein-dots behind the postmedian line is absent, and the scaled dent is darker. Brazil (Rio de Janeiro).

N. pulcheria Drc. (154 f.) represents another type; forewing reddish greyish-brown with brown markings, especially a postmedian band crossing a fine whitish zigzag marking at the cell-end. Hindwing reddish-brown, darker at the distal margin with 2 short blackish-brown streaks at the anal angle. Panama.

N. pallescens Schs. is very similar to *pulcheria*, but much lighter, almost yellowish-white, with reddish-brown markings, only the light brown postmedian line extends below the cell as a thick black line into the scaled dent, light lilac dusting extends along the median vein to the margin; a reddish-brown shadow extends from the lower cell-angle obliquely to the margin below the apex. Hindwing much darker brown, whitish only at the costal margin. Expanse of wings: 72 mm. Brazil.

N. adusta Rothsch. (154 f) is a very different species with relatively narrow forewings, light brown, densely darkened violettish-brown excepting the basal half of the costal margin and the cell, with rather indistinct double fine deeply notched transverse lines and fine long dark brown internerval streaks behind the centre in the costal-marginal half. Hindwing lighter brown with the usual black anal spot parted by light. From Peru and Bolivia.

118. Genus: **Lophopteryx** Stph.

This genus which is also represented in the palaearctic regions (cf. Vol. II, p. 306) is very closely allied to the preceding genus, only separated by the differently stalked subcostal branches, the 3 middle ones arising on a joint stalk, whilst 7 and 10 are separated; in *Naprepa*, however, the two lowest are stalked. The palpi are more porrect, the ♂ antennae serrate with ciliary tufts. America harbours only one species very similar to the European *camelina*.

Type of genus: *L. camelina* L.

L. americana Harv. (154 d). I cannot say to what extent this species corresponds specifically to the European species (Vol. II, p. 306), it seems to be rare in America, and the stages of its metamorphosis have apparently not yet been observed there. Both are entirely alike excepting the somewhat more compressed and broader shape of the wings. Pennsylvania, Wisconsin, Kansas.

119. Genus: **Herbertina** Schs.

Very closely allied to the preceding genus, distinguished by less ciliated, not serrate ♂ antennae, as well as a small hair-tuft on the head. The costal vein of the hindwing arises from the centre of the cell, in *Lophopteryx* near the end of the cell. Only 1 species:

Type of genus: *H. eumeta* Drc.

H. eumeta Drc. is distinguished by a dark brown median line on the red-brown forewing, with yellow crescentiform spots on either side of it, one large yellow spot each is at the cell-end and apex, a yellow stripe extends from the base to the anal angle, and a series of small yellowish-white spots before the margin; 2 black dots at the apex, one at the anal angle. Hindwing dark brown with a black anal spot. Expanse of wings: 32 mm. Colombia.

120. Genus: **Azaxia** Dyar.

Likewise extremely similar to the preceding genera, separated by the 3 lowest subcostal branches being stalked, whilst the second from above (10) arises from the long and narrow areole which is much shorter in the neighbouring genera. Only 2 species.

Type of genus: *A. luteilinea* Drc.

luteilinea. **A. luteilinea** Drc. (154 g) has purple brown forewings broadly mixed with yellowish-green, with double dentate grey transverse lines, a large black spot at the cell-end and 3 black apical spots; 2 white dots above the anal angle. Hindwing yellowish-white, with dark brown veins and a black anal spot, fringe yellowish-green. Peru, Bolivia.

dyari. **A. dyari** Schs. (154 g) is very similar to *luteilinea*; forewing dark lilac grey, mixed with green at the costal margin, whitish at the inner margin with green and olive brown markings, apex and anal angle whitish, strewn with green, the transverse lines as in *luteilinea*, with a green and reddish-brown mixture below the cell; a velvety blackish-brown lunar spot at the cell-end; the fine double postmedian line is reddish-brown, small blackish-brown spots are subapical. Hindwing white strewn with blackish-brown, most densely so at the margin, with an indistinct white postmedian line and a dark anal spot. Costa Rica.

121. Genus: **Marcella** Dogn.

Closely allied to *Naprepa* anatomically, but the ♂ antennae are pectinated long, the pectinations ciliated, the palpi much shorter; the costal vein of the hindwing arises only behind the centre of the cell. The subcostal branches of the forewing are as in *Azaxia*. Only 1 species has been described.

Type of genus: *M. volcancita* Dogn.

volcancita. **M. volcancita** Dogn. Forewing reddish yellowish-brown, strewn with red-brown on the two first subcostal thirds, the veins and the inner margin, strewn with green below the median vein and before the apex, the cell blackened, mixed with green at the end; a faded black median line forms an angle postdiscally, a black stripe is at the cell-end; the dentate postmedian line is indistinct, black internodal dots are behind it, 2 postcellular dots are thicker; the ends of the veins are strewn with white. Hindwing yellowish red-brown, darker at the margins, with a blackish-brown anal spot. Expanse of wings: 50 mm. Colombia (Quindiu).

122. Genus: **Odontosia** Hbn.

This genus which is distributed also in the palaearctic regions (cf. Vol. II, p. 305) has the antennae pectinated to the ends, short palpi, rather long forewings with a dentate oblique margin, a strong scale-dent at the inner margin, none of the subcostal branches stalked. Thorax without a tuft. Only 2 American species.

Type of genus: *O. carmelita* Esp. from Europe.

elegans. **O. elegans** Stkr. (154 g). Forewing brown, darkened in the costal-marginal area, without transverse lines, with a silvery white basal ray along the inner-marginal vein. Hindwing light yellowish, with a large brown anal spot below which the inner-margin is yellowish; 2 or 3 black internodal streaks are subapical.

grisea. From Canada to the Rocky Mts. — f. **grisea** Stkr. (= *notaria* Edw.) is a more ash-grey form from Colorado.

viridifusca. **O. viridifusca** Schs. differs from the diagnose of the genus in the almost entire-margined, not dentate margin, otherwise the same. Forewing moss-green, broadly violettish-brown at the inner margin, with similar costal-marginal spots from which the distinct transverse lines proceed, the posterior one with white vein-spots; grey dentate shadows are behind the grey cell and before the postmedian line; black double dots at the margin are centred white above the anal angle; the centre of the distal margin is dusted reddish-brown. Hindwing blackish-brown with a black and white anal spot. Expanse of wings: 35 mm. British Guiana.

123. Genus: **Dottia** Schs.

Separated from *Odontosia* by the ♂ antennae not being pectinated to the tips, and by the doubly split anal tuft; the costal vein of the hindwing arises near the cell-end. Only 2 species.

Type of genus: *effecta* Schs.

effecta. **D. effecta** Schs. (154 g). Forewing red-brown, dusted with violet as far as the fine double dentate postmedian line, with a light green basal ray as far as the double dark brown anterior transverse line at which there is a white dot at the submedian fold; 2 dark stripes extend from the cell-end to the margin; the ♂ exhibits a dark-shaded white spot above the anal angle, another one between the veins 4 and 5. Hindwing blackish-brown. Costa Rica.

boliviata. **D. boliviata** Schs. Anterior body yellowish sand-coloured and brown, abdomen brown. Forewing brown in the basal area above, reddish ochreous below the cell, bordered by 2 dark lines; median area creamy yellowish as far as the lower cell-angle and along the costal margin to the apex; cross-vein black, rusty brown stripes behind it above and below 5, the upper one extending to the margin; 3 indistinct fine brown lines behind the cell; cellular branches deep reddish olive, finely bordered with brown towards the margin, the marginal area being yellowish mixed with olive; inner margin partly dusted with rusty brown. Hindwing smoky brown with a light postmedian shadow. Expanse of wings: 47 mm. Bolivia.

124. Genus: **Ribaldia** Dyar.

Like *Dothia*, but the second and third subcostal branches, counted from below, on the forewing are stalked. Only 1 species.

Type of genus: *R. amatame* Dyar.

R. amatame Dyar. Forewing wood-coloured brown, strewn darker, with a prominently dark brown *amatame*. median area and a small elliptical light discal spot in it; only the posterior one of the transverse lines bordering on the median area is dentate on the veins; a subterminal row of black very indistinct spots. Hindwing whitish, strewn with blackish at the margin, with a dark anal spot and pink fringe. Expanse of wings: 39 mm. Mexico (Hidalgo).²

125. Genus: **Hyperaeschra** Btlr.

This genus occurring in the Indian regions (Vol. X, p. 642) has also half a dozen of North American representatives. ♂ antennae pectinated to the tips, palpi hairy. Distal margin of forewing entire-margined; neuration as in the preceding genera, but all the subcostal branches of the forewing are stalked except the uppermost.

Type of genus: *H. pallida* Btlr. from India.

H. stragula Grt. (= *scitipennis* Wkr.) (154 g) is a pretty easily recognisable species with violettish- *stragula*. grey forewings, reddish-yellow at the inner margin, with a chestnut-red basal spot and undulate line; basal ray deep red-brown, 2 subapical streaks also red-brown; fragments of the transverse lines are lighter grey. Hindwing brownish-grey with a red-brown marginal line. — f. **manitou** Neum. & Dyar has not the reddish- *manitou*. yellow tinge at the inner margin of the forewing, but it is more monotonously violettish-grey, it also lacks the chestnut-red basal spot, only single red-brown scales are at the undulate line. Hindwing lighter brownish-grey. Colorado, California. — f. **pacifica** Behr is a darker form with an almost black thorax, from Cali- *pacifica*. fornia. — f. **ochreata** B. & McD., described from Utah, is lighter ochreous brown with a large bluish-black *ochreata*. spot behind the cell-end with 2 small whitish spots in it; marginal area and basal half of inner margin likewise bluish-black, undulate line less undulate. Hindwing white with a bluish-black anal spot. — The larva is exactly like that of *ziczac*, lilac whitish-grey, marbled brownish, a brown dorsal line extends to the apex of the second protuberance; the last segments are raised and rusty brown mixed with yellow. It lives on willows and poplars. Widely distributed in the United States.

H. georgica H.-Schäff. (154 h). Forewing greyish ochreous with a short silvery white basal ray and *georgica*. white dentate transverse lines bordered with black, the median area between them blackened in the inner-marginal half; 2 black subapical internerval streaks. Hindwing dingy white. — Larva smooth, without protuberances, green, irrorated yellowish-white, strewn with irregular dull red dots which are condensed into two lines; a yellow dorsal stripe bordered with red is very broad on the 5th and the 7th and 8th segments. It lives on oaks in September. Its range extends from Maine to Texas.

H. tortuosa Tepp. differs from *georgica* in the darker brownish-grey forewing without the white *tortuosa*. basal ray, the black transverse lines are scarcely dusted white, much more notched and irregular; the median area is scarcely darkened in the proximal half, but a broad faded red-brown median line is nearer to the postmedian line; a black streak at the cell-end, and 2 subapical strong black internerval streaks. Hindwing whitish brownish at the margin. Colorado.

H. tropicalis Schs. (154 h). Forewing brown with whitish hair, the darker brown transverse lines — *tropicalis*. a median line is double — are partly accompanied by small whitish spots; a dark longitudinal line extends through the cell, a few darker spots at the end, and a black line is at the cell-end with white scales behind it; the veins of the marginal area are blackened. Hindwing brown, reddish-yellow basally. Expanse of wings: 40 mm. French Guiana.

126. Genus: **Astapa** Dogn.

Two thirds of the ♂ antennae are provided with short ciliated pectinations; palpi rather long, hairy, with a short terminal joint. Forewing relatively broad with a rounded distal margin, with a long pencil-shaped hair-scale dent; neuration stated to be the same as in *Ribaldia*. Only 1 species.

Type of genus: *A. signata* Dogn.

A. signata Dogn. Forewing rusty yellowish brown, dusted with green at the costal margin, in the *signata*. cell-end, behind it and submedianly, blackish in the basal half of the cell, the veins strewn with black and white, marked very much like *M. volcancita*, with a black angular median line and an almost parallel postmedian line composed of lighter internerval rings, a black cell-end streak and a double row of black subterminal dots. Hindwings blackish, fringe light, with a black and white anal spot. The species varies in the intensity of the marking, and in the colour which may even turn violettish-pink. Expanse of wings: 31—37 mm. Colombia.

127. Genus: **Libyssa** Dogn.

Very similar to the preceding genus from which it differs in the tuftedly ciliated antennae and shorter palpi. Veins 3 and 4 of the hindwing arise from the same basis, separately in *Astapa*. Only 1 species.

Type of genus: *L. viridirosea* Dogn.

viridirosea. **L. viridirosea** Dogn. is a smaller species with light pink forewings, brownish at the base and the 2 first thirds of the inner margin, light green submedianly, behind the cell and subapically, as well as on the fringe; a submarginal double row of black dots, the interior row being thicker, between the veins. Hindwing blackish with a pink tinge, and a brown and white anal spot. Expanse of wings: 28 mm. French Guiana.

128. Genus: **Notodonta** Ochs.

This widely distributed genus (cf. Vol. II, p. 299) has also two representatives in North America. Antennae of ♂ shortly pectinated, of ♀ plain. Distinguished by the absence of the areole on the forewing, 7—10 being forked together with 6 and arising from the end of the cell. The costal vein of the hindwing arises near the cell-end. No larvae known.

Type of genus: *N. dromedarius* L.

basitriens. **N. basitriens** Wkr. (154 h) is coloured and marked like the European *trepida*; forewing ash-grey strewn with reddish-brown, with a large rusty brown basal spot, bordered by a double notched red-brown line, the dentate postmedian line is bordered with whitish outside and is continued on the light, distally smoky hindwing. Atlantic States.

simplaria. **N. simplaria** Graef (154 h). Forewing ash-grey, blackish basally, with 2 dark dentate transverse lines bordered with a lighter colour on the averted sides, the cell-end streak surrounded with whitish; a submarginal row of small dark internerval spots. Hindwing whitish. From the Northern Atlantic States.

129. Genus: **Lophodonta** Pack.

Structured exactly like *Notodonta*, but both sexes with plain antennae. Two North-American species.

Type of genus; *L. ferruginea* Pack.

ferruginea. **L. ferruginea** Pack. (154 h). Forewing red-brown at the base and in the median area, the rest very dark ash-grey, whitish in the anterior upper half of the median area with blackish scales, two rusty red notched transverse lines bordered with whitish on the averted sides, and a whitish undulate line. Hindwing dingy white, narrowly smoky at the margin, with a grey postdiscal band. Canada to Colorado. — The stout larva is green with double yellowish-white dorsal lines, some small yellow lateral spots and a short red below yellow lateral line from the head to the first two segments. It lives on *Betula*, especially *B. papyrifera*.

angulosa. **L. angulosa** Abb. & Sm. is marked like *ferruginea*, only the postmedian line is less undulate, but the colouring is much lighter ash-grey, and the median area is of the same colour, not red-brown, only the transverse lines are red-brown, whitish on the averted sides, bordered with white on both sides at the costal margin. Hindwing as in *ferruginea*. — The larva is more slender than that of *ferruginea*, green with a double white dorsal line, with 3 lateral yellow dots on each segment, and a yellow lateral stripe bordered with red-brown above; it lives on oak and pupates in the soil. Massachusetts to Georgia and Florida.

130. Genus: **Pheosia** Hbn.

Likewise very closely allied to the preceding genera and separated by pectinated antennae in both sexes. Only the 4 lowest subcostal branches of the forewing are stalked, vein 6 arises from the cell-end. (Cf. also Vol. II, p. 297).

Type of genus: *P. tremula* Clerk from Europe.

rimosa. **P. rimosa** Pack. (= *californica* Stretch) (154 h) is the exact image of the European *tremula*, only the forewing is apparently a bit broader on an average, and the brownish marginal shadow somewhat broader and darker. — The larva occurs also in the same two colourings, green or brown, but it differs constantly in a long pointed Sphingid horn on the penultimate segment. It lives on poplars and willows. Distributed from British Columbia to Maine and New York. The name *dimidiata* H.-Schäff. which was formerly given to the species refers to a tropical insect: *Rhuda dimidiata* (cf. p. 986) and is due to a mistake.

P. portlandia *Edw.* (= *descherei* *Neum.*) which was formerly regarded as a melanotic form of *rimosa portlandia*, is considered to be a distinct species now. Shape and marking the same, but the disc of the forewing is not white but mouse-coloured, the brown parts are almost black. Hindwing dingy white with a broad smoky grey marginal band and a large dark anal spot. Somewhat larger on an average. Alaska to California.

131. Genus: **Calomathetes** *Dyar.*

Shape and exterior very similar to that of the palaearctic genus *Pterostoma*; ♂ antennae pectinated long to the tips. Distal margin of forewing dentate, a broad scale-dent in the middle of the inner margin and one before the anal angle; the uppermost and lowest subcostal branches are free, the 3 middle ones stalked. The obliquely rising palpi are densely scaled below, but not so long as in *Pterostoma*. Only 1 species.

Type of genus: *C. halmaphylla* *Dyar.*

C. halmaphylla *Dyar* (155 a). Forewing whitish strewn with brownish, somewhat more yellowish *halmaphylla* in the cell and behind it, dusted with violettish-grey in the basal and marginal areas, with fine double dentate transverse lines, with black and white vein-dots behind the exterior line; discal fold finely striped black, double in the basal half of the cell, 3 black dots at the cell-end; instead of the undulate line there are small purple blackish spots bordered with white inwardly; veins of marginal area striped black. Hindwing brownish, fringe lighter. Mexico.

132. Genus: **Goacampa** *Schs.*

The long antennae are shortly pectinated in the ♂, serrate in the ♀, the very short palpi are porrect. Forewing long and narrow, with a long areole; vein 6 arises before the centre of it, the 4 lowest subcostal branches from the end of the areole. Vein 5 of the hindwing is absent here and in all the following genera, and 6 arises on a rather long stalk with 7, and 8 close from the cell-end. Only 1 extremely variable species.

Type of genus: *G. variabilis* *Schs.*

G. variabilis *Schs.* (155 a). The nomenclatural type has whitish-grey forewings with a silky gloss, with *variabilis* a darkened blackish basal area, notched single black transverse lines, the posterior one of which fades away more or less towards the costal margin, with a large reniform macula surrounded by black; the subterminal line represented by black internerval wedges behind which the ground is somewhat lighter whitish, besides some shorter wedges before the margin; fringe speckled white on the ends of the veins. Hindwing white, darkened black before the snow-white fringe, with a broader wedged area before the anal angle. This form has an expanse of 43—46 mm and was described from Oaxaca in Mexico, but it occurs also in Colima. — Another form of only half its size (expanse of wings: 35 mm) has a much darker forewing coarsely strewn with black, without the silky gloss, with less distinct markings, I denominate: **tehuacana** *f. nov.* (155 a), from *tehuacana* Tehuacan in the State of Puebla; the hindwings are neither purely white here, but smoky brownish. — *f. diminuta* *f. n.* (155 a) is a still much smaller form with a wing-span of 25 mm, so that there is no resemblance whatever between this dwarf and the type. Forewing uniformly grey, the marking almost extinct. Hindwing whiter than in *tehuacana*. This is the western coast form from Guerrero. Nevertheless all three are most probably one species, for all of them exhibit the same aberration, since the submedian fold may be sometimes darkened black from the base to the margin: — *ab. nov. striata* (155 a); the space behind the cell may occasion- *striata* ally also be black as far as the margin as in the figured specimen; the reniform macula of other specimens is entirely filled with black, but it is of no use denominating all these forms which may also be combined.

133. Genus: **Pilodonta** *Dogn.*

This genus contains but one species so far; it is allied to the preceding genus and differs in a longer and stronger middle joint of the palpus, a much longer abdomen and peculiar long and fine hair of the cell on the forewing and of the costal margin on the hindwing. Veins 3 and 4 of hindwing on a short stalk.

Type of genus: *P. subcrinita* *Dogn.*

P. subcrinita *Dogn.* has quite monotonously ash-grey forewings strewn slightly darker, with whitish *subcrinita* strewing at the base and along the costal margin; only a small dot encircled by white is at the cell-end. Hindwing somewhat lighter. Expanse of wings: 57 mm. French Guiana.

134. Genus: **Ursia** B. & McD.

Likewise only one very different small species from North America. Antennae bipectinate not quite to the tips, palpi diminutive. The narrow forewing with a straight costa has almost the neuration of *Goacampa*, but vein 6 arises almost from the apex of the areole, veins 3 and 4 of the hindwing arise separately and the costal vein arises nearer at the centre of the cell.

Type of genus: *U. noctuiformis* B. & McD.

noctuiformis. **U. noctuiformis** B. & McD. (155 a). Forewing grey, striated darker and dusted whitish; a white streak extends from behind the lower cell-end almost vertically to the inner margin which is continued towards the apex as a dark oblique shadow with some black longitudinal streaks in it before the margin; the area behind the white line and the shadow is lighter than the inner part, with small indistinct white internerval spots; fringe speckled. Hindwing brownish-grey. Arizona.

135. Genus: **Kurtia** Schs.

Antennae of ♂ with long pectinations as far as the apical fifth, palpi hairy, the long and narrow forewing with a convex inner margin and a very oblique distal margin; vein 5 is removed upwards to the upper cell-angle, 6 arises behind the middle of the very long areole. Neuration of hindwing as in *Goacampa* except the costal vein which arises in the middle of the cell. Only 1 species.

Type of genus: *K. modesta* Schs.

modesta. **K. modesta** Schs. (155 b). Forewing dark red-brown with indistinct grey internerval streaks, and traces of transverse lines at the costal margin; a series of tiny dark spots behind the centre and small black internerval spots before the margin. Hindwing dull brown. Venezuela.

136. Genus: **Anita** Schs.

Antennae of ♂ pectinated except the apical fifth, palpi rising with a very short terminal joint. Forewing short and broad with the same neuration as the preceding genus, but the costal vein arises near the base of the cell. A small number of tropical species:

Type of genus: *A. basipuncta* Schs.

basipuncta. **A. basipuncta** Schs. (= *costalis* Schs., *albonubila* Dogn.) (155 b). Forewing light brown, whitish above the median vein, with a velvety brown basal spot, the veins of the marginal area striped dark brown; a fine dot in the upper cell-angle and shadowy traces of a postmedian line. Hindwing light brownish. Venezuela.

gigas. **A. gigas** Roths. is the largest species, near *basipuncta*, with slate-coloured forewings strewn with white at the base and costal margin, the transverse lines scarcely visible in the ground-colour, and with a black notched subterminal line. Hindwing brownish-grey. Amazons (Fonte Boa).

norella. **A. norella** Schs. Forewing brown, grey in the basal area at the costal margin, mixed with reddish-yellow below it, with fine black antemedian and postmedian transverse lines, a stronger median line, of a velvety black colour; a large brown spot in the cell, white vein-dots and a brown shadow behind the postmedian line, then follows a whitish-grey transverse area enclosing large black spots; a grey shadow between the base of the median nervules. Hindwing dark brown. Expanse of wings: 37 mm. French Guiana.

syрта. **A. syрта** Schs. Forewing brown with a broad white base of the costal margin and dentate blackish transverse lines which are red-brown towards the inner margin, a thick black cellular spot and a red-brown cell-end streak; white vein-dots and black streaks are behind the postmedian line; submarginal black spots surrounded by whitish, a brown marginal line behind them. Hindwing dark brown. Expanse of wings: 34 mm. French Guiana.

minima. **A. minima** sp. n. (155 b) is the smallest species; forewing brown, base of the costal margin broadly white, the white apical third of the costal margin of the shape of a triangle the apex of which extends down to vein 2; a broad dark brown band from the first third of the costal margin obliquely to the lower cell-angle meets here a similar one in almost a right angle, which extends from the centre of the costal margin to the anal angle before which, however, it disappears; a thick black spot in the base of the cell. Transverse lines double, notched, black, with black and white vein-streaks behind the posterior line; thick black spots subterminally in the white area, those between 5 and 7 being situate farther towards the margin; small black vein-spots between 4 and 8 behind a fine whitish submarginal line. Hindwing brown, lighter basally. Described according to 1 ♂ from Thomar (Coll. Stgr. in the Berlin Museum).

galibensis. **A. galibensis** Schs. (= *basiplaga* Roths.). Forewing dark velvety brown in the basal third, light grey behind it above the median vein; brown below it, with 2 very deeply notched postmedian transverse lines;

a small velvety brown spot in the cell, a ring-shaped macula at the end; another submarginal black dentate line. Hindwing dark brown. Expanse of wings: 44–50 mm. French and British Guiana.

A. essequiba Schs. (155 b). Forewing broadly light yellowish-brown at the base, distally bordered by *essequiba*. one brown spot each at the costal and inner margins; light brown behind it, whitish in the upper half of the median area, traversed by a dark brown lunular line bordering on the basal area below the cell; at the cell-end there is a narrow spot filled with grey and white, a deeply notched blackish-brown line behind it, followed by the brown postmedian line, which is distally bordered with white, with long black vein-streaks behind it; marginal third strewn white in the upper half, with 2 black dentate lines in it. Hindwing dark greyish-brown. British Guiana.

A. definitiva Dogn. (155 b). Basal half of forewing blackish-brown, strewn with lilac, separated from *definita*. the light red-brown, white-irrorated distal area by 2 black parallel lunular lines, with a white and red-brown reniform macula and a double short line filled with light lilac behind them; the black postmedian line is strong and irregularly dentate, black subterminal lunae are bordered with white, the two uppermost form spots with 2 tiny costal spots before them; the margin is of a pinkish tinge with a dark line in it. Hindwing white, grey at the costal and inner margins, narrowly grey at the distal margin. Expanse of wings: 42 mm. Amazons (Taperinha).

A. albipalpis sp. n. (155 c) is very similar to *definita*; interior half of forewing light reddish violettish *albipalpis*. grey, light brownish cinnamon in the distal half, somewhat lilac subterminally, of a pink tinge before the margin; some indistinct, slightly darker and feebly dentate antemedian transverse lines, shortly before the centre there is a fine black transverse line bordered with reddish on both sides; behind it follows, as a boundary between the grey and reddish tints of the wing, a whitish somewhat notched transverse band which contains the white reniform macula centred with red-brown at the cell-end and recedes a little in the submedian area; the fine black postmedian line somewhat lighter reddish on both sides, before and behind it there are yet very indistinct violettish-grey transverse lines parallel to it, white dots behind it on the veins; subterminal slate-coloured spots are between the veins which are strewn with black and white, a large white spot is before the two anal spots; behind the fine irregular submarginal line the veins exhibit white dots, black ones on the ends of the veins; fringe whitish, finely spotted red-brown above and below each end of the veins. Hindwing light reddish-brown, lighter discally. Described according to a ♀ from Brazil. Palpi white laterally. Type in the Mus. Senckenberg.

A. lassa Schs. (= *squalida* Dogn.) which was recently placed to *Kurtia* has light brown forewings, *lassa*. shaded dark steel-grey in the basal third below the cell and from the centre of the cell to the costal margin, moreover subapically at the costal margin and at the inner angle, with 3 small velvety black antemedian spots below each other, a postmedian double row of black vein-dots with internerval streaks behind them, and oblong grey marginal spots bordered with black. Hindwing dark brown. Expanse of wings: 50 mm. French Guiana.

A. divisa Schs. (155 c) is deep blackish-brown in the smaller basal half, traversed by numerous velvety *divisa*. black undulate lines and defined towards the reddish cinnamon distal area by a notched velvety black antemedian line; inner margin and subterminal area shaded with violettish-grey, before and behind the regularly dentate postmedian line there are yet several undulate-dentate parallel lines of a somewhat darker colour than the ground; a whitish reniform macula filled with violettish-grey is at the cell-end, the ground behind and before it being shaded with violettish-grey; a subterminal row of small slate-coloured spots. Hindwing white, narrowly brownish at the margin. Colombia.

137. Genus: **Postanita** Dyar.

Separated from *Anita* by the costal vein of the hindwing arising only at the cell-end; the only smaller species of the genus is otherwise very similar to *Litodonta*, but it has a very feeble, almost absent vein 5 of the hindwing; besides the ♀ has plain antennae, and the hindwings are not hairy beneath.

Type of genus: *P. decurrens* Dyar.

P. decurrens Dyar. Forewing yellowish-brown, shaded dark purple brown behind the base, obliquely *decurrens*. to the costal margin and along the inner margin only strewn to the distal margin; a blackish-brown dot at the cell-end, a grey stripe from the cell to the margin, and a spot above it. Hindwing whitish-brown, grey at the costal and distal margins, spotted brown at the anal angle. The ♀ is strewn darker with traces of dark transverse lines, the anterior one of which borders on the violettish-brown area, and with a very large blackish-brown discal spot. Hindwing chocolate-brown. Mexico.

138. Genus: **Navarcostes** Schs.

This genus has much longer and narrower wings than the preceding genera, moreover the antennae of both sexes are pectinated beyond the middle, and above the thick palpi with a short terminal joint there is one hair-tuft on each side of the frons; the legs also exhibit thin hair-tufts, the abdomen projects far beyond the hindwing. Neuration similar to that of the preceding genera. Only 1 species.

Type of genus: *N. limnatis* Schs.

limnatis. **N. limnatis** Schs. (= *medulla* Dogn.) (155 c). Forewing grey strewn with brown, a whitish submedian spot near the base and a reddish-yellow apical spot; one black dot each in the centre and at the end of the cell; 3 brown antemedian transverse lines and two postmedian ones, a few small black spots at the inner margin; behind the postmedian lines follow small brown internerval spots and then an interrupted black subterminal line, small brown spots behind the latter. Hindwing greyish-brown. Colombia, Guiana.

139. Genus: **Pamcoloma** Schs.

Separated from the preceding genera by tuftedly ciliated, not pectinated antennae, hairy palpi and legs, the wings beneath being very hairy. Neuration slightly different, veins 6 and 7 of the hindwing arise from the same basis without a stalk and the costal vein arises before the centre of the cell. Two species have been described.

Type of genus: *P. marita* Schs.

marita. **P. marita** Schs. has light grey forewings strewn with brown, darkened at the margins, with double dark brown dentate transverse lines; a dark spot in the cell, one dark spot each behind the postmedian line near the costal margin and inner margin, a yellowish-white blotch before the costal margin; oblique dark marginal streaks before the grey, black-speckled fringe. Hindwing dark violettish-brown, somewhat lighter basally. French Guiana. Expanse of wings: 37 mm.

mus. **P. mus** Mschlr. (*refervens* Schs.) is allied to *marita* and differs in the margins of the wings not being darkened, a threefold antemedian line, double cell-end streaks instead of the absent cellular spot, a double median line at the costal and inner margins, and a complete subterminal row of black spots. Hindwing dark brown. The ♀ has a darkened median area and white dusting behind the postmedian line. French and Dutch Guiana. Expanse of wings: ♂ 37, ♀ 39 mm.

140. Genus: **Kaseria** Schs.

Separated from *Pamcoloma* by the antennae being pectinated in the basal two thirds and the costal vein arising only behind the centre of the cell. Only 1 species.

Type of genus: *K. pallida* Schs.

pallida. **K. pallida** Schs. (= *gemonia* Schs.) (155 c). Forewing silvery white scantily strewn with light brown and with fine brown transverse lines, the posterior one partly double, with a large spot, strewn with red-brown, before it in the costal half; small brownish submarginal spots. Hindwing light brown, scantily scaled. Guiana to Brazil.

141. Genus: **Brecontia** Dyar.

Extremely similar to the two preceding genera, distinguished by the separate origins of veins 3 and 4 on the hindwing, the costal vein arising from the centre of the cell; the areole is very long and narrow. The ♀ antennae are pectinated in the basal halves. Only 1 species was described hitherto.

Type of genus: *B. plagipennis* Dyar.

plagipennis. **B. plagipennis** Dyar. Forewing whitish clay-coloured with a large chocolate-brown spot from the base of the costal margin to the postmedian line, reaching in the middle to the inner-marginal vein and forming outside two rounded projections below and behind the cell, and besides this spot is traversed before the centre by a light notched transverse line; a large round black spot at the cell-end; in the subterminal centre follows a distally trilobate brown spot into which a marginal spot penetrates which ends narrowed towards the costal and inner margins. Hindwing brown, lighter basally. Peru, described according to a single ♀.

142. Genus: **Ginaldia** Schs.

Likewise very similar to the preceding genera, separated by tuftedly ciliated antennae. Forewing with an oblique distal margin, the origin of vein 5 removed up to the upper cell-angle, 6 arises from the centre of the areole. Only 1 species.

Type of genus: *G. davidsoni* Schs.

davidsoni. **G. davidsoni** Schs. (= *diminuta* Dogn.). Forewing white, scantily strewn with black and brown, with double transverse lines, the anterior one very oblique, the posterior one broken up into vein-dots, with a black

basal ray and a large black cell-end spot; a brown submarginal shadow and double vein-dots are before the upper half of the margin. Hindwing white with a brown marginal line. French Guiana. Expanse of wings: 35 mm.

143. Genus: **Bahaia** Dyar.

From this genus to the end the species mostly lack the areole of the forewing and at the same time vein 5 of the hindwing. Antennae of ♂ not pectinated to the tips, a hair-tuft is on the vertex; vein 6 of forewing on a joint stalk with the 4 lower subcostal branches, 5 arises from the centre of the cross-vein. The costal vein on the hindwing branches off from the centre of the cell. Only 1 species.

Type of genus: *B. sceletaria* Dyar.

B. sceletaria Dyar (155 c). Forewing light grey, strewn with violettish-brown scales, and with a red-brown longitudinal patch through the cell, then darkened by brown shading obliquely as far as below the apex, bordered below by an undulate brown line, forming an angular spot below vein 2; traces of interrupted lines are visible. Hindwing whitish. The ♀ is more monotonous and less marked, with darker hindwings. Mexico (Colima).

144. Genus: **Procolax** Schs.

The exterior is exactly like that of the following genus *Colax* from which it differs in the subcostal branches being differently stalked, vein 10 proceeding from the joint stalk farther towards the apex than vein 7; besides the ♀ has tuftedly ciliated antennae.

Type of genus: *P. apulana* Schs.

P. apulana Schs. (155 d). Shaped and marked exactly like the following species, but the forewing is of a lighter red-brown colour, the inner margin and distal area lighter brownish-grey, the costal margin strewn with iron-grey; the black transverse lines are more distinctly prominent on the light ground-colour. Costa Rica to Brazil.

145. Genus: **Colax** Hbn.

Antennae of both sexes pectinated in the basal two thirds, the short palpi hairy, hair-tufts at the bases of the antennae. Distal margin of the narrow forewing angular on vein 5, concave below it; vein 6 of forewing stalked with the 4 lower subcostal branches, the second subcostal branch from above arises proximally from the lowest. Veins 3 and 4 of hindwing arise separately, the costal-marginal vein branches off from the centre of the cell.

Type of genus: *C. apulus* Cr.

C. apulus Cr. (155 d). Forewing purple blackish mixed with chestnut-red, especially basally and in the cell, lighter greyish-brown at the inner margin and distal margin behind the whitish, notchless subterminal line, with black angular transverse lines, and 2 small silvery white spots obliquely above each other at the cell-end. Hindwing diaphanous light grey, darkened at the apex. Guiana to Colombia.

C. phocus Schs. (155 d) is extremely similar to *apulus*, but the forewing is much darker velvety brown, the inner margin and distal margin are somewhat lighter, the postmedian line is not so very undulate and the two silvery spots in the cell are near together. Hindwing white, brownish-grey only at the inner margin and the fringe. Brazil (Rio de Janeiro).

146. Genus: **Schausiades** Dogn.

Exterior exactly like that of a *Hemiceras lepidoides* from which genus, however, it differs in the second subcostal branch from above arising separately from the cell, vein 5 arises from the upper cell-angle. Neuration of hindwing not essentially different, the ♂ exhibits a triangular stigma at the anal angle, exactly as in *Hemiceras*. Antennae of ♂ pectinated on half their length, palpi rather long. Only two species.

Type of genus: *S. lepidoides* Dogn.

S. lepidoides Dogn. Forewing brownish olive with a more yellowish oblique band from the first quarter of the costal margin towards the anal angle, another band in the distal half of the costal margin, a darker broad oblique shadow between them; transverse lines broken up into vein-dots, the posterior one extending almost into the apex. Hindwing blackish with lighter fringe and a stigma of almost the same colour. Peru. Expanse of wings: 46 mm.

almothes.

S. almothes Schs. is closely allied to *lepidoides*; thorax and forewing white, strewn with light brown; anterior transverse line fine, undulately excurved, with single blackish-brown scales, an indistinct light brown oblique shadow at the cross-vein; the undulate-dentate postmedian line arises from a chestnut-brown spot at the costal margin and extends to the centre of the inner margin, the marginal area behind it is light brown between 6 and the inner margin. Hindwing and stigma cinnamon-brown. Expanse of wings: 18 mm. Brazil (Rio Purus).

147. Genus: **Hemiceras** Guen.

This genus comprises a huge number of very homogeneous species which are often extremely similar and difficult to separate, and were formerly assigned to the "*Noctuae*". Half or a little more of the ♂ antennae are pectinated, those of the ♀ plain or studded with ciliary tufts, or also pectinated. The smoothly scaled palpi with a long middle joint and a short terminal joint project a little beyond the frons. Vein 5 of forewing arises near the upper cell-angle, 6 from the centre of the long areole from the end of which the 4 lower subcostal branches arise from a joint stalk. Hindwing without vein 5, vein 6 stalked with the subcostal vein. The ♂ hindwing of a great many species exhibits a triangular area of modified scent-scales near the anal angle. The inner margin of the forewing is variably shaped, either straight or cut out, often with a long dent in the centre, often also with another dent at the anal angle. The larvae, as far as they are known, bear a wart-like protuberance on the 11th segment; judging from the figure by CRAMER, the larva of *meona* has another one on the 4th or 5th segment.

According to a recent statement by CARLOS C. HOFFMANN *), the larvae of several species of *Hemiceras* — especially *H. subochraceum* Wkr., *transducta* Wkr., *muscosa* Schs., and smaller numbers of *alba* Fldr., *micans* Schs., and *cotto* Dyar — have done great harm to Mexican coffee-plantations in a rather peculiar way, i. e. by stripping the trees of leaves, which are absolutely necessary for the growth of the young coffee-plants. These trees belong to the family of Leguminosae, especially a species of Inga, called "Chalú" in the district of Chiapas. As the *Hemiceras* develop as many as 3 generations a year, the trees having shot forth for the second time naturally decay on their being stripped once more, so that the young coffee-trees cannot develop. Unfortunately no descriptions of the larvae are given, which would have been very desirable; it is only stated that the larvae are brown or green. The vast numbers of *Hemiceras* occurring there may be concluded from the great number of imagines captured on lamps, forming more than 30 percent of the total number, which means very much considering the enormous swarms of Moths flying to these lamps.

In 1908, H. G. DYAR (Proc. Ent. Soc. Wash. IX, p. 56) supplied a very serviceable table determining the species known at that time. As it is almost hopeless to find one's way through the multitude of species solely by means of descriptions and figures, we have made use of this table as a basis on the following pages, and have added more than 60 species that have been newly described in the meantime. In this way we hope to have facilitated the determination of this extremely complicated and difficult group.

Type of genus: *H. pallidula* Guen.

Key of Determination.

I. Transverse lines of forewing not dentate, at least the exterior one.

A. Three transverse lines: a subbasal, interior and exterior one.

1. Interior line marked by a white cellular spot *gortynoides*.

2. No white cellular spot present.

a. Forewing clouded light and dark *plusiata*.
b. Forewing unicoloured.

a¹ Ground-colour from a light brown to grey.

b¹ Undulate line marked whitish, dentate.

c¹ Forewing with 1 discal dot *variegata*.

c² Forewing with 2 discal dots *jejuna*.

b² Undulate line not or feebly marked blackish.

c¹ Forewing dark *beata*.

c² Forewing light.

d¹ Hindwing white *cadoca*.

d² Hindwing not white.

*) An. Inst. Biol. Mexico, II, 2, p. 151, 1931.

- e¹ Exterior line straight, parallel to the margin.
 - f¹ Forewing brownish.
 - g¹ Hindwing blackish brown *indistans*.
 - g² Hindwing light brownish cinnamon *turijafa*.
 - f² Forewing ash-grey *echo*.
- e² Exterior line oblique
 - f¹ Proceeding near the apex *proximata*.
 - f² Proceeding far from the apex *liboria*.

a² Ground-colour dark red-brown.

- b¹ Subbasal and interior lines straight.
 - c¹ Exterior line shaded light grey outside *satelles*.
 - c² Exterior line not shaded *plana*.
- b² Subbasal and interior lines slightly undulated *striolata*.

B. Only two transverse lines, an interior and exterior one, the subbasal one obliterated.

1. Exterior line straight.

a. Exterior line ending at apex or close before it.

a¹ Interior line straight.

- b¹ Thorax beneath black *affinis*.
- c¹ 1 or 2 spots or dots at the cell-end.
 - d¹ 2 discal dots obliquely above each other, or if the upper one be obliterated, only a small one in the lower cell-angle.
 - e¹ Collar contrastingly dark.
 - f¹ Forewing dark, lines distinct, three-coloured.
 - g¹ Only 1 discal dot.
 - h¹ Hindwing white, brownish only on the veins and margin . . . *flavorufa*.
 - h² Hindwing light brown with a dark marginal band . . . *chromona*.
 - g² Two discal dots *tricolora*.
 - f² Forewing yellowish.
 - g¹ Forewing brownish yellow, lines distinct *maronita*.
 - g² Forewing straw-coloured, lines indistinct *ochrospila*.
 - e² Thorax and collar of the same colour.
 - f¹ Hindwing without a stigma.
 - g¹ Lines with white vein-dots *piccolata*.
 - g² Lines without white vein-dots.
 - h¹ Vertex white *saron*.
 - h² Vertex not white *linea*.
 - f² Hindwing with a stigma.
 - g¹ Costal margin of forewing of the same colour.
 - h¹ Forewing purple, hindwing whitish *cayennensis*.
 - h² Forewing bronze-brown, hindwing brown.
 - i¹ Interior line distinct.
 - k¹ Lines without white dots *bilinea*.
 - k² Lines with white dots.
 - l¹ Stigma of hindwing dark *calaonis*.
 - l² Stigma of hindwing of the same colour *consobrina*.
 - i² Interior line indistinct *stupida*.
 - g² Costal margin of forewing white.
 - h¹ Hindwing whitish, stigma brown *kearfotti*.
 - h² Hindwing brown, stigma brown *daguana*.
- d² Discal dot a large spot.
 - e¹ Collar contrastingly dark brown, stigma of hindwing present.
 - f¹ Forewing straw-coloured, discal spot large *lissa*.
 - f² Forewing grey, strewn with brown.
 - g¹ Hindwing not white.
 - h¹ Discal spot blackish, hindwing brown.
 - i¹ Hindwing dark brown *unimacula*.
 - i² Hindwing light brown *ursara*.
 - h² Discal spot obliterated, hindwing yellowish *leucospila*.

- g² Hindwing white *pohli*.
 - e² Collar and thorax of the same colour.
 - f¹ Forewing dark brown *astigma*.
 - f² Forewing light.
 - g¹ Forewing with a silky shine, costal margin orange *sericilinea*.
 - g¹ Forewing not shiny, costal margin of the same colour . . *buckleyi*.
 - c² An oblique streak at the cell-end.
 - d¹ Stigma of hindwing present.
 - e¹ Forewing dusty grey *vecina*.
 - e² Forewing brown.
 - f¹ Hindwing brown *colombia*.
 - f² Hindwing yellowish-white *cadmioides*.
 - d² Stigma of hindwing absent.
 - e¹ Forewing yellowish, veins broadly striped *striata*.
 - e² Forewing brownish, veins finely striped.
 - f¹ Inner margin with a dent *cadmia*.
 - f² Inner margin without a dent *congrua*.
 - a² Interior line curved.
 - b¹ Vertex greyish-white, forewing unicoloured.
 - c¹ Forewing brownish ochreous, hindwing white *aroensis*.
 - c² Forewing brown.
 - d¹ Forewing dark bronze-brown.
 - e¹ Forelegs of ♂ with thick woolly hair *manora*.
 - e² Forelegs of ♂ smoothly scaled *laurentina*.
 - d² Forewing reddish-brown, dusted with lilac.
 - e¹ Inner margin dentate, lines with vein-dots *ceiba*.
 - e² Inner margin not dentate, lines without vein-dots *cinnoma*.
 - b² Vertex purple, costal margin of forewing bronze-yellow *flava*.
 - b. Exterior line ending far before the apex.
 - a¹ Only one transverse line.
 - b¹ Costal margin of forewing reddish-yellow *semililacea*.
 - b² Costal margin of forewing pinkish cinnamon *teffea*.
 - a² Two transverse lines.
 - b¹ Lines parallel, subterminal line distinct, straight *ruizi*.
 - b¹ Lines divergent, subterminal line indistinct.
 - c¹ Discal dot separated, oblique.
 - d¹ Hindwing dark brown, stigma not contrasting.
 - e¹ Undulate line present, shaded inside *indigna*.
 - e² Undulate line absent *subdigna*.
 - d² Hindwing light.
 - e¹ Hindwing white *buscki*.
 - e² Hindwing brownish.
 - f¹ Hindwing whitish-brown, stigma contrasting *corema*.
 - f² Hindwing reddish-brown, stigma not contrasting *daguensis*.
 - c² Discal dots united forming a spot.
 - d¹ Discal spot indistinct.
 - e¹ Exterior line straight, light.
 - f¹ Lines with black vein-dots *domingonis*.
 - f² Without black vein-dots *refuga*.
 - e² Exterior line curved.
 - f¹ Lines light, bordered with dark *moresca*.
 - f² Lines dark *triopas*.
 - d² Discal spot large, black.
 - e¹ Costal margin not white *clarki*.
 - e² Costal margin white *siderea*.
 - 2. Exterior line curved in the lower half.
 - a. Exterior line not angular subcostally.
 - a¹ Exterior line ending far before the apex.
 - b¹ Two obliquely arranged discal dots.

- c¹ Light straw-coloured *serana*.
 c² Brown.
 d¹ Lines light, bordered with dark.
 e¹ A large species, costal margin shaded dark brown.
 f¹ Forewing darkred-brown, stigma of hindwing scarcely conspicuous *modesta*.
 f² Forewing light reddish-brown, stigma of hindwing contrasting *liboria*.
 c² A smaller species, costal margin not shaded.
 f¹ Inner margin slightly dentate.
 g¹ Hindwing brownish with a darker margin *transducta*.
 g² Hindwing white with a brownish margin *climaca*.
 f² Inner margin strongly dentate *dentata*.
 d² Lines with dark vein-dots.
 e¹ Chestnut-brown *nigrigutta*.
 e² Brownish ochraceous.
 f¹ Hindwing without a stigma, vein-dots distinct *castanea*.
 f² Hindwing with a stigma, vein-dots indistinct *castaneoides*.
 b² No two discal dots.
 c¹ Marked as dots.
 d¹ Three dots in a triangle.
 e¹ The three dots very strong *trinubila*.
 e² The three dots very feeble *joinvillea*.
 d² The three dots united by a line *postica*.
 c² An indistinct spot at the cell-end *barina*.
 a² Exterior line ending at the apex or close before it.
 b¹ Wings long and narrow, bronze-yellow *longipennis*.
 b² Wings broad.
 c¹ Forewing yellowish-white *albulana*.
 c² Forewing not yellowish-white.
 d¹ Forewing dull brown *avangareza*.
 d² Forewing chestnut-brown, median area violet *olivencia*.
 b. Exterior line angled subcostally.
 a¹ Forewing dark brown, interior line angular *crassa*.
 a² Forewing not dark brown, interior line undulate.
 b¹ Exterior line straight, with white vein-dots.
 c¹ Margin of forewing not dentate. *anguilinea*.
 c² Margin of forewing undulate-dentate *taperinha*.
 b² Exterior line curved, without white dots.
 c¹ Postmedian line of forewing without spots at the inner margin *commentica*.
 c² Postmedian line of forewing with dark spots at the inner margin *reyburni*.
 b³ Exterior line scalariformly interrupted *scalata*.
 b⁴ Exterior line bent up to the cell and the submedian line *jovita*.

II. Transverse lines of forewing dentate.

A. Exterior line angular subcostally.

1. A large species, forewing truncate, with an ellipse at the cell-end *truncata*.
 2. A smaller species, wings normally shaped.
 a¹ Forewing greyish olive *undilinea*.
 a² Forewing reddish-brown *trapezina*.

B. Exterior line not angular or indistinct.

1. Forewing contrastingly two-coloured.

a. Forewing metallic yellowish-olive and purple grey.

- a¹ Costal margin contrastingly light.
 b¹ Head white *metallescent*.
 b² Head and collar white *vinicosta*.
 a² Costal margin of the same colour as the wing.
 b¹ Basal area contrastingly light yellowish.
 c¹ Median area purple grey *meona*.
 c² Median area coppery brown *splendens*.

- b² Basal area not contrasting.
 - c¹ Forewing triangular, disc of hindwing white *sabis*.
 - c² Forewing normal, disc of hindwing brown.
 - d¹ Anterior line not undulate, but angular.
 - e¹ Antennae of ♀ plain, interior line slightly angular *deornata*.
 - e² Antennae of ♀ peetinate, interior line very angular *zula*.
 - d² Anterior line undulate *losa*.
 - b. Forewing yellowish and brownish-violet.
 - a¹ Costal margin broadly light yellow *pallidula*.
 - a² Costal margin of the same colour.
 - b¹ Forewing grey with a yellowish cellular spot *ovalis*.
 - b² Forewing without a distinct cellular spot.
 - e¹ Forewing with a bronze gloss.
 - d¹ Forewing red-brown with a pink tinge *egregia*.
 - d² Forewing red-brown with a greenish olive tinge.
 - e¹ Hindwing without a stigma *aena*.
 - e² Hindwing with a stigma.
 - f¹ Forewing greenish olive *oleagina*.
 - f² Forewing more brown *stigmata*.
 - e¹ Forewing without a bronze gloss.
 - d¹ Hindwing with a stigma.
 - e¹ Exterior line dentate, forewing with yellowish spots *nebulosa*.
 - e² Exterior line dotted dentate, forewing not spotted *nubilata*.
 - d² Hindwing without a stigma.
 - e¹ Exterior line dotted dentate.
 - f¹ Forewing dark yellow, linear dots small *flavescens*.
 - f² Forewing dark brown, dots large.
 - g¹ Wings narrower, hindwing whitish *punctata*.
 - g² Wings very broad, hindwing dark brown *lavior*.
 - e¹ Exterior line straight, dotted *celia*.
 - e. Forewing dark purple brown strewn with lilae white or greenish spots.
 - a¹ Hindwing with a stigma.
 - b¹ Forewing metallie violettish-brown.
 - e¹ Hindwing white, stigma black *carmelita*.
 - e² Hindwing yellowish, stigma brown *nupera*.
 - b² Forewing dark brown with greenish-white spots *constellata*.
 - a² Hindwing without a stigma.
 - b¹ Costal margin of forewing white.
 - e¹ Forewing greyish-brown *sparsipennis*.
 - e² Forewing purple brown *coatina*.
 - b² Costal margin of forewing not white.
 - e¹ Hindwing brownish-white, anal angle of forewing dentate *muscosa*.
 - e² Hindwing dark brown, anal angle not dentate *evanescens*.
- 2. Forewing not contrasting, unicoloured.
 - a. Forewing with a bronze gloss, costal margin purple, hindwing white *poulsoni*.
 - b. Costal margin of forewing equally coloured.
 - a¹ Hindwing without a stigma.
 - b¹ Forewing without a dent at the anal angle.
 - c¹ Inner margin curved, cut out basally.
 - d¹ Hindwing light brown *brunnea*.
 - d² Hindwing whitish, veins and margin brownish *arbogasta*.
 - c² Inner margin of forewing straight.
 - d¹ Forewing yellowish-brown *perbrunnea*.
 - d² Forewing deep purple brown *princeps*.
 - b² Forewing dentate at the anal angle *amanda*.
 - a² Hindwing with a stigma.
 - b¹ Costal margin of forewing white.
 - c¹ Forewing reddish-brown.
 - d¹ Hindwing not purely white.

- e¹ Exterior line of forewing punctiform.
 - f¹ Smaller, hindwing with a narrow marginal shadow *conspirata*.
 - f² Larger, hindwing with a broad marginal shadow *gigas*.
- e² Exterior line of forewing forming a white undulate line at the costal margin and inner margin *hidulpha*.
- d² Hindwing purely white *colorata*.
- c² Forewing dark brown, hindwing brown *levana*.
- c³ Forewing light violettish grey, hindwing whitish *cinescens*.
- b² Costal margin of forewing not white.
 - c¹ Exterior line coherent, slightly dentate.
 - d¹ Hindwing brown, stigma large.
 - e¹ Ground-colour monotonous.
 - f¹ Discal spot large, lobate.
 - g¹ Lines black *nigriplaga*.
 - g² Lines red-brown *mutoca*.
 - f² Discal spot not lobate.
 - g¹ Discal spot round *cotto*.
 - g² Discal spot divided into 3 dots *serrata*.
 - d² Hindwing whitish, stigma small *punctilla*.
 - c² Exterior line broken up into dots, dentate.
 - d¹ Discal spot large, oval, black *pagana*.
 - d² Discal spot indistinct.
 - e¹ Forewing greyish-white *alba*.
 - e² Forewing from ochreous to brown.
 - f¹ Median area prominently black *nigrescens*.
 - f² Median area not darkened.
 - g¹ Costal margin of forewing black or iron grey.
 - h¹ Forewing with a dent at the anal angle.
 - i¹ Hindwing brown *nigricosta*.
 - i² Hindwing diaphanous white with brown veins *imitans*.
 - h² Forewing with a rounded anal angle.
 - i¹ Hindwing whitish with dark veins and margin *phocas*.
 - i² Hindwing purely white.
 - k¹ Stigma very narrow, cinnamon-brown *praxides*.
 - k² Stigma larger, dark brown *eustalhia*.
 - g² Costal margin of forewing not black.
 - h¹ Forewing with a dent at the anal angle.
 - i¹ Dark brown, shaded black.
 - k¹ Marginal shadow not united with the cellular spot *singula*.
 - k² Marginal shadow united with the cellular spot.
 - l¹ Hindwing white between the veins *violascens*.
 - l² Hindwing dark blackish-brown *singuloides*.
 - i² Not very dark brown.
 - k¹ Red-brown, basal and marginal areas with a bronze gloss *sericita*.
 - k² Yellowish-brown, basal area of the same colour.
 - l¹ A large species, monotonous.
 - m¹ Without lilac *micans*.
 - m² With lilac *lilacina*.
 - l² Smaller, costal area lighter.
 - m¹ Light, stigma small, reddish-brown.
 - n¹ Exterior line normal.
 - o¹ Inner margin dentate, hindwing white *rufescens*.
 - o² Inner margin sinuous, hindwing glossy reddish-yellow *rufula*.
 - n² Exterior line extraordinarily near to the margin *casiaclara*.
 - m² Dark, stigma large, dark brown.
 - n¹ Interior line continuous, bent *metastigma*.
 - n² Interior line dotted, angular *torva*.

- h² Forewing without a dent at the anal angle.
 - i¹ Hindwing white, stigma contrastingly brown.
 - k¹ Monotonously red-brown, lines indistinct *velva*.
 - k² Mixed with brass-colour, lines distinct *soso*.
 - i² Hindwing shaded brown, stigma brown.
 - k¹ Forewing reddish-brown, without a darker shading.
 - l¹ Postmedian line punctiform *quebra*.
 - l² Postmedian line quite dentate.
 - m¹ Hindwing white with a brown stigma and margin *elphega*.
 - m² Hindwing whitish, veins and margin brownish *monegonda*.
 - k² Dark brown, not reddish.
 - l¹ Lines bordered with reddish-yellow.
 - m¹ Broadly and distinctly bordered *nubilata*.
 - m² Narrowly and indistinctly bordered.
 - n¹ Antemedian line punctiform *pernubila*.
 - n² Antemedian line linear *noctifer*.
 - l² Lines not bordered with reddish-yellow.
 - m¹ Dark, a larger species.
 - n¹ Very monotonous.
 - o¹ The dots connected by a line *turnina*.
 - o² Only dots.
 - p¹ Hindwing whitish *subochraceum*.
 - p² Hindwing brown *vinvala*.
 - n² Transverse lines more distinct, hindwing lighter *lotula*.
 - m² Lighter, a smaller species.
 - n¹ Ground-colour brown.
 - o¹ Brownish-grey, Brazil *tulola*.
 - o² Reddish-brown, Costa Rica *rava*.
 - n² Grey, Argentina *ravula*.

gortynoides. **H. gortynoides** Schs. (155 c). Forewing dark reddish-brown dusted with violet, especially at the straight inner margin, with a white interrupted basal line and a large white cellular spot traversed by an undulate red-brown line, with a small costal-marginal spot above it; a dark spot at the cell-end, a white postmedian spot at the costal margin, a grey line below it to the inner margin. Hindwing whitish with grey hair, dark brown distal margin, veins and stigma. Expanse of wings: 38 mm. French and British Guiana to the Amazons.

plusiata. **H. plusiata** Fldr. (155 e). Forewing lilac-grey with a purple reflection and mixed with red-brown, especially subterminally, with 3 straight transverse lines bordered with a somewhat lighter colour. Hindwing brownish-grey. Colombia, Bolivia.

variegata. **H. variegata** Dogn. is allied to the following *jejuna*; forewing light brown with 3 fine white transverse lines the course of which is somewhat more rounded than in *jejuna*; white dusting in the basal third of the inner margin and at the distal margin, more broadly dusted apically; 2 black dots at the cell-end, the upper one small, it may also be absent. Hindwing rusty brownish with a scarcely darker stigma and whitish fringe. Expanse of wings: 32—34 mm. Amazons.

jejuna. **H. jejuna** Schs. Forewing whitish, densely strewn with light brown, so that only the 3 straight transverse lines remain white, one black vein-dot each at the antemedian line with a grey shadow behind it; a dark grey spot at the cell-end, the inner margin is somewhat sinuate, the veins of the marginal area are strewn with black. Hindwing greyish-brown, whitish basally. Expanse of wings: 38 mm. Trinidad, Amazons. Allied to *indistans*.

beata. **H. beata** Schs. Forewing brown, strewn with lilac, especially at the costal margin, behind the interior transverse line, and at the anal angle; the median one of the white transverse lines is shaded darker brown outside, the two others inside, the two anterior ones are somewhat angular subcostally; a dark spot at the cell-end, and a brown shadow at the margin below the centre. Hindwing brown with a darker stigma. The ♀ is more intensely strewn with lilac. Expanse of wings: 33 mm. Described from French Guiana.

obliquicola. **H. obliquicola** Wkr. (= *cadoca* Schs.) Forewing light reddish ochreous strewn with olive grey, veins darker; transverse lines brown, the basal one from below the base of the cell obliquely to the interior line near the inner margin; only the lower half of a narrow olive grey undulate-linear shadow is present. Hindwing white, brownish at the inner margin and distal margin, with a brown stigma. Expanse of wings: 40 mm. Brazil.

H. indistans *Guen.* (155 e). Forewing pinkish brownish with 3 straight white transverse lines, the *indistans*, middle one distally bordered with dark, the two others bordered inside with dark; an oval darker shadow at the cell-end; the indistinct light undulate line shaded darker inside. Hindwing blackish-brown with a darker stigma and whitish fringe. Brazil.

H. turiafa *Schs.* Anterior body cinnamon brown intermixed with white. Abdomen brownish. Forewing *turiafa*, with a straight inner margin, fawn with a silky gloss and an olive tint, strewn with whitish, with fine brown transverse lines: a subbasal one bordered with light outside forms 2 small lunules; anterior transverse line bordered with whitish inwards, the inner margin behind it as far as the anal angle blackish-brown and clouded lilac grey; cross-vein and cellular veins dark and strewn with white; the straight postmedian line is bordered with white, and dotted somewhat white on the veins; a dark parallel shadow behind it; costal margin finely white. Hindwing and stigma brownish cinnamon, fringe white. Expanse of wings: 31 mm. Brazil, Rio Purus (Hyutanahan).

H. echo *Dyar* (155 e) is marked exactly like *indistans*, but the ground-colour is a very light whitish *echo*, ash-grey, more intensely strewn with brownish-grey between the transverse lines, a lighter area at the anal angle. Hindwing whitish with brown veins, margins, and stigma. Guiana, Peru.

H. proximata *Dogn.* (155 e) is very similar to the two preceding species and differs in the darker *proximata*, red-brown strewing on the white ground with a white costal margin and white transverse lines, the exterior one of which ends much nearer at the apex than in *indistans* and *echo*; the marginal area is somewhat whiter with 2 small dark shadowy spots analwards. The whitish hindwing is brownish, especially at the veins and margin, with a contrastingly brown stigma. Expanse of wings: 40—46 mm. Brazil (Sa. Catharina).

H. satelles *Schs.* Forewing dark olive brown with violet transverse lines, the two anterior ones bordered with reddish-brown inside, a darker streak at the cell-end; a lilac shadow behind the distal transverse line, a darker undulate linear shadow before the margin in the lower third. Hindwing very dark brown, veins and stigma still darker. Expanse of wings: 36 mm. French Guiana.

H. plana *Btlr.* (155 f) is very similar to *satelles*, but the postmedian line is distally not shaded with *plana*, violettish-grey, the colour of the forewing is somewhat more reddish, the hindwing not so dark brown. Brazil, Colombia.

H. striolata *Btlr.* is also very closely allied to the preceding species, the red-brown colour of the *striolata*, forewing is somewhat darker owing to darker strewing, and the two interior transverse lines are not quite straight, but slightly undulate. Brazil.

H. affinis *Drc.* (= *astigma Dyar*) (155 f) is easily discernible from all the similar species by the black *affinis*, underside of the thorax. Forewing reddish-brown with two dark brown transverse lines bordered with light on the averted sides, the exterior line extending from the apex to the centre of the inner margin, the vertical interior one reaching neither the costal margin nor the inner margin. Hindwing white, brownish at the distal margin, without a stigma. Peru.

H. chromona *Schs.* is most similar to the following *flavorufa*. Head and collar cinnamon red, thorax *chromona*, more yellowish, abdomen brownish above, whitish beneath. Forewing reddish-yellow with fine straight lines bordered with light on the averted sides, the anterior one vertical, blackish-brown, the posterior one cinnamon-brown, from the apex to the centre of the inner margin; a small round black, often extinct spot at the cell-end, small dark subterminal dots on 3 and 4. Hindwing and stigma light reddish-yellow, the margin dusted brownish cinnamon. Expanse of wings: 35 mm. Brazil, Rio Purus.

G. flavorufa *Dogn.* (155 f). Forewing light red-brown with a large black discal dot and 2 oblique *flavorufa*, red-bronze lines which are only 3 mm distant from each other at the inner margin, the exterior one into the apex. Hindwing white, veins, distal margin and stigma contrastingly red-brown. Guiana, Peru, Bolivia.

H. tricolora *Dyar* (155 f) is very similar to *flavorufa*, but it has double discal dots; forewing more *tricolora*, brownish pink, finely strewn darker, the transverse lines dark brown on the sides facing each other, red-brown in the middle, and ochreous on the averted sides; 2 dark dots connected by a faint shadow are in the centre of the marginal area. Hindwing whitish, veins, margin, and stigma brownish. Peru.

H. maronita *Schs.* Forewing reddish-yellow, finely strewn with brown, with fine red-brown transverse *maronita*, lines which are dark grey on the sides facing each other, the exterior one from the apex to the centre of the straight inner margin. Hindwing whitish, veins, margins, and stigma light red-brown. Allied to *leucospila*. Expanse of wings: 40 mm. French Guiana.

H. ochrospila *Dyar* (155 f). Forewing lighter straw-coloured, very finely strewn darker, the feeble *ochrospila*, yellowish transverse lines extend as in *maronita*, bordered with brown on the sides facing each other; 2 dots at the cell-end. Hindwing straw-coloured, stigma very light brown. French Guiana.

H. piccolata *Dogn.* Forewing brown, somewhat lighter in the marginal area, the dark, light-edged *piccolata*, transverse lines with white vein-dots on the averted sides, both ending close together at the inner margin; 2 black dots at the cell-end, the veins are black and strewn with white. Hindwing light brown, without the stigma. Allied to *calaonis*, *affinis*. Expanse of wings: 44 mm. Colombia.

- saron*. **H. saron** Dogn. Forewing yellowish-brown, the veins strewn grey and white, with 2 dark transverse lines bordered with light, the exterior one almost parallel to the distal margin; two feeble dark dots at the cell-end. Hindwing white, no stigma, feebly brownish on the veins and margin. Vertex and abdomen white. Peru.
- linea*. **H. linea** Guen. is similar to *saron*, separated by the vertex being coloured like the thorax, not white; ground-colour somewhat darker, exterior transverse line more oblique so that the two lines are nearer together at the inner margin. Brazil, Bolivia (Songo).
- cayennensis*. **H. cayennensis** Schs. (155 g). Forewing lilac brown with darker veins, the vertical interior line dark brown, the oblique exterior one reddish-brown, distally bordered with light; a narrow dark streak at the cell-end, irregular darker shadows before the margin; inner margin slightly sinuate. Hindwing whitish, veins, distal margin, and stigma dark brown. Allied to *bilinea*. Expanse of wings: 43 mm. French Guiana.
- bilinea*. **H. bilinea** Schs. (155 g) is very similar to *cayennensis*, but the forewing is more reddish-brown with a slight bronze gloss, the veins strewn with grey, the two olive grey transverse lines ochreous on the averted sides; inner margin somewhat more dentate. Hindwing brown, stigma inconspicuous. Common in Mexico.
- calaonis*. **H. calaonis** Dyar. Forewing dark red-brown, the interior dark brown transverse line is dotted white on the veins, the exterior one bordered with golden yellow towards the margin; two brown dots obliquely above each other are at the cell-end; yellowish shading instead of the undulate line before the margin. Hindwing light brown, with a very large dark brown stigma, veins and margins brownish. Separated from the similar *stupida* by the distinct interior line. Peru.
- consobrina*. **H. consobrina** Dogn. looks very much like *piccolata*, the inner margin is more sinuate, the two discal dots are confluent, the exterior less oblique line ends farther away from the apex, both are more distantly separated at the inner margin. Hindwing light brown, the stigma contrasts scarcely, as it is of the same colour. Forewing somewhat more greyish-brown. Expanse of wings: 42—45 mm. Peru.
- stupida*. **H. stupida** Schs. Forewing light brown, veins strewn with black and yellowish, costal and inner margins dusted somewhat reddish yellow; anterior transverse line very fine, the exterior one much thicker, dark brown, extending from the apex to the centre of the inner margin; a fine dark brown streak at the cell-end, subterminal grey shadows parallel to the postmedian line. Hindwing scantily scaled, whitish, dusted brown in the distal half, with a dark brown stigma. Expanse of wings: 35 mm. Dutch Guiana (Paramaribo).
- kearfotti*. **H. kearfotti** Dyar differs from *stupida* in the fine white costal margin of the forewing; forewing brown with a pink tinge, strewn somewhat darker especially on the veins, the lines as in *calaonis*, the interior one likewise with white vein-dots. Hindwing as in *stupida*. Brazil.
- daguana*. **H. daguana** sp. n. (157 a) looks like *kearfotti*, but it is easily discernible by the hindwing being quite brown with an inconspicuous stigma; forewing light brownish violet with a light lilac tinge, the veins strewn black and white; transverse lines as in *kearfotti*, but without white dots; a grey subterminal shadow is particularly distinct between 2 and 4. 1 ♂ from the Rio Dagua (Colombia) in the Berlin Museum.
- lissa*. **H. lissa** Drc. (155 g) is easily recognizable: forewing straw-coloured with a large black discal spot; the dark brown collar brightly contrasts with the forewing. Peru, Bolivia.
- unimacula*. **H. unimacula** Dyar (= *furina* Dogn.) differs from *lissa* in the pinkish-brown forewing being finely strewn darker; transverse lines dark brown, bordered with yellowish ochre on the averted sides; the large black discal spot is somewhat more obsolete in the ♀; 2 blackish dots connected by a shadow are in the centre of the marginal area. Hindwing dark brown with a large, not contrasting stigma. Guiana.
- ursara*. **H. ursara** Schs. is nearest to *unimacula*; body reddish-brown, white hair on the vertex, ventrum reddish-white. Forewing reddish fawn, strewn with light reddish-yellow; antemedian line slightly bent, reddish ochreous, distally bordered with reddish-brown like the postmedian line which extends 3 mm before the apex to the centre of the inner margin; an oblique black spot at the cross-vein; the ends of the veins finely strewn with white, subterminal irregular feeble shading between them. Hindwing whitish, dusted with fawn-colour, stigma not darker. Expanse of wings: 45 mm. Panama (Chiriqui).
- leucospila*. **H. leucospila** Wkr. (155 g). Forewing coloured and marked like the preceding species, but the discal spot is smaller and indistinct. Hindwing yellowish-white, veins and margin darkened reddish-yellow, with a brightly contrasting stigma. Amazons (Santarem). — f. **nivosa** Dogn. (155 g) differs from the type in the purely white hindwing with scarcely darker veins and stigma. Expanse of wings: 50—53 mm. Ecuador.
- pohli*. **H. pohli** Schs. Hindwing white as in *nivosa*, veins and margin broad red-brown, stigma dark brown. Forewing reddish-yellow, dusted dark olive, transverse lines yellowish with black vein-dots, the exterior one

from the apex to the centre of the inner margin; a round dull grey spot at the cell-end, shaded grey inside behind the cell. Brazil (São Paulo).

H. sericilinea Schs. (155 h) is presumably allied to *leucospila*; forewing light reddish-yellow with a *sericilinea*. silky gloss, finely strewn reddish-brown, costal margin orange, transverse lines orange-brown, the posterior one shaded greyish-brown inside, lighter outside, 2 subterminal dots below the centre; a small brown spot at the cell-end is surrounded with a darker colour; fringe dark orange brown. Hindwing whitish, inner margin and base of fringe brownish ochreous, no stigma. Collar yellow. Brazil (Petropolis).

H. buckleyi Dr. Forewing reddish-brown, strewn darker with a dark brown ring-macula; transverse *buckleyi*. lines dark brown, the exterior one from the apex to the centre of the inner margin. Hindwing light reddish-brown. Ecuador.

H. vecina Schs. (155 h). Forewing light red-brown, strewn with white, with 2 fine dark red-brown *vecina*. transverse lines bordered with ochre, then white on the averted sides; subterminal darker shading, fringe dark brown; a fine oblique dark streak at the cell-end. Inner margin somewhat dentate near the base. Hindwing and stigma light brown. Mexico, Venezuela.

H. colombia Dyar (155 h). Forewing reddish-brown, strewn darker, with dark brown transverse lines, *colombia*. the interior one fine, the exterior one thicker, ending in a blackish apical shadow from which an indistinct blackish undulate line proceeds; an oblique blackish streak at the cell-end. Hindwing brown, stigma large, but of the same colour. Colombia.

H. cadmioides Dogn. (155 h) is very similar to *cadmia*, but somewhat darker and hindwing with a stigma; *cadmioides*. forewing greyish ochreous, strewn with red-brown, the brown veins strewn with white, the dark brown transverse lines shaped as in *colombia*, an undulate line behind the postmedian line. Hindwing yellowish-white, brownish at the margin, stigma brown. Expanse of wings: 36—39 mm. Amazons.

H. striata Schs. (155 h) resembles *cadmia* still more, but the forewing is somewhat more yellowish with *striata*. a slight bronze gloss, the veins much broader striped brown, interrupted in the course of the transverse lines which are olive brown, bordered with reddish-white on the averted sides; inner margin almost straight. Hindwing white, veins and distal margin reddish-brown, stigma absent. Expanse of wings: 42 mm. Brazil (Novo Friburgo).

H. cadmia Guen. (= *obliquilinea* Wkr.) (155 i). Forewing greyish-brown, strewn with reddish-brown, *cadmia*. the veins finely striped dark brown, transverse lines dark brown, somewhat lighter on the averted sides. A feeble dent at the inner margin. Mexico.

H. congrua Dogn. is very similar to *cadmia*, the postmedian line ends a little more distantly from the *congrua*. apex, the forewing is not dentate at all. Ground-colour of a somewhat pink tint. Expanse of wings: 38 mm. Amazons.

H. aroensis Schs. Forewing with a stronger dent at the anal angle and before the centre, colour reddish- *aroensis*. brown dusted with lilae as far as the postmedian line, the fine interior transverse line is undulate, the exterior line is stronger, dark brown, distally lighter and finely marked dark at the veins. Hindwing white, veins, distal margin and stigma light red-brown. Expanse of wings: 35 mm. Venezuela.

H. manora Schs. is distinguished by the woolly hair on the forelegs of the male; forewing dark brown, *manora*. dusted violet as far as the posterior transverse line which is dark violettish-brown, the indistinct curved anterior line is reddish-brown; 3 small dark spots in a curved row at the cell-end; inner margin straight. Hindwing smoky grey, brownish at the distal margin. Stigma dark brown. Expanse of wings: 36 mm. French Guiana.

H. laurentina Schs. Forewing brown at the base and distal margin, lilae brown between them; instead *laurentina*. of the anterior transverse line black and grey vein-dots, the posterior dark red-brown transverse line is double, it begins at the blackened apex and extends into the incision before the dent, the inner margin itself is fine black. Hindwing whitish, inner and distal margins light reddish-brown, stigma dark brown. Expanse of wings: 39 mm. French Guiana.

H. ceiba Schs. Forewing reddish-brown, dusted lilae, the anterior transverse line replaced by 3 black *ceiba*. dots; the dark brown postmedian line extends from the blackened apex to the centre of the inner margin, and is dotted black on the veins, bordered with lighter brown outside; inner margin cut out and dentate. Hindwing whitish, brownish, veins and margins as well as stigma darker. Costa Rica.

H. cinnoma sp. n. (155 i). Forewing broad, inner margin slightly convex, without a dent or indentation; *cinnoma*. colour cinnamon-brown with a slight lilae reflection; the interior brown transverse line very feeble, the exterior one very strong, straight out of the slightly blackened apex to the centre of the inner margin, purple brown, lighter yellowish outside, narrowly and indistinctly shaded purple grey inside; shadow at the cell-end very indistinct. Hindwing brownish-white, lighter towards the base. Female antennae shortly pectinated. According to a female from Novo Friburgo (Brasil).

- flava*. **H. flava** Schs. (155 i) has longer wings; forewing bright yellow, dusted red-brown at the inner margin and behind the postmedian line, strewn with lilac between the cell and the submedian vein; interior line straight, dark brown, white outside, the exterior one from the darkened apex, ending at the inner margin near the interior line, bordered with white inside; a reddish-brown shadow at the cell-end, a black dot above it and a little before it. Hindwing whitish, the inner margin, distal margin and stigma reddish-brown. Expanse of wings: 47 mm. British Guiana.
- semililacea*. **H. semililacea** Dogn. has only an oblique red-brown postmedian line bordered with light outside, the wing before it light reddish-yellow at the costal margin, light lilac below it, the marginal area behind it light, chestnut-brown; a very fine brown streak at the cell-end; hindwing light brown. Expanse of wings: 32 mm. Amazons.
- teffea*. **H. teffea** Schs. (155 i) is not allied to any species known. Head and collar cinnamon-brown with a white band between the antennae. Thorax and base of abdomen light reddish cinnamon, abdomen above silvery greyish-brown, whitish beneath. Forewing reddish light brown with a silky gloss, the marginal area broad brown, costal-marginal part light reddish cinnamon like an oblique band from the base to the anal angle; a darker shadow in the cell and below it as far as the postmedian line; an indistinct dark spot at the cell-end; only one fine double transverse line is present, extending before the apex parallel to the distal margin to the inner margin. Hindwing of the only ♀ described so far brownish cinnamon. The figured ♂ from Villavicencio (Colombia) I range here with reservation. The ♀ from Teffé, Amazons.
- ruizi*. **H. ruizi** Dogn. (155 i) is easily recognizable: forewing brownish ochreous with 3 straight, almost parallel red-brown transverse lines, the interior one orange ochreous inside, the two exterior ones — the 3rd being the subterminal line! — orange ochreous outside, the subterminal line with a small interruption above the anal angle; a brown streak at the cell-end. Hindwing brownish-white, stigma contrastingly brown, fringe white. Ecuador, Bolivia.
- indigna*. **H. indigna** Schs. (155 i). Forewing light brown, the dark veins strewn with lilac grey, with fine olive brown transverse lines; a dark spot at the cell-end, a smaller one above it farther basad; the straight subterminal line of *ruizi* is merely a shadow here. Hindwing reddish-yellow, distal margin dark violettish-brown, the stigma not contrasting. This species is also allied to *transducta*, the inner margin sinuate and dentate. Expanse of wings: 40 mm. French Guiana.
- subdigna*. **H. subdigna** Dyar is very closely allied to *indigna*, but separated by the entire absence of the subterminal line; forewing light violettish-brown, median area and anal angle somewhat lighter, the margin above it shaded darker. Stigma not contrasting. French Guiana.
- buscki*. **H. buscki** Dyar (156 a) is likewise very similar to *indigna*, but the hindwing much lighter, almost white, so that the stigma is very conspicuous; thorax with a slight pink tint. Panama.
- corema*. **H. corema** Schs. (156 a) is also allied to the preceding species; forewing lilac brown, the dark brown transverse lines are reddish-yellow outside, the two small black spots at the cell-end more distinct, the veins partly strewn blackish and light brown, feeble traces of a subterminal shadow. Hindwing light brown, darker at the distal margin, stigma contrastingly brown. Costa Rica.
- daguensis*. **H. daguensis** Dogn. from the same group is distinguished by light reddish-brown, basally whitish hindwings and an inconspicuous stigma; forewing also more reddish-brown, somewhat lighter at the anal angle, the brown transverse lines bordered with yellowish ochre; veins of marginal area greyish-brown. Undulate line indistinct. Expanse of wings: 38 mm. Colombia.
- domingonis*. **H. domingonis** Dyar was described according to a female, and may therefore not be correctly ranged here; forewing lustrous dark bronze brown, strewn with violettish grey, the transverse lines feebly lighter, the anterior one bent and angled on the folds, with black vein-dots, the exterior one straight, with black vein-dots on the inside; the large cell-end shadow is somewhat trilobate; a feeble undulate linear shadow before the margin. Hindwing brown, lighter towards the base. San Domingo.
- refuga*. **H. refuga** Dogn. (156 a) also belongs yet to the group of *indigna*. Forewing red-brown with a violet tint and lighter dusting, with a darker faded cell-end dot and 2 lighter transverse lines; the marginal area behind the exterior line is somewhat lighter with a dark undulate linear shadow. Hindwing whitish, veins and margin brownish, stigma present. Expanse of wings: 41 mm. French Guiana.
- moresca*. **H. moresca** Schs. Forewing brown, dusted violettish-grey at the costal and inner margins and in the distal-marginal area, transverse lines light, shaded darker brown on the sides facing each other, the interior line slightly bent, with small black subcostal spots, the exterior one somewhat curved; a large dark oblique spot at the cell-end. Hindwing whitish, veins and margin brownish. Only the ♀ is known. British Guiana.
- triopas*. **H. triopas** Dogn. Forewing chestnut-brown with a coppery gloss, dusted violettish-grey in the inner-marginal half, with 2 blackish-brown transverse lines, the interior one angular, the exterior one very finely

dentate on the veins as in *moresca*. Hindwing white, brownish at the margin with a contrasting stigma. Also allied to *velva*. French Guiana.

H. clarki Schs. (156 a) is a large reddish-yellowish brown species with fine olive brown transverse lines *clarki*, bordered with reddish-yellow on the averted sides, with a large black spot at the cell-end, united with a smaller subcostal one above it; veins finely strewn grey; subterminal shadow indistinct. Hindwing brown, stigma also brown. Mexico, Costa Rica.

H. siderea Schs. Forewing reddish-brown dusted with grey, the outermost costal margin white, transverse lines dusted with whitish on both sides, with white vein-dots and black-strewn and broadly white-striped veins of the marginal area, strewn with reddish-brown, subterminally spotted blackish-grey; distal margin deep yellow, inner margin slightly cut out and dentate. Hindwing blackish-brown, fringe yellowish-white. Costa Rica. *siderea*.

H. serana Schs. Forewing light reddish-yellow, dentate at the inner margin, the interior line very feeble, with three black vein-dots, the exterior line red-brown from the apex to the centre of the inner margin, yellowish outside, with black vein-dots, slightly incurved in the lower half; a dark dot at the cell-end. Hindwing white, veins, distal margin, and stigma reddish-brown. Expanse of wings: 35 mm. Venezuela. *serana*.

H. liboria Schs. is near *modesta* from which it differs in the different colouring and the subbasal line. Forewing light reddish-cinnamon, strewn with brown with reddish-ochreous lines, an undulate excurved subbasal line is present; a thick brown streak at the cross-vein, and 2 small spots, one subcostally before it, the second behind it at the origin of 6; postmedian line remote from the apex, incurved towards the inner margin, a feeble dark subterminal shadow behind it. Hindwing light reddish-yellow, a fawn-coloured shadow along the inner margin. Stigma brown. Expanse of wings: 50 mm. French Guiana (St. Laurent). *liboria*.

H. modesta Btlr. (156 a) is a very common large species with red-brown forewings shaded darker in the costal-marginal halves, with fine dark transverse lines bordered with light on the averted sides, of a somewhat curved course; 2 small blackish spots obliquely above each other at the cell-end. Hindwing scantily scaled feebly brownish, somewhat darker on the veins and margin, with a scarcely conspicuous stigma. Mexico. *modesta*.

H. transducta Wkr. (156 b) is smaller than *modesta*, otherwise very similar, separable by the costal margin not being shaded darker; forewing somewhat broader, more brownish-grey, shaded blackish in the inner-marginal third excepting the light anal angle, on the whole strewn somewhat more whitish. Hindwing as in *modesta*. Mexico. *transducta*.

H. climaca Schs. belongs to the *transducta*-group. Anterior body cinnamon-brown, intermixed with white hair; forewing light brownish cinnamon, shaded darker in the median area below the cell as far as behind the postmedian line, costal margin narrowly white as far as the postmedian line; a small black and white subbasal spot below the cell; lines light reddish-yellow, shaded darker on the sides facing each other, the anterior one vertical, the posterior one from before the apex to close behind the centre of the inner margin; dark subterminal shading from the costal margin to vein 2, veins white, strewn with blackish-brown. Hindwing white, margin narrowly dusted brownish-cinnamon, stigma of the same colouring. Expanse of wings: 34 mm. Mexico to Panama. *climaca*.

H. dentata Dogn. (156 b) is very similar to *climaca*, but separated by the more deeply dentate inner margin of the forewing, a somewhat darker ground-colour of a more red-brown impression, strewn with yellowish, the transverse lines somewhat more distinctly dotted on the veins, hindwing more light brown. Expanse of wings: 38--39 mm. Described from Colombia. *dentata*.

H. nigrigutta Schs. (= yuntasa Dogn.) (156 b). Forewing dull brown with a straight inner margin, the fine yellowish transverse lines dotted black on the veins on the sides facing each other; a black spot at the cell-end with a smaller one above it and a little before it. Hindwing light reddish-yellow with a darker distal margin and a contrasting dark brown stigma. Expanse of wings: 42 mm. Bolivia. *nigrigutta*.

H. castanea Dogn. (156 b). Forewing chestnut-brown with a more yellowish tinge than in *nigrigutta*, transverse lines rusty brown, bordered with yellowish on the averted sides, with black vein-dots, the black cellular dots much less prominent; veins of marginal area somewhat lighter. Hindwing brown, yellowish towards the base, stigma absent. Expanse of wings: 52 mm. Colombia. *castanea*.

H. castaneoides sp. n. (157 a) is very similar to *castanea*, red-brown, the transverse lines the same, but without any black vein-dots, the veins of the marginal area blackened and strewn with white, the black discal dots very intense, connected by a bar. Hindwing brown, stigma brown. 1 ♂ from West Colombia (Rio Micay); type in the Coll. NIEFELT, taken in February-April. *castaneoides*.

H. trinubila Guen. (156 b) is a larger species very similar to *modesta*; forewing brown, not shaded costally, with the same transverse lines and 3 thick black triangularly arranged dots at the cell-end, *trinubila*.

often a fourth in the middle subcostally; somewhat darker subterminal clouding; hindwing as in *modesta*. Brazil.

joinvillia. **H. joinvillia** Schs. is allied with *dentata* and *postica*; anterior body reddish-brown mixed with white, abdomen above brown. Forewing lustrous yellowish reddish brown, the dark veins strewn with white like the whole wing; inner margin deeply lobate; transverse lines brown, bordered with reddish-yellow on the averted sides, the anterior one straight, the posterior one distant from the apex as far as close behind the inner-marginal dent; the space behind it darker as far as the margin, undulately defined outside; 3 small indistinct dark spots in the disc. Hindwing whitish, suffused with brownish cinnamon with a bronze gloss, stigma darker brown. Expanse of wings: 40 mm. Brazil, Joinville.

postica. **H. postica** Maass. Forewing light yellowish-brown with brown transverse lines bordered with white on the averted sides, a brown lunar spot at the cell-end is composed of 3 blackish connected dots; dark subterminal clouding forms three large spots. Hindwing whitish, yellowish greyish-brown at the distal margin. Described according to a ♀. From Ecuador.

barina. **H. barina** Guen. (= *illucens* Wkr.) is very much like *trinubila* with the same brown ground-colour; transverse lines somewhat straighter, the exterior one more remote from the distal margin. Hindwing darker greyish-brown, the stigma of the same colour and therefore not prominent. Inner margin not dentate. Brazil.

longipennis. **H. longipennis** Schs. (156 c) is easily recognizable by the remarkably long and narrow yellow forewings; the distal margin is somewhat convex below the apex and of a very oblique course so that the anal angle is almost absent; transverse lines violettish-brown, the exterior one bordered with white inside, beginning with a black spot at the apex, the marginal area behind it brownish ochreous, somewhat lighter towards the apex; a thick brown and lilac streak at the cell-end, a small spot above it and a little before it. Hindwing purely white. Colombia, Guiana.

albulana. **H. albulana** Drc. (156 c) is one of the lightest species, forewing yellowish-white, the transverse lines reddish-yellow, bordered with a lighter colour, the exterior one with very fine red-brown vein-dots, the interior one strongly notched, often only indicated; 3 indistinct dots at the cell-end; forewing broad, a dent in the centre of the inner margin. Hindwing white, no stigma. Mexico, Costa Rica.

avangareza. **H. avangareza** Schs. is very similarly marked, but the forewing is dull brown, strewn blackish, the transverse lines light reddish-yellow, the interior one forms 3 bows. Hindwing white, light brown at the distal margin. Costa Rica.

olivenea. **H. olivenea** sp. n. (157 a). A very conspicuous species, median area and the basal two thirds of the inner margin lilac, velvety deep chocolate brown above it in the basal part and in the whole marginal area, the two colours defined by scarcely noticeable dark fine lines which are somewhat more distinct only in the inner-marginal part where they exhibit on vein 1 one white, black-edged dot on each side facing the other; the posterior line forms an obtuse angle distally on vein 2, so that from here both the lines extend almost parallel to the inner margin; an oblique brown streak at the cell-end. Hindwing light brown, darkened at the margin. According to 1 ♀ from São Paulo de Olivença in the Berlin Museum coll. Stgr. A considerably lighter smaller ♂ from Villavicencio presumably belongs to this ♀; its hindwing is white, the margin and stigma narrowly light brown.

crassa. **H. crassa** Schs. (156 c). Forewing very dark red-brown, without a dent at the inner margin, narrowly strewn with grey; only a black postmedian transverse line edged with dark grey is distinctly present, extending down from the fourth fifth of the costal margin; the indistinct interior line is angled in the middle; an extinct dark spot is at the cell-end. Hindwing whitish, veins, distal margin and stigma dark brown. Expanse of wings: 37 mm. French Guiana.

angulinea. **H. angulinea** Schs. (= *angulata* Dogn.). Forewing violettish-brown, the veins strewn dark and reddish-yellow; the dark brown transverse lines are bordered with reddish-yellow on the averted sides, the anterior one is undulate, the posterior one very angular on the middle radial vein; darker shadowy spots at the cell-end and subterminally between the veins. Hindwing whitish, shaded brown at the distal margin. Bolivia.

taperinha. **H. taperinha** Schs. is very near to *angulinea* from which it differs in the undulate-dentate margin. Forewing light brownish cinnamon, browner at the inner margin, costal margin and median area strewn white; traces of an undulate subbasal line, the anterior transverse line from the centre of the costal margin, light brown, somewhat white above inside, somewhat undulate, with a black dot on vein 1, a yellowish patch in the cell behind it, a dark ring at the cross-vein, and a small spot above it; the postmedian line before the apex white, angled on 7, then brownish, cut by the veins which are red-brown outside, strewn with white; darker subterminal shading, expanded below 4 and 3. Fringe dotted white. Hindwing brownish cinnamon, base of cell and costal margin whitish. Expanse of wings: 35 mm. Amazons (Taperinha).

commentica. **H. commentica** Schs. (156 c) is very similar to *taperinha*; forewing grey, strewn light brown, brown at the distal margin, with a dark grey spot at the cell-end; the interior transverse line is very indistinct, the posterior line begins at the second third of the costal margin and is sharply angled on the upper radial vein from where it

extends finely undulate, almost parallel to the margin; the brown marginal shadow is bordered above the upper median vein by a darker brown shadow. Hindwing reddish-yellow, greyish-brown outside. The ♀ has pectinated antennae, that of *angulinea* plain ones. Expanse of wings: ♂ 39, ♀ 41 mm. Colombia, Guiana.

H. reyburni Schs. is allied to *commentica*; forewing reddish olive, abdomen brownish sand-coloured. *reyburni*. Forewing whitish in the basal area, strewn with brown, with an undulate dark subbasal line, a brownish oblique shadow behind it; the fine black antemedian line is deeply undulate-dentate; median area behind it whitish, strewn brownish cinnamon above the inner margin; a small blackish-brown spot at the cross-vein, and a larger one each at the inner margin before and behind the postmedian line; marginal area dusted brown with dark white-strewn veins. Hindwing dull brownish. Expanse of wings: 35 mm. Amazons (Teffé).

H. scalata Dogn. (156 d) is very easily recognizable by the scalariform course of the postmedian line; *scalata*. forewing brown, dusted yellowish, the darker brown transverse lines bordered with yellowish ochre and marked by dark vein-dots; 2 black dots obliquely above each other are at the cell-end; a dark subterminal shadow. Hindwing yellowish-grey, brownish at the distal margin, without a stigma. Expanse of wings: 41—45 mm. Colombia.

H. jovita Schs. is unlike any other species. Anterior body purple brown, vertex white, abdomen *jovita*. brownish. Forewing brownish violet, suffused with cinnamon-brown at the base and inner margin, with cinnamon-brown lines, the anterior one indistinct, undulate, vertical, the exterior one curved from near the apex to the submedian fold, darker purple outside; a black and light brown spot at the cell-end; inner margin rounded near the base. Hindwing white, dusted brownish towards the margin, with a dark brown stigma. Expanse of wings: 35 mm. Amazons (São Paulo de Olivença).

H. truncata Schs. (156 d) is at once discernible by the truncate apex; forewing lustrous dark brown, *truncata*. costal margin black; interior transverse line dark grey, followed at the inner margin by a reddish-brown, distally dark grey shadow; the exterior line is marked by a curved row of vein-dots with an indistinct olive brown shadow in the middle behind it; a large oblique reddish-brown oval at the cell-end, a broad dark shadow before the apex at the costal margin. Hindwing dark brown, whitish in the disc, with a large dark stigma. From Guiana and Colombia.

H. undilinea Schs. Forewing olive grey, the exterior transverse line, a submarginal shadow, a large *undilinea*. anal spot and a basal spot below the cell are reddish-brown, the undulate transverse lines dark brown; a broad oblique dark spot at the cell-end; inner margin straight. Hindwing dark brown. Expanse of wings: 35 mm. French Guiana.

H. trapezina sp. n. (156 d). The reddish-white ground of the forewing is densely strewn with red- *trapezina*. brown; both the notched anterior transverse lines dark brown below the median vein, lighter lilac whitish on both sides, yellowish-white above the median vein; an oval reddish-yellow indistinct spot behind the antemedian line in the cell; the postmedian line forms almost a right angle on the uppermost radial branch and is flatly undulate, dark brown, yellowish-white outside, with hardly any brown towards the costal margin; the cell-end shadow and subterminal shadow are broad, fadedly darker. Hindwing whitish, veins and margin brownish. Described from a female from Marcapata (Peru); type in the Museum SENCKENBERG.

H. metallescens Schs. (156 d) has iridescent golden brown forewings, the two first thirds of the costal *metallescens*. margin reddish-yellow, the cell and the space behind it are whitish lilac; a brown streak at the cell-end; 2 black double dots below the apex, the dark brown transverse lines are rudimentary, the posterior one only marked by a brownish ochreous spot bordered with violet on both sides; inner margin dentate, cut out before the anal angle. Hindwing whitish, veins and margin brownish, stigma golden brown. Expanse of wings: 39 mm. British Guiana.

H. vinicosta Guen. (157 d) is somewhat similar, well distinguished by the white collar; forewing metallic *vinicosta*. olive brown, broadly reddish at the costal margin, violettish grey in the cell, not distinctly defined against the dark inner-marginal part, the two colours gradually warming into each other. From Brazil.

H. meona Cr. (= *splendens* Mschlr.) (156 d) is bronze yellow in the basal and marginal areas, dusted *meona*. with a faded violettish grey in the median area, lighter in the costal-marginal part, the two colours separated by the dentate blackish transverse lines; a large dark spot at the cell-end, subterminal shadowy spots distinct at the costal and inner margins, similar shading also at the inner margin before the postmedian line. Hindwing white with a dark stigma. — CRAMER figures the larva of it: a green insect with violettish-brown saddle-spots on the dorsum, extending on the 6th and 9th segments down to the abdominal legs and bordered outside with black, then with white; between the 4th and 5th segments, and on the 11th, one short yellowish cone each. Guiana.

H. sabis Guen. (= *ania* Drc.) (156 e) exhibits a remarkably triangular shape of the wings, almost con- *sabis*. cavenly cut out at the distal and inner margins; whitish-grey, finely strewn brown, a brass lustre in the inner-marginal and postmedian areas, the margin remains narrowly light grey; darkest is the bronze colour in a basal

ray along the lower cell-margin and subterminally; transverse lines notched, the exterior one almost only marked by vein-dots; indistinct blurred dots at the cell-end. Hindwing white with a distinct dark brown marginal line and stigma. Very widely distributed from Mexico to Peru, Bolivia and Brazil.

deornata. **H. deornata** Wkr. (= *walkeri* Schs.) (156 e) is marked like *sabis*, but the colour is a monotonous brown with a slight bronze shine, hindwing dusted brown. Mexico.

zula. **H. zula** Schs. (156 e) is very similar to *deornata*, but the female has pectinated antennae, and the interior transverse line is more angular; forewing greyish-brown with a silky gloss, lighter in the costal-marginal part, a dark brown shadow from the lower cell-angle to the inner margin, dark brown shadowy spots are before the distal margin. Hindwing greyish-brown, whitish in the disc, stigma greyish-brown, not contrasting. Costa Rica.

losa. **H. losa** Drc. (= *lepidula* Schs., *carmelita* Maass.) (156 e). Forewing light violettish-brown, strewn with red-brown; behind the undulate brown interior line follows a darker shadow bending down towards the inner margin as far as the anal angle, and behind the indistinct dark cell-end streak a brown shadow to the distal margin, which widens here from the apex to the inner angle; a dentate subterminal shadow behind the post-median line which is composed of black vein-dots. Hindwing whitish, veins, margin, and stigma brown. Costa Rica to Colombia.

pallidula. **H. pallidula** Guen. (156 e) is one of the most common and widely distributed species; forewing light yellow with a feeble brass lustre, dusted with violettish-brown in the inner-marginal half and along the distal margin; the transverse lines only coherent below the cell, the interior one is quite absent above it, the exterior one marked by vein-dots which are partly white-centred, 3 white dots in the cell-end. Inner margin strongly dentate. Head white, thorax violet. Hindwing light brownish, without a stigma. Mexico to Brazil. — The larva is chestnut-brown with 2 yellow dorsal bands ending in a red cone on the 11th segment; 3 white lateral lines, in the lowest are the black spiracles, the last segment is black mixed with white. It pupates between leaves which it spins together.

oralis. **H. oralis** Schs. (156 f). Forewing silvery grey, strewn darker, the fine light brown dentate transverse lines marked on the veins by dark dots; a large oval yellow spot in the cell is crossed by the interior line; distal margin shaded darker grey. Hindwing white, brownish on the veins and margin, stigma dark brown or light grey. Brazil.

egregia. **H. egregia** Dogn. Forewing chestnut-brown with a pink tinge and a bronze shine, with 2 faded, more yellowish transverse bands scarcely contrasting with the ground-colour, an interrupted one in the middle and a curved one subterminally; the transverse lines between these bands are formed by black vein-dots. Hindwing light bronze brown, whitish basally. Ecuador.

aena. **H. aena** Dogn. Greenish olive with a bronze shine, lighter basally and at the distal margin, with 2 darkened bands to the margin and anal angle; transverse lines red-brown with black, white-centred vein-dots, also a subterminal row of hardly visible vein-dots and 2 indistinct blotches at the cell-end; inner margin twice deeply dentate and cut out before the anal angle. Hindwing greyish-white, veins and margin darkened, without a stigma. Expanse of wings: 46 mm. Colombia.

oleagina. **H. oleagina** Dogn. resembles *aena* and *egregia*, less bronzed, and with a contrasting brown stigma on the white hindwing which is brownish at the margin; a reddish-yellow spot mixed with violet is before the exterior row of dots in the inner-marginal excision, the colour being otherwise greenish olive as in *aena*. South-Eastern Peru.

stigmata. **H. stigmata** Dogn. (156 f). Forewing coloured like *aena*, hindwing somewhat lighter and with a brown stigma which is absent in *aena*; also very similar to *nigricosta*. Expanse of wings: 45 mm. Bolivia.

nebulosa. **H. nebulosa** Schs. Forewing reddish-yellow, strewn with brown, shaded grey basally and along the inner margin, from a grey cell-end streak a grey shadow extends to the distal margin and as far as the apex; transverse lines marked by rows of dots, a dentate brown line behind the exterior line; inner margin not dentate. Hindwing brown, margin and stigma still darker. Expanse of wings: 35 mm. French Guiana.

flavescens. **H. flavescens** Schs. (156 f). Forewing bright dark yellow in the basal third and along the costal margin as far as the apex, the rest lilac brown, apically strewn with black and grey; 2 black dots before the centre are connected by a fine violet shadow, a dark grey spot at the cell-end with a smaller one above it and before it; the exterior transverse line is composed of black and grey vein-dots connected at the inner margin by a fine dark line; the excision before the anal angle is bordered with brown. Hindwing whitish, yellowish-brown at the margin. Similar to *pallidula*. Expanse of wings: 40 mm. French Guiana.

punctata. **H. punctata** Dogn. (157 d) is a large yellowish-brown species, dusted dark brown in the median area especially at the costal margin, the rows of black dots broadly bordered with yellowish on both sides, a dark notched shadow before the light undulate line; 2 black dots at the cell-end. Hindwing whitish with a brownish margin, without a stigma. Ecuador, Colombia. — **panamensis** f. n. (157 d) has constantly darker brown hindwings. Panama.

H. latior *sp. n.* (157 b) is very similar to *punctata*, but larger and, above all, the wings are much *latior*. broader, more unicoloured red-brown, with the same marking; easily separable by the quite dark brown hindwings. Several ♂♂ from St. Antonio, Colombia; type in the Berlin Museum.

H. celia *Schs.* Forewing red-brown with a silky gloss, dusted with violet excepting the distal margin; *celia*. the anterior brown fine transverse line is straight, somewhat dotted on the veins, the exterior one similar; a fine black streak at the cell-end; inner margin dentate and cut out. Hindwing brown, without a stigma. Costa Rica.

H. nupera *Dogn.* Forewing dark red-brown at the base and margin, metallic violet in the median area *nupera*. with a red-brown discal spot, transverse lines not definable. Hindwing light yellowish, veins and margin brownish, stigma contrastingly brown. Expanse of wings: 45 mm. Amazons (Olivença).

H. constellata *Dogn.* (156 f). Forewing glossy deep violettish-brown, the transverse lines composed *constellata*. of rows of metallic greenish-white dots, the exterior row of which is double, the subterminal line is also represented by such dots, and at the cell-end there are 2 spots of the same colour. Hindwing brown with darker veins and margin and a not contrasting stigma. Mexico to Costa Rica and West Colombia. — f. **albescens** *albescens*. *Dogn.*, from Guiana, Peru, Bolivia and the Amazons, has whitish hindwings. Antennae of ♀ pectinate.

H. sparsipennis *Wkr.* (= *canosparsa* *Wkr.*) (156 f) is very similar to *constellata* and also to *muscosa*, *sparsipennis*. forewing greyish-brown with a fine white costal margin, marked as *constellata*, but besides with a large spot of white scales below the base of the cell; hindwing without a stigma. From Panama through Guiana to Brazil.

H. coatina *Schs.* (156 g) is coloured and marked like *muscosa*, but it has a white costal margin of *coatina*. the forewing and the white-strewn spot below the base of the cell, as in *sparsipennis*; forewing purple brown, the vein-dots and subterminal dots are white. Hindwing dull light brown, without a stigma. Expanse of wings: 40 mm. Guatemala to Colombia.

H. muscosa *Schs.* (156 g). Forewing brown as in the preceding species, with a silky lustrous lilac shadow *muscosa*. from the lower cell-end to the distal margin near the anal angle; the interior transverse line is marked by 3 white vein-dots, the posterior one by a double white dentate line followed by a short third row before the apex. Inner margin with a strong dent. Hindwing light brown with darker veins, without a stigma. Mexico to South Brazil.

H. evanescens *Dyar* seems to be allied to *muscosa*, but the inner-marginal dent much less strong, *evanescens*. entirely absent at the anal angle; forewing monotonously lustrous purple brown, the dentate transverse lines marked by black vein-dots, the interior ones bordered with yellowish ochre towards the base, the exterior one slightly strewn white inside and with white vein-dots; darker clouding at the cell-end, a darker shadow at the margin, the middle of which reaches the postmedian line. Hindwing dark brown. Only 1 ♀ from Panama.

H. poulsoni *Schs.* Forewing olive brown with a bronze gloss, violettish-grey at the costal margin, *poulsoni*. the interior black transverse line finely dentate, the exterior one replaced by small brown spots with 2 larger apical ones and an anal one behind them; a thick oblique black streak at the cell-end. Hindwing white, stigma light red-brown. Expanse of wings: 51 mm. British Guiana.

H. brunnea *Schs.* (156 g). Forewing brown, scantily strewn with grey, the rows of black vein-dots *brunnea*. forming the two transverse lines are connected by indistinct red-brown shading, an oblique dark shadow in the cell. Hindwing light brown, whitish basally, darker at the margin, without a stigma. Expanse of wings: 45 mm. Bolivia.

H. arbogasta *Schs.* is allied to *brunnea*, the inner margin of the forewing is only slightly excurved; forewing fawn-coloured with black lines, the anterior one intensified by black dots, a cinnamon-red shadow before it, the posterior line from before the apex, undulate, with black vein-dots, a broad cinnamon-red shadow behind it, somewhat less distinct between 5 and 2; a blackish streak at the cell-end, a dark shadow below it extends to the inner margin; a subterminal cinnamon-brown oblique shadow between 4 and the anal angle. Hindwing whitish, veins and margin broad reddish cinnamon, only the ♀ is known. Expanse of wings: 49 mm. Brazil (Rio Purus).

H. perbrunnea *Dogn.* differs from the very similar *brunnea* in the almost straight inner margin which *perbrunnea*. is sinuate in *brunnea*, with a basal excision; forewing more yellowish ochreous brown, in an oblique light with a reddish-violet shine, the transverse lines as in *arbogasta*, the postmedian dots thicker; discal shadow broad; subterminal shadow indistinct. Hindwing light brown, no stigma. Expanse of wings: 48 mm. Colombia.

H. princeps *sp. n.* (157 b). Head and palpi as well as collar rusty brown, frons white, thorax violettish-brown, abdomen greyish-brown. Forewing deep lilac brown with a silky gloss and strewn with bluish-white scales, most densely so at the costal margin; both the notched transverse lines dark red-brown, bordered with bronze yellow on the averted sides, the posterior line bordered with a pure white inside above the inner margin; a comma-shaped black streak at the cell-end, and a dot inwards above it; margin deeper purple brown; expanded in a triangular shape inwards between 2 and 4. Hindwing dark greyish-brown, the small and narrow

stigma of the same colour is only visible under the lens. 1 ♂ from the Rio Micay (West Colombia), type in the Coll. NIEPELT.

- amanda*. **H. amanda** Schs. resembles *muscosa*; forewing red-brown, with a violettish-grey reflection in the median area and in the anal area, the fine dark transverse lines with white vein-dots; cell-end shadow dark violettish-grey. Hindwing brown, lighter between the veins, no stigma. Mexico to Costa Rica.
- hidulpha*. **H. hidulpha** Schs. is unlike any other species. Anterior body red-brown with white spots on the vertex and mesothorax, abdomen brown. Forewing red-brown with a white costal margin, deeply lobate at the inner margin and cut out before the anal angle; anterior transverse line dotted white, posterior line composed of white lunules at the costal and inner margins, dotted between them, marginal area suffused with red. Hindwing and stigma brown. cell and base of costal margin whitish. Expanse of wings: 41 mm. Brazil, Rio Purus.
- conspirata*. **H. conspirata** Schs. (156 g). Forewing violettish-brown, narrowly olive brown at the margin, widened in the middle, with a fine white costal margin, the transverse lines marked by fine black and grey vein-dots, the interior line connected by an indistinct red-brown line, the posterior one towards the inner margin by a grey line; a narrow dark shadowy spot at the cell-end. Inner margin deeply sinuate and dentate. Hindwing brownish-white with darker veins, a narrow marginal shadow and stigma. Expanse of wings: 44 mm. Guiana to South Brazil.
- colorata*. **H. colorata** Dogn. (156 g) has the same long-dentate and deeply cut out inner margin as *conspirata* and is easily discernible by the purely white hindwing with an extremely finely brownish margin and a very much contrasting chestnut brown stigma. Forewing lustrous dark red-brown with a lilac reflection excepting the marginal area, a fine white costal margin, and 2 transverse rows of black, white-centred vein-dots; cell-end spot quite faded. The ♀ has pectinate antennae. Expanse of wings: 48–58 mm. Guiana, Amazons. Peru.
- gigas*. **H. gigas** sp. n. (157 b) is very closely allied to *conspirata*, but still much larger, with an expanse of up to 60 mm. Forewing of a deep purple brown, the two transverse rows of dots, formed of little heaps of white, black-edged scales, are accompanied on the averted sides by Pompeyan red bands, the exterior one distinctly undulate-dentate; the large triangular marginal spot with its point on vein 5 is bordered inside, between 6 and the costal margin, by a blackish subterminal band. Hindwing whitish only in the disc, broadly brownish at the margin and veins, so that the stigma is not very prominent. Hindwing and ventrum beneath white. 1 ♂ from Manaos. Coll. STGR. in the Berlin Museum.
- levana*. **H. levana** Drc. (156 h) is very similar to *colorata*, but its forewing is darker brown, not so reddish, the hindwing brown, not white; the type was described from Ecuador. Expanse of wings: 56 mm. — The
- amazonica*. race from the Amazons is: **amazonica** Dgn. distinguished by more intensely dusted lilac forewings with more prominent dentate transverse lines and whiter hindwings, only brownish on the veins and margin, and a better contrasting stigma.
- nigriplaga*. **H. nigriplaga** Schs. (156 h). Forewing brown; interior transverse line dark brown with black vein-dots, the costal-marginal spot being the largest, exterior transverse line black, dentate, but extending only from the apex to the middle radial vein and appearing only again above the sinuate inner margin and below the centre in 2 black vein-dots; a few brown and black spots apically behind it; a large irregular black spot at the cell-end and a small one above it. Hindwing brownish-white, veins and margin darkened. stigma dark brown. Expanse of wings: ♂ 39, ♀ 43 mm. French Guiana.
- cinescens*. **H. cinescens** sp. n. (157 b). Forewing light violettish-grey, with a slight brownish-yellow reflection in the basal and marginal areas; the anterior transverse line forms two bows and is dotted black on the veins, the posterior one sharply dentate, fine black. a small indistinct brownish spot in the lower cell-end; undulate line notched between 6 and the costal margin, shadowy brownish grey below it, enclosing at the inner margin with the postmedian line a trapezoid yellowish-brown small spot. Hindwing brownish. 1 ♀ from Muzo (Colombia) in the Berlin Museum.
- mutoca*. **H. mutoca** sp. n. (157 c) hardly resembles any other species; forewing dark red-brown, intermixed with bluish-white hair-scales, especially at the inner-marginal part, along the costal margin, on the blackish veins of the marginal area, and along the notched bronze brown transverse lines; a very large black indistinctly defined discal spot in the cell-end; subterminal line shadowy very near the postmedian line. more blackened in the apical spot. Hindwing greyish-brown, darker at the margin with an inconspicuous stigma. West Colombia between Tumaco and Pasto; type in the Berlin Museum.
- serrata*. **H. serrata** sp. n. (157 c). Forewing light violettish-grey, finely strewn black, the median vein and the notched transverse lines red-brown, the posterior one bordered lighter inside by the absence of strewing, more distinctly marked by black dots on the veins; 3 black dots at the cell-end; the postmedian line is bordered with rusty yellow outside above the inner margin and has here a black spot behind it; the undulate line is a sharply notched blackish shadowy line from the costal margin to vein 2, extinct below it. Hindwing brown, somewhat lighter towards the base, stigma scarcely noticeable. 2 ♂♂ from West Colombia (Tumaco). Berlin Museum.

H. cotto Dyar (156 h). Forewing broadly triangular with a strongly developed dent in the centre *collo.* of the inner margin and at the anal angle; forewing light purple brown with a bronze shadow in the lower half of the median area and from behind the cell to the anal angle, the undulate line is marked by a less distinct similar shadow; transverse lines fine, blackish, the interior one twice notched, the exterior one finely dentate; a distinct round black spot at the cell-end. Hindwing brown, lighter towards the base, with a brown but not contrasting stigma. Mexico.

H. punctilla Schs. (156 h). Forewing light reddish brown with black, undulate-dentate transverse lines, *punctilla.* the exterior one more distinct at the costal and inner margins; a red-brown spot at the cell-end with a smaller black one above it. Hindwing white, veins and margin reddish-brown, with a small red-brown stigma. Expanse of wings: 40 mm. Venezuela.

H. pagana Schs. has reddish-brown forewings finely strewn with dark grey especially in the median *pagana.* area, with a large black cell-end spot and quite indistinct transverse lines, the exterior one punctiform, small dark apical shadowy spots behind it. Hindwing white, veins and margin brownish, with a very much contrasting stigma. Expanse of wings: 45 mm. Paraguay.

H. alba Wkr. (156 h). Forewing very light greyish-white, strewn somewhat darker, with very indistinct *alba.* punctiform transverse lines, without a discal spot. Inner margin with a broadly triangular dent, without an excision. Hindwing white with a fine brown marginal line and veins, and an ablong reddish-brown stigma. Abdomen also reddish-brown. Mexico.

H. nigrescens Schs. (= *obliquiplaga* Dyar) (156 i). Forewing violettish-black with a brown distal *nigrescens.* margin, mixed with a somewhat reddish-brown colour at the base, with a dark oblique shadow from the cell to the distal margin; transverse lines dark red-brown, some whitish scales behind the exterior line at the apex. Inner margin deeply cut out before the anal angle. Hindwing dark brown. Costa Rica.

H. imitans sp. n. (157 c) is similar to *nigricosta*, but easily discernible from it by diaphanous white, *imitans.* somewhat opalescent hindwings with a narrow light brown margin and veins. Forewing duller brown, median area without a lilac shine; costal margin only very narrowly blackened, the undulate line without any white at the costal and inner margins, marked here as very faint grey shadows. 1 ♂ from the Rio Songo (Bolivia) in the Berlin Museum.

H. nigricosta Schs. (156 i). Forewing red-brown, a slight violet shine in the median area, with a *nigricosta.* broad black costal margin strewn with white, with dark transverse lines, the exterior one dentate, marked on the veins by dots; the undulate line is marked by a few white scales apically and above the anal angle; an oblique dark line at the cell-end, and a dark shadowy spot below the centre of the margin. Hindwing dull brown. Expanse of wings: 53 mm. Costa Rica.

H. phocas Schs. is near *nigricosta* from which it is separated by the different shape of the wings. *phocas.* Forewing brownish violet, dull violet at the costal margin strewn with bluish-white; anterior transverse line chestnut-brown with a white dot on vein 1; an oblique streak at the cross-vein; postmedian line punctiform, connected by a fine dentate line, shaded brownish outside above the inner margin; an oblique brown shadow in the centre of the margin. Hindwing whitish with a browner inner margin, veins and stigma. Expanse of wings: 40 mm. Amazons.

H. praxides Schs. differs from *phocas* in the white hindwing and has the same wing-contours as the *praxides.* following *eustalhia*. Anterior body cinnamon-red, forewing more reddish-brown with a dark grey costal margin strewn somewhat white, and a fine dark basal line; the fine brown antemedian line extends almost straightly to the inner margin, an oblique streak at the cross-vein; the postmedian line proceeds from before the apex, undulate-dentate, below 6 only as black and white vein-dots; a cinnamon-brown oblique shadow between 5 and 3, and a blackish-brown oblique subterminal shadow between 8 and 5. Hindwing white with a narrow cinnamon-brown margin and stigma. Expanse of wings: 42 mm. Brazil (Rio Purus).

H. eustalhia Schs. Anterior body reddish cinnamon. Forewing with a straight costal margin, a pointed *eustalhia.* apex, margin and anal angle in an oblique rounding as far as the base of the inner margin, reddish-brown, with an iron-grey costal margin and a mouse-coloured basal area, of the same colour is the median area bordered inside by the dark grey antemedian line, outside by an oval grey cell-end spot, and between 3 and the inner margin by the undulate postmedian line which is extinct between 3 and 5; instead of it there is an oblique cinnamon-brown shadow; an irregular grey subterminal shadow between the costal margin and 6, and a small spot before the anal angle. Hindwing white, inner margin sand-coloured grey, veins and margin narrowly cinnamon-brown, stigma deep brown. Expanse of wings: 45 mm. Brazil (Rio Purus).

H. singula Guen. (156 i) is a very large brownish violettish-black species, very finely strewn grey, *singula.* with dark dentate transverse lines and still deeper shadowy spots, one in the cell-end and one separated from it, extending to the anal angle. Hindwing greyish-brown. Mexico to Costa Rica.

H. violascens Guen. (= *singuloides* Dyar) (156 i) is very similar to *singula*, but the hindwing is more *violascens.* whitish, greyish-brown only on the veins, and the marginal shadow of the forewing is confluent in a line with the cellular shadow; transverse lines less distinct. Colombia to Brazil.

- sericita*. **H. sericita** Schs. Forewing violettish-brown with a silky shine, red-brown with a bronze lustre in the basal area and at the distal margin; only the dark brown postmedian line is distinct, some white scales apically behind it; an oblique red-brown streak at the cell-end, inner margin strongly dentate. Hindwing light brown. Expanse of wings: 44 mm. Colombia.
- micans*. **H. micans** Schs. (156 i) is a very large, monotonously red-brown species with a somewhat lilac shining median area edged by very fine black vein-dots instead of the transverse lines; a dark streak at the cell-end, a somewhat darker submarginal shadow. Hindwing whitish, scantily strewn with red-brown, stigma violettish-brown. Mexico.
- lilacina*. **H. lilacina** Dogn. Forewing dark red-brown with a bright violet reflection excepting the transverse lines and the white-strewn veins, the former with white vein-dots; 2 black dots obliquely above each other at the cell-end; some white scales subapically. Hindwing greyish-white, veins and margin darker, nostigma. Expanse of wings: 52 mm. Colombia.
- rufescens*. **H. rufescens** Wkr. (156 k) is a smaller species with yellowish red-brown forewings, somewhat lighter in the costal-marginal area, the transverse lines marked by black vein-dots, the anterior one strongly notched, a small faded spot at the cell-end; shadowy spots, often very indistinct, are at the inner margin behind the postmedian line, from the lower cell-end to the margin and subterminally above it. Hindwing white with a small reddish-brown stigma. Brazil.
- rufula*. **H. rufula** Dogn. is similar to *rufescens*, but the inner margin of the forewing is not dentate, but only slightly sinuate; forewing rusty reddish, with 2 rows of black fine vein-dots and similar shadowy spots as in *rufescens*; hindwing lustrous rusty reddish with a similarly coloured stigma, lighter in the female. — f. **vinosa** Dogn. is a female form, the forewing with a claret-coloured tint, with a shading along the inner margin between the rows of vein-dots, the posterior one of which is followed by a band of reddish strewing, while the subterminal shadow is absent. Expanse of wings: 40–47 mm. Amazons (Sao Paulo de Olivença).
- casiaclara*. **H. casiaclara** Dogn. is allied to the two preceding species; inner margin of forewing strongly dentate, with a deep excision before the anal angle; forewing monotonously light cinnamon brown, somewhat darker only at the cross-vein and in 2 subterminal shadows, with 2 rows of brownish-black vein-dots which are partly connected by dentate lines. Hindwing whitish, brownish towards the margin. Stigma cinnamon-brown. Expanse of wings: 38 mm. Amazons (Maués).
- metastigma*. **H. metastigma** Wkr. (156 k). Forewing dark brown, shaded, the two dentate transverse lines complete, marked by vein-dots. Hindwing brownish with a large dark brown stigma. Mexico.
- torva*. **H. torva** Schs. (156 k). Forewing reddish-brown with a yellowish reflection, marked like *metastigma*, but the anterior transverse line replaced by dots; a small brownish spot at the cell-end with a smaller subcostal one above it; the dark postmedian dots terminate at the inner margin in a large reniform brown spot edged with dark violet, the dent and the excision at the inner margin also bordered with dark violet; subterminal shadow light brown, dentate. Hindwing brownish-white, veins and margin darker with a still darker stigma. Costa Rica.
- velva*. **H. velva** Schs. Forewing monotonously light violettish brown with very feeble punctiform lines, with a shadowy spot behind the posterior line below the centre, and an indistinct dark cellular spot. Inner margin straight, without a dent or excision. Hindwing purely white, veins and margin narrowly reddish-brown, stigma contrastingly brown. Expanse of wings: 39 mm. Venezuela.
- soso*. **H. soso** Dyar (156 k). Forewing lustrous brassy brownish strewn with black especially in an oblique shadow of the median area; the fine black dentate lines are marked by vein-dots, bordered with lighter yellowish on the averted sides, with a large oval ring-spot at the cell-end; large roundish subterminal shadowy spots. Hindwing whitish, somewhat brownish at the margin, stigma dark brown. It resembles also *pagana*, though with more distinct lines and a less distinct discal luna. Mexico.
- quebra*. **H. quebra** Schs. Forewing reddish-brown with indistinct dotted transverse lines and an indistinct dark cellular spot. Hindwing reddish-brown, whitish basally, stigma brown. Expanse of wings: 42 mm. Venezuela.
- elphega*. **H. elphega** Schs. is near *quebra*, but the postmedian line is punctiform. Forewing reddish-brown with fine black lines, the anterior one with black vein-dots, the posterior one undulate-dentate, a narrow blackish shadow behind it between the apex and 6; a brownish line at the cross-vein and a black dot above it. Hindwing white, stigma and margin narrowly reddish-brown. Expanse of wings: 44–49 mm. French Guiana.
- monegonda*. **H. monegonda** Schs. differs from *elphega* in the blackish-brown costal margin, a somewhat different course of the lines, a blackish cross-vein streak, and a subterminal shadow between 5 and 2. Expanse of wings: 55 mm. Costa Rica (Guapiles).

nubilata Schs. (156 k) is similar to *metastigma*, but darker and the inner margin straighter, without a *nubilata* dent; forewing reddish-brown, median area somewhat darker, strewn with grey and lilac, transverse lines dark grey, broadly bordered with reddish-yellow on both sides, the exterior line punctiform, a reddish shadow behind it towards the inner margin, and a dark shadow before the margin in the lower half. Hindwing light reddish-brown, stigma brown. Mexico to Venezuela.

H. pernubila Dyar (157 d) is more monotonous than the very similar *nubilata*, the broad reddish-yellow *pernubila* borders of the transverse lines in the latter are very narrow here. Hindwing brown, whitish basad between the veins, with a large dark brown stigma. Mexico to Venezuela and Ecuador.

H. noctifer Schs. is very near *nubilata* and *pernubilata*, with a different copulation apparatus. Forewing *noctifer* brown with a silky gloss, basal area shaded slightly darker, also the median area except the cell; the brownish-black anterior transverse line is vertical, the posterior one from 3 mm before the apex to the centre of the inner margin, feebly dentate, with black and white vein-dots, a narrow cinnamon orange shadow behind it between 2 and the inner margin; the brownish-black subterminal shadow from the costal margin to 4, then interrupted inwards and extending obliquely to the margin below 2; a blackish-brown spot behind the postmedian line at the inner margin. Hindwing lustrous light brown. Expanse of wings: 44 mm. Costa Rica (Juan Vinas) to Colombia (Juntas).

H. turnina Schs. is allied to *subochraceum*. Forewing light brown, suffused with reddish, with brown *turnina* lines dotted black on the veins; subterminal shadow very indistinct, a fine cross-vein streak. Hindwing light brownish, somewhat darker at the margin with a deep brown stigma. Expanse of wings: 46 mm. Peru (Yahuarmayo).

H. subochraceum Wkr. (= *mora* Drc.) (157 a) is very similar to the two preceding species, darker, *subochraceum* larger, much more monotonously reddish violetish-brown, separated by the entire absence of the reddish-yellow borders of the transverse lines. Mexico.

H. vinvala Schs. is near *subochraceum*; forewing light brown with a silky gloss; the brown antemedian *vinvala* line indistinct, vertical, with darker vein-dots, the posterior one from near the apex, also with vein-dots, composed only of dots below 2; an indistinct dark oblique shadow before the centre of the margin and a fine dark streak at the cell-end. Hindwing and stigma monotonously yellowish reddish-brown with a bronze lustre, fringe white. Expanse of wings: 49 mm. Colombia (Palmira).

H. lotula Guen. together with the preceding species forms a group very difficult to differentiate, as *lotula* large as *subochraceum*, the transverse lines somewhat more distinct and more continuous, the anterior one almost straight, with a darker dentate subterminal shadow. Hindwing lighter than in *vinvala*. Venezuela to Brazil.

H. tulola Schs. Forewing more brownish-grey, the fine transverse lines black, the interior one undu- *tulola* late, the exterior one only coherent at the inner margin, otherwise punctiform. Hindwing light brown. Expanse of wings: 37 mm. Brazil.

H. rava Schs. (157 a) is more reddish-brown than *tulola*, the dentate subterminal shadow distinct, *rava* the inner margin almost straight. Hindwing light brown, veins and margin darker, scantily scaled basally. Costa Rica.

H. ravula Dogn. is much greyer, the lines more separated, the vein-dots white-pupilled, 2 dots at the *ravula* cell-end. Hindwing grey, the stigma less contrasting. Expanse of wings: 37 mm. Argentina.

148. Genus: **Hapigia** Gn.

A larger genus of rather conspicuous representatives with long slender forewings of a mostly brown colour and often large silvery spots at the cell-end, which however are not constant in the same species and may also just as often be absent. In distinction with the similar following genera, the antennae are only ciliated, nodular at the base, the palpi rather long, the middle joint hairy. Apex of forewing pointed, distal margin very oblique; vein 5 arises from the centre of the cross-vein or above it, 6 is stalked with the 4 lower subcostal branches, the areole being absent. Hindwing: veins 3 and 4 have the same origin, 6 is stalked with the subcostal vein, the costal vein is connected by a short bar with the subcostal vein near the base of the type.

Type of genus: *H. nodicornis* Guen.

H. nodicornis Guen. (157 e). Forewing deep red-brown with 5 blackish shadowy stripes extending from *nodicornis* above inside to below outside, reaching neither the costal nor inner margins as in *duponti*; the silvery spot in the centre is absent; the black apical shadow is dusted white outside; fine black double dots before the margin, a fine serpentiformly curved submarginal line before them. Hindwing greyish-brown, lighter yellowish towards the base, fringe lighter. Brazil.

H. duponti Schs. is allied to *nodicornis*; anterior body reddish-brown, abdomen grey. Forewing brown- *duponti* ish cinnamon, with 3 darker oblique shadows distally bordered with a faded lighter colour, the antemedian

one to the centre of the inner margin, the middle one to the margin on 2, the posterior one between the postmedian line and subterminal line on 3; the grey subbasal line indistinct; a small grey subcostal spot before the cell-end, 2 greyish-green spots below it, the upper one oblique, the lower one curved and produced on the median vein; a cinnamon line extends from the costal margin to the lower cell-angle and from here somewhat inwards towards the inner margin; the posterior transverse line with black and white vein-dots, and a white oblique spot behind it on 5, a whitish dentate line above it; 2 white subapical lunules strewn with greyish-green behind it, the subterminal line composed of small black lunules. Hindwing brown, fringe yellowish-white. Expanse of wings: 70 mm. Amazons (Amatura).

annulata. **H. annulata** Schs. (157 e) is allied to the preceding species, forewing lilac brown with 6 darker shadowy stripes extending obliquely downward outside and reaching neither the inner nor distal margins, the middle stripe interrupted by a long silvery spot filled with white; another less distinct preapical shadow is bordered outside by an irregular white line, a few black dots before the margin. Hindwing greyish-brown with blackish-veins. Costa Rica, Guiana, Brazil.

obliqua. **H. obliqua** Wkr. (157 e) resembles *annulata*, but the forewing is quite light yellowish red-brown, the 6 transverse shadows are very much narrower, so that they almost appear as broad lines; they begin close at the costal margin and are continuous to the inner margin; the silvery spot in the centre seems to be absent, but it is represented by a fine black linear marking; the fine blackish submarginal line is marked in the shape of very pointed W-markings, a fine blackish apical line is bordered with silvery white inwards. Hindwing brownish-grey. Colombia, Bolivia.

hollandia. **H. hollandia** Schs. (157 f) is easily discernible from all the species by the notched margin. Forewing light reddish purple brown with numerous darker oblique bands; a double silvery line at the cell-end. Hindwing brownish sand-coloured, fringe light reddish-yellow. Brazil (Rio Purus); also from the Rio Songo (Bolivia).

smerinthoides. **H. smerinthoides** Wkr. (157 f) is very much like *notha*, but the light reddish-brown forewing is not tinged with violet, the 3 brightenings are hardly noticeable as very indistinct more yellowish places; the fine darker lunular lines are arranged by twos and of a more distinct antemedian and postmedian course, the ground between them is not darkened olive; at the cell-end there is a large olive green reniform macula of an irregular triangular shape, partly strewn with bluish-white. Hindwing brownish-grey. Colombia, Bolivia, Brazil.

smerinthina. **H. smerinthina** Schs. resembles *smerinthoides*, but it has a smooth margin and it is lighter, reddish-yellow, with fine darker undulate transverse lines meeting in the centre of the inner margin; a small white spot at the base of the cell, a large irregular chestnut-brown, white-edged spot at the cell-end contains sea-green lines surrounding a red-brown spot, on its inside there are 2 oblique green spots bordered with white and strewn darker; postmedian line very fine and indistinct with black and white vein-dots; small white subterminal vein-spots, being larger between 4 and 6, behind them an irregular black line partly edged with white. Hindwing dark brown, costal and inner margins light reddish-yellow. Expanse of wings: 66 mm. Brazil (Rio Purus).

notha. **H. notha** Mschr. (= *rufocinnamomea* Roths.) (157 f). Forewing red-brown with a violet tinge, with 3 broad reddish-yellow brightenings, a more band-shaped one before the middle, 2 spot-shaped ones behind it, brownish orange dusting near the apex and near the anal angle; the wing is traversed by several darker lunular lines, some filled with brownish olive; cell-end spot and apical spot greenish olive. Hindwing greyish-brown. Guiana, Brazil (Amazons).

abscondens. **H. abscondens** Wkr. (157 g) exactly resembles *repandens*, but the forewing is darker reddish-brown, partly shaded with violet, the transverse linear spots are less green, more whitish, coarsely strewn with black, a little more green colour is only in the reniform macula at the cell-end; the other marking is the same. Hindwing lighter yellowish-grey. Brazil.

repandens. **H. repandens** Schs. (= *smerinthoides* Drc.) (157 g). Forewing brown shaded with lilac, the anterior transverse lines grey mixed with greenish, partly bordered with black, grey and greenish-yellow spots strewn black and white are in the cell behind them, a large yellowish-green spot at the cell-end is surrounded with black and white, a smaller one at the apex; postmedian line composed of a row of dark brown, outside yellowish-grey dots, a row of white spots behind it, and an irregular black line, partly strewn white at the distal margin. Hindwing brown, basal half of costal margin yellowish-white. Mexico to Brazil.

apiana. **H. apiana** Schs. is near *repandens*, but separated by the light reddish-brown ground-colour and the 3 very indistinct and partly punctiform transverse lines, and the quite light brownish, almost whitish hindwings; a small grey subcostal spot in the centre of the cell, and a similar somewhat larger one in the lower angle of the cell, the spot in the upper angle being absent; a greyish-green subapical spot. Expanse of wings: 57 mm. Described from Venezuela.

H. gaudens Schs. (157 g) is similar to *apiana*, but larger and more brightly coloured, forewing violet *gaudens*. strewn with white, the anterior transverse lines green and white, the cell-end spot very large, the postmedian line composed of green, black-strewn spots; submarginal white dusting, an irregular undulate black and white line before the margin. Hindwing dark brown. Expanse of wings: 84 mm. Guiana, Colombia.

H. eneana Schs. Thorax reddish cinnamon, forewing light brown, dusted reddish, with a fine irregularly undulated basal line, black, bordered with white inwards; anterior transverse line composed of 3 white and black dots; 3 black rings at the cell-end are filled with black scales, the two exterior ones are connected in the shape of a B; the posterior fine dark transverse line with black and white vein-dots; subterminal line composed of black lunules, with a slightly darker shadow inside before it, and 4 white subapical dots, hindwing lustrous reddish-brown. Expanse of wings: 60 mm. Guatemala (Cayuga).

H. curvilinea Schs. (158 a). Forewing dark red-brown, deepest at the base, inner and distal margins, somewhat lighter reddish-yellow below the base of the cell and between the median nervules; the interior black transverse line is indistinct, the exterior one grey inside, black outside, forming a bow from the costal margin to below the lower median vein, from there another less distinct bow to the inner margin; a large strangulated silvery spot at the cell-end with a golden centre surrounded by red-brown, a smaller one above it and before it; postmedian area dusted lilac and shaded grey; black dots before the margin, and a large silvery spot at the apex. Hindwing dark grey. Guiana.

H. simplex Wkr. (= *hapygia* Fldr., *ribbei* Schs. nec Drc.) (158 a). Forewing dull dark red-brown, spotted dull orange basally below the cell and at the inner margin, with fine black transverse lines, the anterior one indistinct, the posterior one almost straight, slightly bent, strewn with whitish-grey inside, somewhat more thickly on the veins; with or without a strangulated silvery spot at the cell-end, marked red-brown inside, a small one above it; the indistinct subterminal line is only marked by faint lighter red-brown dusting on its outside; a very irregular submarginal black and grey line more broken up into dots, a small narrow silvery spot at the apex. Hindwing greyish brown. Mexico, Central America.

H. beuvea Schs. is allied to *simplex*, but the forewing is unicoloured cinnamon, the postmedian line is nearer at the cell, and the white dots in the distal third of the costal margin are absent; reniform macula loam-coloured, narrow, edged by fine black lines, another small spot above inside, from the inner side of the reniform macula a darker shadow extends to the inner margin at the posterior transverse line; the latter extends straightly to the anal angle, light reddish-grey, bordered darker outside; an indistinct irregular shadow before the fine undulate subterminal line. Hindwing reddish-brown. Expanse of wings: 72 mm. Amazons (Intaly).

H. raatzi Mschlr. (158 a) is extremely similar to *simplex* and probably only the southern form of it; forewing of the same colouring, the silvery spots somewhat larger, but they may also be absent in both the forms. Characterized by the postmedian line invariably forming an inward angle below the lower median vein. Guiana, Brazil.

H. ribbei Drc. (158 a) is another species very similar to the two preceding ones; forewing somewhat brighter red-brown, fine yellow vein-dots on the inside of the postmedian line, the cell-end spot and the apical spot are more golden, the submarginal black dots extremely fine. Hindwing lighter brownish-grey. Panama.

H. millsii Schs. Forewing fawn-coloured, suffused with reddish violet, obliquely cut off by reddish cinnamon in the basal area, forming 2 distal bows, with a black basal line in it; the vertical anterior transverse line is almost in the centre; reniform spot reddish ochreous with a smaller spot inside above it, and an oblique shadow before it to the inner margin; the straight dark postmedian line, with a white dot on vein 1, bordered inwards by lighter reddish-brown; marginal area broad reddish-yellow cinnamon. 4 white dots at the costal margin; the irregular subterminal line is black, between 7 and 8 as a fine white line. Hindwing reddish-brown, with a pink tinge at the margin. Expanse of wings: 75 mm. Peru (Carabaya).

H. directa Schs. is the smaller insular representative of the preceding species, from Cuba. Forewing reddish-brown, the anterior transverse lines very indistinct, grey, undulate, the posterior one grey, bordered with black outside, in an oblique line from the costal margin to the lower median vein, from there undulated to the inner margin; silvery spots as in *raatzi*; a subterminal row of small black spots. Hindwing duller reddish-brown, with yellowish hair at the inner margin. The silvery spots may be absent as in all the other species.

H. rufescens Schs. (158 b) is a still smaller species with red-brown forewings, the anterior transverse line replaced by small grey vein-spots, the exterior one is feebly curved and dark red-brown; an undulate dark brown shadow before the blackish subterminal double dots, the apical ones of which are confluent and dusted with white; a silvery crescent at the cell-end, a small round spot above it. Hindwing blackish-brown, reddish-yellow at the costal margin. Expanse of wings: 48 mm. Venezuela.

plateada. **H. plateada** Schs. Forewing of a bright brown colour, costal margin blackish, the anterior transverse lines fine black, the antemedian line oblique to the centre of the inner margin, 2 black spots before it above the inner margin, another spot below the lower median vein, and one behind the cell, an uncommonly large triangular silvery spot in the cell-end, its shape resembling that of the genus *Chliara*; the anterior inner part is divided by a fine line, the other part is marked red-brown; an irregular large silvery spot is before the black apex, indistinct black subterminal spots below it. Hindwing yellowish-white. British Guiana.

dorema. **H. dorema** Schs. Forewing dull yellow, the anterior transverse line is divided into 3 reddish-brown small spots, the largest of which is above the inner margin; a fine reddish line from the centre of the cell to the inner margin, a dark spot is here before it, the fine straight postmedian line is finely edged with white inside and crosses a broad reddish shadow, grey shading is also behind it; silvery spots in the cell-end as in *plateada*; apex dusted grey and white with a silvery crescent before it, above and below which there is one silvery drop each besides; subterminal dots and streaks in the red-strewn marginal area. Hindwing white. Expanse of wings: 63 mm. Described from Guatemala.

149. Genus: **Rhapigia** Schs.

A few species with special wing-contours, hitherto ranged under *Hapigia*, have been recently separated from them as *Rhapigia*. They are distinguished by the remarkably high shape of the forewing with a deeply cut out inner margin and lobately produced anal angle.

Type of genus: *Rh. accipiter* Schs.

accipiter. **Rh. accipiter** Schs. (158 e) has very strikingly shaped wings, the feebly bent distal margin being almost just as long as the costal margin and terminating at the anal angle in a long dent, for which reason the inner margin is very short. Forewing dull red-brown, brighter in the basal half, an orange spot in the basal half of the inner margin; transverse lines indistinctly lighter, bordered with dark, the anterior one terminating in 3 bows into the dent, the posterior one almost straight; a dark dot in the cell, 2 lighter small spots at the end; a fine black undulate line in the somewhat lighter marginal area, more distinctly W-shaped before the apex, and bordered with white inside. Hindwing blackish-brown, dingy white along the costal margin. Brazil.

aymara. **Rh. aymara** Schs. (158 e) has somewhat similarly shaped wings, also with an anal-angular dent; forewing lilac brown, darker in the basal half of the costal margin, with lighter transverse lines, the anterior ones with lunar spots, the posterior ones almost straight, with short black vein-streaks before them and dots behind them, a large blackish spot near the anal angle; 2 silvery spots at the cell-end are finely bordered with black, and a narrower spot is at the apex, from which the irregular black marginal line proceeds. Hindwing smoky grey, whitish basally. Colombia, Guiana.

deicola. **Rh. deicola** Schs. Anterior body cinnamon-brown, tegulae apricot-coloured, abdomen brown above, reddish-white beneath. Forewing brown as far as the reddish-yellow marginal area, dusted with brown from the apex to vein 3; the subbasal and anterior transverse lines consist of reddish cinnamon, partly connected spots, parted by dark lunules; a similar oval spot at the cross-vein with a smaller one inside above it; postmedian line undulate, bordered with grey inside, with vein-dots; subterminal line black, deeply undulated, bordered with white towards the apex. Hindwing sand-coloured brownish with a whitish basal costal-marginal

agnesa. part. — f. **agnesa** Schs. exhibits a black spot at the inner-marginal excision and another postmedian one on vein 4. Expanse of wings: 45 mm. Brazil (Rio Purus).

klagesi. **Rh. klagesi** Rothsch. Forewing purple brown, partly shaded chestnut-brown and dusted pinkish violet, shaded sooty black postdiscally and in the centre of the inner margin; the curved blackish postmedian line is indistinct and has grey vein-dots, the submarginal line is notched as in *deicola*. Hindwing reddish-grey. Amazons (Fonte Boa).

rotundata. **Rh. rotundata** Dogn. is allied to *klagesi* and similarly marked, but the wings are differently shaped, the distal margin and the anal angle of the hindwing uniformly rounded, forewing chestnut brown, with yellowish spots in the distal half of the cell, submedianly and subterminally; the black margins are very fine and inconspicuous, accompanied by whitish scales, the anterior lines only composed of vein-dots, 2 small streaks at the cell-end. Hindwing light brown, yellowish basally. Expanse of wings: 47 mm. Amazons.

150. Genus: **Chliara** Wkr.

Separated from the preceding ones by the antennae not being nodularly thickened basally; vein 6 of forewing not stalked with the subcostal branches, but rising separately from the upper cell-angle. Only few tropical species are known, some of which abound remarkably in silver and gold decorations.

Type of genus: *C. croesus* Cr.

C. croesus Cr. (= *croesa* Hbn., *imperialis* Wkr.) (158 b). Forewing light reddish-yellow, of a deep purple brown at the inner margin and apex, with two similar oblique antemedian stripes; numerous large and small silvery spots are basal, around the cell-end, and at the apex; the dentate double transverse lines and the subterminal line are filled or edged with a silver or gold colour. Hindwing light reddish-yellow, more brownish in the female. Brazil. *croesus*.

C. moneta Fldr. is very similar, with somewhat narrower wings, more intensely dusted with purple red, especially in the median area at the costal margin, the silvery spots somewhat reduced, particularly at the base and apex, especially in the basal area. It may be only the northern representative of *croesus*. Panama. *moneta*.

C. mediostriga Roths. (158 b). Forewing reddish orange with numerous cinnamon red antemedian and postmedian lunular lines, the centre itself purple reddish-brown with two reddish-yellow spots at the cell-end; the double subterminal line is black just as a longitudinal stripe from the base along the median vein and the upper median nervule. Hindwing light reddish-brown. Guiana, Amazons. *mediostriga*.

C. gaedei n. sp. (158 b) resembles *mediostriga*, but it is much larger and with longer wings. Forewing reddish fawn, with a large whitish subapical spot, the lower end of the reniform macula also filled with whitish; with the same black longitudinal stripe and a black subbasal line composed of two reverse bows; anterior transverse line marked by black vein-dots and a shadow-like feeble grey lunular line; a very small pear-shaped ring in the cell, another ring outside above it, the reniform macula is formed by an oval ring-line with a distal indentation on vein 5; postmedian line oblique, shadow-like, only the two bows between 2 and 4 more distinct, with a few vein-dots behind it. A fine black submarginal serpentine line. Hindwing light reddish-brown, somewhat transparent in the disc. Type: 1 ♂ from Chuchuras, Peru, in the Berlin Museum, another ♂ from Colombia. ♂ antennae hardly dentate, finely ciliated. On examining this species closely it is found to belong rather to *Hapigia*. *gaedei*.

C. rovena Schs. is still more similar to *mediostriga* and much smaller. ♂ antennae serrate with long ciliary tufts. Forewing light reddish-brown with the black longitudinal line of the preceding species, the origins of veins 2 and 3 being also black; a black spot in the centre of the cell, the black reniform macula line is open above, the median area below the median vein darker, brownish, and lighter, more reddish, above it; traces of a double postmedian line, with black scales before and behind it between 5 and 6; subterminal line between the costal margin and 5 only composed of a few black scales, undulate dentate below; small black spots above and below vein 4. Hindwing slightly transparent, light reddish, the veins, the inner margin broadly, the distal margin narrowly reddish ochreous. Expanse of wings: 42 mm. Sa. Catharina. *rovena*.

C. svidberti Schs. differs in the pectinate antennae of the ♂. Forewing reddish-yellow with a violet tint, the median area slightly darker, though not so much as in *rovena*; transverse lines extending as in *mediostriga*, very indistinct before the centre, the outermost line bordering on the median area inside, with black vein-dots; a small white spot at the cell-end, black and white vein-dots behind it; the posterior transverse line is double, scarcely darker than the ground. Hindwing reddish, darker at the inner margin. Expanse of wings: 43 mm. Guatemala. *svidberti*.

C. novicia Schs. shows tuftedly ciliated antennae in the ♂. Forewing reddish-brown, dusted with lilac, and striated darker below the cell; the anterior transverse lines are broken up into single vein-dots, the posterior one is double in the ♂, single in the ♀, with black vein-dots behind it; two small black-edged ring-spots in the cell, a cross-shaped spot at the cell-end is blackened at its distal end in the ♀; the fine irregular black marginal line ends in a black apical spot in the ♂, in a shadow in the ♀. Hindwing light reddish-brown. Expanse of wings: ♂ 42, ♀ 56 mm. French Guiana. *novicia*.

151. Genus: **Antaea** Hbn.

Separated from *Chliara* by a longer terminal joint of the palpus and the slightly notched distal margin of the forewing. Neuration the same except the costal vein of the hindwing branching off here from the centre of the cell, while it extends more parallel and does not bend down so much in *Chliara*. Only 3 species are known.

Type of genus: *A. juturna* Cr.

A. juturna Cr. (158 c). Forewing red-brown with 6 dark transverse lines, all of which are faded distally, distinctly defined inwardly and edged with light here, so that they look somewhat embossed: the second extends only to the median vein, the fourth is scalariformly interrupted on the upper median branch and removed inwardly as far as the lower cell-angle, the fifth extends more obliquely than the others, and the submarginal one is scalariformly interrupted on the two median nervules; a reniform macula at the cell-end shows a somewhat darker filling and meets outside a short oblique line. Hindwing dark greyish-brown. Panama to Brazil. *juturna*.

licormas. **A. licormas** Cr. (= *bombycoides* Wkr.) (158 c) is marked in almost the same way, but the ground-colour is a lighter violettish grey, strewn somewhat darker brownish in the lower half of the marginal area; transverse lines finer, the macula before the cell-end is not confluent with the 4th transverse line, subterminally there are small blackish shadowy spots, and the submarginal line has 3 scalariform interruptions partly of an orange colour. Hindwing lighter brownish-grey. Mexico, Panama.

omana. **H. omana** Schs. (= *pseudosmerinthus* Rothsch.) (158 c) is very similar to *licormas* and may be only a larger southern form of it; the ground-colour is quite similar, the best mark of distinction is the postmedian line which is not straight but curved, the reniform macula at the cell-end is open below and its distal arm is strewn with orange, and so are the 3 scalariform interruptions of the submarginal line; the distal margin is more notched, the hindwing shows a darker greyish-brown colour. Expanse of wings: 71 mm. Colombia, Brazil.

152. Genus: **Pseudhapigia** Schs.

Easily separable from the preceding species by the antennae of the ♂ being pectinated to the tips: last palpal joint very short. Distal margin of forewing rounded, inner margin cut out with a dentiform projection near the anal angle; as in *Hapigia*, the uppermost radial branch is stalked with the 4 lowest subcostal branches. Hindwing: the upper median branch and the lowest radial branch are somewhat separated at their origins, the rest of the neurulation as in *Antaea*. 3 species are known.

Type of genus: *P. brunnea* Schs.

brunnea. **P. brunnea** Schs. (= *estrella* Barnes) (158 c). Forewing light red-brown, monotone, with fine blackish transverse lines, the anterior ones undulating, the posterior one slightly bent, forming an angle submedianly and extending into the anal angle behind the dent; a roundish silvery spot in the cell, behind it at the end there is a larger lobate silvery spot; 2 small narrow silvery spots are at the apex before the irregular subterminal line, the apex behind them being blackened. Hindwing light brownish-grey. Arizona, Mexico. — *colimae* f.n. (158 d) is much darker, profusely dusted with purple and shaded with blackish, the latter especially behind and below the cell, where it is spotted orange basally; the postmedian line is broadly bordered with light violettish-grey inside, the silvery spots are centred red-brown. Colima.

kurunensis. **P. kurunensis** Dogn. has chestnut-brown forewings, with very fine and rather indistinct violet dentate antemedian and postmedian transverse lines, accompanied by fine black and white vein-dots; a black dot in the cell and, above it, a subcostal row of dots; the subterminal internerval dots are bordered with white apically. Hindwing light brown. French Guiana.

misericordia. **P. misericordia** Dyar (158 d). Forewing dark brown, strewn black, some places, especially near the undulate line, are somewhat lighter; anterior transverse line indistinct, the posterior one straight, slightly bent only on the inner-marginal vein; undulate line indistinct, dentate, more distinctly prominent in the centre as a dark double line, 2 subapical bows bordered with white; two small silvery spots centred with red-brown are in the cell, or also without silver. Hindwing dark brown. Mexico.

153. Genus: **Hapigiodes** Dyar.

Very closely allied to the preceding genus, chiefly separated by the antennae of the ♂ being pectinated only on two thirds; besides, the origins of the upper median branch and of the lowest radial branch are more separated; discernible from the very similarly structured genus *Colax* by the inner-marginal dent.

Type of genus: *H. xolotl* Schs.

xolotl. **H. xolotl** Schs. (158 d). Forewing dull brownish-grey, the interior undulate line very indistinct, the exterior one straight, its lower third bent towards the anal angle, brown, bordered with reddish-yellow inside, the submarginal line irregularly angled, subapically bordered with silver; the cell-end with the usual 2 silvery spots with a golden gloss, the larger lower one marked red-brown inside. Hindwing brownish-grey, yellowish-white basally. Mexico.

argentidiscata. **H. argentidiscata** Schs. may be a southern race of *xolotl*, but it is lighter, and the postmedian line is more remote from the apex. The proximal lower half of the forewing, obliquely from the costal margin to the anal angle is wood-coloured brown, reddish-yellow above it; instead of the anterior transverse line there are black dots and lunules with 2 small black spots before them; an oblique large golden and silvery spot at the cross-vein, a smaller one above before it; the brown postmedian line is bordered with whitish inwards, behind it there are patches of brown dusting, and black scales on vein 4; subterminal black lunules, and a black line bordered with silver between 7 and 8. Hindwing reddish and brown. Expanse of wings: 51 mm. Sa. Catharina (Taragua).

proxima. **H. proxima** sp. n. (158 d) is very closely allied to *xolotl*, but of a light brown colour, shaded with blackish behind the postmedian line, so that a notched shadowy band contrasts with the lighter marginal area here,

both the undulate anterior transverse lines very indistinct, the posterior one straight to the submedian fold, where it is slightly flawed and extends towards the anal angle, forming another obtuse angle distally on the inner-marginal vein; the blackish submarginal line is hardly traceable. Hindwing light greyish-brown. Described from a female with pectinated antennae, from Misantla (May 1912). Type in the Coll. DRAUDT.

H. arpi *sp. n.* (158 e) is smaller than the preceding species, dull greyish-brown, especially towards the *arpi*. inner margin, shaded with blackish, most intensely so in the median area, the transverse lines similar to those in the preceding species, the anterior one distinct, composed of arcuate lines which form tiny black inward dents on the veins, the posterior one straight to the submedian fold above which it forms an almost right angle with its point inwardly, whereupon it forms another outward flaw on the inner-marginal vein; subterminal shadow distinctly notched owing to the marginal brightening behind it and forming a large black spot near the lowest radial branch; submarginal line distinct bordered with single silvery scales inside, with chalky white on both sides towards the apex; silver spots large with a golden shine, the lower shaped like an 8, enclosing 2 red-brown circles. Hindwing blackish brownish-grey, lighter in the ♀, more yellowish-white. South Brazil (Sa. Cruz, Joinville). Types: ♀ ♂ in the Senckenberg Museum.

H. frederica *Dyar* (158 e) has rusty brown forewings shaded with violet behind the base of the costal *frederica*. margin obliquely to the anal dent; the blackish transverse lines are bordered with light on the averted sides, the interior one arcuate, the exterior one straight, bent on the inner-marginal vein; two dark brown oblique maculae at the cell-end, the black fine submarginal line is bordered with silver inside at the apex. Forewing dingy whitish. Shape of wings somewhat different, the distal margin of the forewing forming a projection on the middle and upper radial branches, below it is straight or almost concave, the inner-marginal dent very large, similar to that of *accipiter*. Mexico (Cordoba).

H. nigridiscata *Dogn.* resembles *frederica* by the same shape of the wings and the same markings, but *nigridis-* on the hindwing the two branches of the lower cell-angle arise from one and the same place. Forewing brown- *-cata* ish-grey, the markings blackish, the two cell-end spots also black. Hindwing all white. Expanse of wings: 46 mm. Argentina.

154. Genus: **Canodia** *Guen.*

Like *Pseudhapigia*, but the longer forewing with a pointed apex, a rounded oblique distal margin and a straight, not cut out proximal margin.

Type of genus: *C. carmelitoides* *Guen.*

C. carmelitoides *Guen.* The figure of this species which seems not to have been rediscovered is very *carmelitoides*. similar to the following species; a female lying before me, in my opinion, belongs to it; forewing light reddish-brown, somewhat more yellow basally, with 2 double undulate antemedian transverse lines, the inverted parts less distinct and lighter, the averted parts dark red-brown, the outer line forms a distinct bow distally on the submedian fold; an oval of a brighter red-brown filling, surrounded by purple brown, contains a somewhat undulate dark central streak; the oblique postmedian line is dark brown, with a narrow lighter distal border, and it forms a distal angle on the inner-marginal vein and a flat inward bow above it; below the last quarter of the costal margin it turns distally and extends into the apex; the costal margin is purple brown, particularly apicad, and strewn with lilac white downwards, the undulate golden yellow subterminal area is very much expanded towards the anal angle, and behind it there are very fine black internerval dots in the brown ground of the margin. Hindwing reddish-brown, light yellow at the costal margin, fringe reddish golden yellow. Under surface light reddish-yellow, the disc of the forewing somewhat brownish. Brazil.

C. difformis *Herr.-Schäff.* (= *pogoda* *Dogn.*) (157 d) is very similar to the preceding species, but the *difformis*. forewing is more brownish olive with a pinkish tint, the two anterior transverse lines are not double, the space between them is darkened; the subterminal area is not yellow, but only of a somewhat lighter ground-colour, the hindwing is greyer. Forewing beneath grey, with a pinkish tint towards the margin, the ends of the veins and the fringe yellowish pink. From Venezuela and Colombia.

Subfamily: **Melalophidae.**

A subordinate group of the large Notodontid tribe, separable only biologically, with hairy larvae; owing to the absence of clearly defined marks of distinction, it cannot be regarded as a distinct family. The larvae exhibit tubercles with secondary hairing, and by the characteristic three tubercles above the stigmatal tubercle on the thoracal segments they are separated from the parallel formation of the Arctiid larvae. The imago has a rudimentary proboscis, whereby they also approach the *Eupterotidae* which, however, have only 11 veins on the forewing, whilst the *Melalophidae* and the *Notodontidae* exhibit 12. As next to nothing is known of the biology of the majority of the tropical *Notodontidae*, we cannot tell of course whether one or the other from the preceding genera may be better ranged here.

The subfamily is subdivided into 2 rather heterogeneous parts: the „moonbird“-like species of *Datana* and *Ichthyura* (Pygaera), and the green *Rosema* with quite dissimilar imagines, while their larvae — as far as they are known — are green with short hair, their structure and behaviour being otherwise very much like that of the *Ichthyura*-larvae.

155. Genus: **Datana** Wkr.

♂ antennae not pectinated, only ciliated; palpi short and obtuse, appressed to the frons, the 2nd joint covered with long tufty scales; the broad thorax is densely haired. Neuration exactly like that of the genus *Nadata*. Femora and tibiae with dense shaggy hair. The larvae exhibit the same shape and colouring as those of the *Phalera*, being black or brown with numerous yellow longitudinal stripes; their behaviour is also the same, the head and anal end being raised when in repose. Quite a number of very similarly looking and therefore not easily discernible species; mostly from North America.

Type of genus: *D. ministra* Drury.

- angusii*. **D. angusii** Grt. & Rob. (158 f) is distinguishable by the colour of the forewings being quite smoke-brown or blackish-brown. Here and in the 3 next species, the distal margin is somewhat undulate-dentate. The marking is otherwise exactly the same as in *ministra*. Similarly dark brown colour is only exhibited by *integerima*, but the distal margin of its forewing is even, not undulate-dentate, and the hindwing is much lighter; besides, *angusii* has less strewn wings, and the transverse lines are not bordered with a lighter colour. The larva is black, with 4 whitish-yellow longitudinal lines on each side, and red abdominal legs and red bases of the thoracic legs; the scanty side-hairing is whitish-grey. It lives on species of nuts (hickory and walnut), but also on birches and lime-trees in July and August, the imago in April till July. Canada to Illinois.
- ministra*. **D. ministra** Wkr. (158 f). Forewing reddish cinnamon, mesothorax ochreous in front, warming into chestnut brown behind, hindwing light straw-coloured. Lighter than *angusii*, but darker than *californica*, smaller than *drexelii* and *major*, with less distinct, or absent, small discal spots, without the dark costal-marginal shadow of *drexelii*, the hindwings mostly lighter than in *major*. Larva black with 4 broad, more greenish-yellow longitudinal lines on each side, the ventral legs and the bases of the thoracic legs being reddish-yellow; hair longer and white. It lives gregariously on nearly all the deciduous trees and pupates in the earth without a cocoon. Canada to California.
- californica*. **D. californica** Riley is almost the same, but much lighter, more pale straw-coloured with a very faint reddish tint. Larva on apple and plum, very similar to that of *angusii*, but with 5 more lemon-coloured longitudinal lines on each side, abdominal legs greenish-yellow.
- drexelii*. **D. drexelii** Edw. (158 f) is larger than *ministra*, the margin somewhat less distinctly undulate-dentate, marked like *ministra*, but with a very distinctly contrasting, darkened costal-marginal area; the colour is brownish ochre, the thoracal spot darker than in *ministra*, the discal spot large and distinct, darker than the lines. Hindwing darker than in *ministra*. Larva very much like the preceding ones, black with lemon-coloured longitudinal lines, the neck-shield and the first half of the first segment quite honey-coloured, also the last abdominal segment almost quite yellow, the abdominal legs and the bases of the thoracic legs being yellow, too. It lives on Hamamelis and Vacciniae, also on lime-trees and Sassafras. New York, New Jersey.
- major*. **D. major** Grt. & Rob. (158 f). The species following now exhibit an entire, smooth margin of the forewing. A large species with yellowish tan-coloured wings, somewhat darker than in *ministra*, with darker hindwings than in *drexelii*, discal spot large and distinct as in *drexelii*, but without its contrasting costal-marginal shadow. Larva black with very broad, frequently interrupted yellowish-white or dark yellow longitudinal stripes; head, abdominal legs and the bases of the thoracic legs from orange brown to mahogany-red. It lives on *Andromeda ligustrina* and *mariana*. Atlantic States.
- floridana*. **D. floridana** Graef (158 f) is smaller than *major*. Forewing dark brown with a slight purple tint, the lines therefore not very distinct, but with a prominent discal spot. Larva somewhat duller black, head and abdominal legs mahogany-red, the lines yellow. It lives on *Andromeda mariana*. Florida.
- palmii*. **D. palmii** Beut. (158 g) is like the preceding, but lighter, the lilac whitish ground of the forewing densely strewn with brown, with a browner costal-marginal shadow, only the lines 1, 2 and 5 distinct, the two others feeble, discal spot more extinct; it may not differ specifically from *floridana*. Larva like that of *floridana*, but the head is more orange red, the lines are lighter yellow; on *Vaccinium stamineum*. Atlantic States.
- modesta*. **D. modesta** Beut. has a traceably undulate-dentate distal margin of the dark hazelnut-brown forewing without a darker costal-marginal shadow, with quite indistinct lines, but a distinct blackish discal spot; remarkable for the yellowish ochreous thoracal spot which is lighter than the rest of the thorax. Larva apparently still unknown. Expanse of wings: 51 mm. Florida.
- perspicua*. **D. perspicua** Grt. & Rob. (158 g). Thorax and forewing reddish-yellow, thoracal spot ochreous, warming into tan-colour behind; forewing scantily strewn with brown except the costal-marginal area; the lines and

the large discal spot hazelnut-brown, the apical oblique streak especially long and distinct, the median nervules also brown. Hindwing very light reddish-yellow. Larva from reddish to blackish-red, the lines lemon-coloured, head black like the legs. It lives on Sumach (various species of *Rhus*). New York to the Gulf States and Kansas. — **robusta** *Stkr.* (= *mesillae* *Cockll.*) differs in the not darker, plainly ochreous thoracal spot, the forewing being of a somewhat more loamy yellow tint, the lines less distinct. Texas and New Mexico. — **opposita** *B. & Benj.* has a lighter, more ochreous thorax, the forewing is lighter than in the type, hardly strewn, the lines are less distinct, the discal spot is more obsolete. From Utah. — **discahis** *Dyar* is more profusely and uniformly strewn with brown, the reniform macula is a thick brown spot, the subapical streak is broad and faded; the basal part of the wing as far as the first line is dusted somewhat violettish-grey, the exterior line is especially distinct. The larva shows a more black than red ground-colour. California. — ab. **infusa** *Dyar* belongs to the latter form, but it is still much more densely strewn with brown, so that it appears to be quite brown; the lines are bordered with a somewhat lighter colour, but the subapical streak is absent. San Diego (California). — **eileena** *Dyar* resembles *discahis*, but it shows a softer tinge, dusted rather than strewn with brown, discal spot smaller, the lines distinct, but very fine, apical streak absent. From Arizona. — ab. **perfusa** *Dyar* is a form of it, parallel to ab. *infusa*, but not so densely brown, lines almost extinct, without the discal spot. From South Arizona.

D. diffidens *Dyar*. Head yellowish, thoracal spot brown, silvery grey hindward. Forewing uniformly brown, somewhat loamy yellowish at the costal margin, densely strewn silvery grey, interior and exterior lines fine, brown, the middle lines more obsolete, discal spot dark brown, strewn with silvery grey; the subapical oblique streak between 7 and 4 very distinct. Hindwing light yellowish-white, brown towards the margin and strewn with silvery grey. Expanse of wings: 46 mm. Texas (Victoria). Larva not described; it is said to do harm to oaks.

D. contracta *Wkr.* (158 g) has a quite smooth margin; thoracal spot ochreous, tan-coloured behind, the rest of the thorax lighter than the reddish-yellow forewings, the costal-marginal shadow more ochreous; forewing strewn with blackish-brown, the similarly coloured lines are bordered with unstrewn ground-colour. Hindwing lighter, somewhat glossy, strewn with brown towards the margin. Larva black with very broad yellow lines, so that the ground-colour appears to be yellow, head black, bases of thoracic legs and abdominal legs yellow. It lives on oak, hazel, and hickory. Atlantic States.

D. integerrima *Grt. & Rob.* (158 g) is like *contracta*, but of a dark reddish-brown ground-colour, more densely strewn, lines and fringe of the same colour, whereas in *contracta* they are lighter brown than the blackish-brown lines; discal spot blackish. Larva blackish-brown, with but two greyish-white lines on each side, densely grey-haired; on many deciduous trees, but chiefly on species of nut. Atlantic States.

D. neomexicana *Doll.* is allied to *integerrima*, but the forewing is almost unicoloured pale grey, scantily strewn dark, the costal-marginal shadow not contrasting much, pale ochreous; discal spot obsolete, the lines as usual, the oblique apical blotch also faded. It resembles also *californica* in the shape of the wings. New Mexico.

D. chiriquensis *Dyar* (159 a). Forewing very light reddish-yellow, brownish ochreous in the costal-marginal area, strewn with brown, often somewhat darkened between the two first lines; the lines 1, 2 and 5 thickly red-brown, 3 and 4 less distinct, somewhat undulate, bordered somewhat lighter distally, another fine line is often traceable between 2 and 3; discal spot strigiform, blackish, fringe red-brown. Hindwing somewhat lighter, with a red-brown tinge towards the margin. Thorax almost silvery white laterally, the central spot rusty red. Arizona, Mexico.

D. holoporphyræ *Dyar* is violettish-grey, strewn with brown, the broad marginal area somewhat lighter, dusted bluish outside, the apical oblique line extends to vein 4, the purple brown lines are indistinct, the space between them darkened, the outermost line slightly excurved between 2 and 6. Hindwing densely strewn dark purple brown. Expanse of wings: 49 mm. Mexico (Guerrero Mill), in the State of Hidalgo.

D. rotundata *sp. n.* (159 a) resembles *chiriquensis*, but it is somewhat smaller and discernible by the darker, more violettish-grey colour, only the costal-marginal area being somewhat more ochreous; lines brownish-black, of a much more rounded course than in *chiriquensis*, not bordered with a lighter colour, 1, 2 and 5 most distinct, 4 almost quite invisible, the area between them not darkened; apical streak fine and distinct, the margin below it darker violettish grey. Hindwing light brownish cinnamon, much darker than in *chiriquensis*. Thorax silvery white, the spot tan-coloured like the abdomen. Mexico (Colima). Type in the Coll. DRAUDT.

156. Genus: **Ichthyura** *Hbn.*

Smaller insects with hairy eyes and pectinate antennae, with large, long palpi, appressed to the frons. Thorax with a conical central tuft. Wings short and broad, forewing without an areole, the subcostal branches bent much towards the costal margin, 3 and 4 separated, 6 stalked with the subcostal branches. Hindwing: veins 6 and 7 stalked. Numerous North and Central American species. The name: *Melalopha* *Hbn.* Tent. is declined as generic name, it was only used as a name for the species comprised here in a group: *Melalophae*.

Type of genus: *I. curtula* *L.* (palearctic).

- apicalis*. **I. apicalis** Wkr. (= *vau* Fitch., *indentata* Pack.) (159 a). A small, most variable species, somewhat like the palaearctic *pigra*. Body and forewing dark ash-grey, with a short straight subbasal line and an oblique anterior transverse line which meets the posterior one on vein 1, the latter line terminating at the costal margin with a small white spot which is generally bordered with rusty brown outside; apical third darkened still more; a subterminal row of small dark spots. Hindwing mouse-coloured, often with an indistinct postmedian transverse line. — **ornata** Grt. & Rob. (= *incarcerata* Bsd.) is a slightly larger and paler form of the Eastern States.
- astoriae*. — **astoriae** Hy. Edw. is still larger and lighter, and it lacks the rusty brown spot at the costal margin altogether. Nebraska, Oregon, Montana. — **bifiria** Hy. Edw. is a very large contrasting form from California; the anterior transverse line is quite straight. Larva yellowish-brown, with a grey tinge and grey hair; the 4th and 11th segments are often darker and more reddish, with yellowish tubercles bearing bristles. It lives on trembling-poplar and willow, and pupates between leaves. Widely distributed throughout North America, from Alaska to California and to the Pacific Coast.
- paraphora*. **I. paraphora** Dyar is a large light grey species, marked like *apicalis*, but the lines are more undulated and somewhat differently situate, the oblique line strongly bent between the exterior and interior lines; ground-colour light grey, clouded darker grey, especially in the basal area, in the "V" below vein 2; very little rusty brown at the costal margin. Expanse of wings: 31—38 mm. Arizona, Colorado.
- inornata*. **I. inornata** Neum. (159 b) is much larger than *apicalis*, the largest and lightest of all the species, marked almost exactly like the form *ornata* of *apicalis*, of a somewhat more yellowish tint, probably only a southernmore race. South Arizona, Mexico. Larva unknown.
- inclusa*. **I. inclusa** Hbn. (= *americana* Harr.). Light ash-grey with yellowish ochreous tints and dusted with brown, the lines similar as in the allies, but whiter, very straight and bordered with brown outside and forming a pointed "V"; a subterminal row of small brown spots. Hindwing with an undulated postmedian line. Atlantic States. Larva yellow with a more or less greenish tint, with 3 black dorsal longitudinal lines and 3 lateral ones on each side, the 4th and 11th segments with blackish prominences bearing bristly warts. It lives between leaves of poplars and willows, which have been spun together. — **inversa** Pack. (= *palla* French)
- inversa*. is smaller and darker, greyer, the subterminal row of spots less distinct. Canada, Nebraska, Colorado. — **jocosa** Hy. Edw. is a small form, of a more yellowish ochreous tint, the hindwing without a postmedian line. Florida.
- strigosa*. **I. strigosa** Grt. is smaller and duller brown than *apicalis* with a faint lilac tinge; the subbasal line is distinct and it forms a sharp angle on vein 1, the second line is much more incurved; separated from all the other species by a large irregular whitish ochreous spot adjacent to the outer line at the costal margin and extending half-way to the apex. Hindwing darker than in *apicalis*. Larva yellowish with 3 indistinct red dorsal stripes and 3 deep red lateral stripes; abdominal legs flesh-coloured, head dull black; on *Populus tremuloides*.
- luculenta*. Northern Atlantic States. — **luculenta** Hy. Edw. is an insignificant form lacking the dark brown stripe on the mesothorax; the light costal spot is more distinct and somewhat more obliquely situate.
- brucei*. **I. brucei** Hy. Edw. (159 a) has a whiter ground-colour with bright brown markings; a whitish subbasal line bordered with brown, somewhat dentate in the middle, and a straight antemedian line; a postmedian brown shadow through which the purely white postmedian line extends, widened at the costal margin; a subterminal row of brown spots, the middle spot in a brown shadow. Hindwing mouse-coloured. — **multnoma** Dyar (= *alethe* Neum. & Dyar) is a darker form. The larva is purple black with a broad yellow dorsal band containing 3 fine black interrupted dorsal lines; the yellow colour turns more bluish-grey in the course of growth; tubercles partly orange; the prominences on the 4th and 12th segments are deep black, a broad lateral orange band is more or less interrupted by black. It lives on willows. Oregon; Washington; British Columbia.
- albosigma*. **I. albosigma** Fitch (159 a) is somewhat larger, less yellowish than *inclusa*, with a slight lilac tinge, distinguished by a large dark apical spot bordered inside by the acutely angled postmedian line which forms a distinct white spot at the costal margin; all the 3 whitish lines are rather parallel. Hindwing very light, without a transverse line. — **specifica** Dyar is a much lighter form from Colorado. The larva is straw-coloured with 3 grey or light reddish-brown dorsal lines and a broad lateral stripe, all more or less interrupted. It lives on poplars and willows. Northern United States.

157. Genus: **Rosema** Wkr.

A group of green *Notodontidae* of a very homogeneous exterior, but of varied shapes. I combine the genus *Moresa* Wkr. with *Rosema* Wkr., because I cannot discover any essential anatomical difference. They are small to medium-sized insects with very differently shaped wings; apex of forewing generally rather pointed, the distal margin often concave, often with a projection between veins 5 and 6, so that two concavities are

produced; the costal margin of other species exhibits a nodiform prominence between the middle and distal thirds. Head small, with large ball-shaped eyes; proboscis rudimentary, palpi not projecting beyond the frons, with appressed scales. Antennae with double pectinations, also the ♀♀ generally with short pectinations. Forewing: veins 3 and 4 arise separately, the cross-vein is very acutely angled, vein 5 from the upper cell-angle or close below it, 6 from the centre or towards the end of the very narrow long areole, from the end of which 7—9 and 10 arise. Hindwing: 5 from the centre of the cross-vein, 6 with 7 on a fairly long stalk. As far as they are known, the larvae exhibit the same shape and habits as those of the *Ichthyura*, but they are green and short-haired.

Type of genus: *R. dorsalis* Wkr.

R. zelica Stoll (159 b) is an apparently very rare form with an entirely green thorax; a much more *zelica*. common form is: — **dorsalis** Wkr. (159 b) with a dark brown collar and middle longitudinal stripe on the thorax. *dorsalis*. Wings of a deep green with a very fine white discal dot, a fine white costal margin and 2 or 3 small dark brown fringe-spots at the slightly falcate apex. Hindwing white, more or less tinged yellowish, more yellowish at the inner margin. Abdomen light reddish-brown, green at the end and beneath. Characterized by the under surface being light green with a broad reddish-yellow costal margin and a narrow brownish marginal spot which extends either from the apex to the interior angle and projects farthest angularly inwards on vein 5 or between 4 and 5, or which is only marked at the costal-marginal part. Fringe of hindwing beneath with more or less distinct brown vein-dots. *zelica* is described from Surinam, *dorsalis* is widely distributed from Panama to Colombia, Bolivia, Peru, and Brazil. — **minor** f. n. (159 b), from the Amazons, Teffé, is less than half the *minor*. size of *dorsalis*, of a much deeper green, the white discal dot hardly visible, the hindwing much yellower, with very intense dark brown fringe-dots beneath. Type in the Berlin Museum, also from Colombia (Upper Rio Negro).

R. marona Schs. (159 b) is about as large as *zelica*; palpi brown, head green like the tegulae, collar and *marona*. mesothorax dark brown, abdomen light brown; apex of forewing somewhat more produced, the discal dot black; a dark brown subapical fringe-spot; Bolivian specimens exhibit the whole fringe speckled brown; costal margin narrowly yellowish. Hindwing brown, somewhat darker at the margin. Forewing beneath light red-brown, inner margin light green, costal margin darker red-brown, apex below the costal margin broadly, and the distal margin narrowly, tinged leaden grey; hindwing brown, dusted grey at the margin, more yellowish at the inner margin. French Guiana, Amazons, Bolivia (Songo).

R. falcata Schs. (159 c) is much larger, the apex more produced, the small discal spot white, the fringe *falcata*. at the apex brown, otherwise grey with brown ends. Hindwing lighter brown. Under surface very similar to that of *marona*, but lighter. Bolivia (Songo).

R. drucei n. n. (= *falcata* Drc. nec Schs.) seems to be very similar to *falcata*. Head, thorax and tegulae *drucei*. green, collar and mesothorax in front blackish-brown, abdomen yellowish pink, legs brown, forewing green, very finely bordered with brown at the apex, without the discal dot. Hindwing dark pinkish yellow. Both wings beneath pinkish-brown, forewing green at the interior margin. Expanse of wings: 44 mm. Colombia (Siato); Chaco.

R. demorsa Fldr. (= *epigena* Sepp) (159 c). Judging from the similarly coloured under surface, it be- *demorsa*. longs near to *drucei*, but the forewing shows a deep concavity between the apex and vein 5. Hindhead and thorax green, frons and collar as well as the costal margin of the forewing light reddish-brown, a narrow white spot at the cell-end; fringe dark brown, spotted yellowish on the ends of veins 2—5. Abdomen and hindwing light yellowish-brown, hindwing more reddish-brown towards the margin. Central and South America as far as Brazil and Bolivia.

R. thestia Drc. (159 c), judging from the type at hand, is dark green on the hindhead and tegulae, with *thestia*. a whitish frons, brownish towards the palpi; collar and mesothorax yellowish-brown, costal margin finely yellowish; forewing shaped as in *demorsa*, but with another concavity below the notch on vein 5; a brown marginal spot between the apex and vein 2 is undulately defined inwards; brown is also an almost circular cell-end spot. Hindwing dark brown, narrowly darker at the margin. Forewing beneath greenish-white, costal margin, cell, veins of marginal area and a narrow marginal spot brown; the yellowish-white ground of the hindwing is strewn with brown in the distal two thirds of the costal margin and in the marginal half. The type is from Chiriqui (Panama). Besides distributed from Mexico to Paraguay. The species is undoubtedly very variable. — **ampliata** f. n. (159 c) I denominate the form from Peru and Bolivia. Its frons, forelegs and costal *ampliata*. margin are ivory white, the hindhead is but very little green, the mesothorax is more grey; the dark brown marginal spot on the forewing is twice as broad and bordered somewhat whitish inwards. Type from Bolivia (Coroico) in the Berlin Museum. — **bernardina** f. n. (159 c), from Paraguay (San Bernardino), has quite light *bernardina*. yellowish hindwings which are only narrowly brown at the costal and distal margins. Frons almost quite white like the costal margin of the forewing, the marginal spot narrow as in the type, receding on vein 3 almost to the margin, so that it is only very narrow between 2 and 3. Beneath almost quite greenish-white on the forewing, only the narrow subcostal area and the very narrow marginal spot are brown. Specimens from Venezuela (Merida) and Nicaragua exhibit a much lighter green, the frons is here almost quite green like the

hindhead; the collar, thorax and costal margin are light red-brown, the hindwing is light yellow, reddish-brown *meridana*, only at the costal margin; this race may be named — **meridana** *f. n.* (159 c).

epigena. **R. epigena** *Stoll* (159 d) is very similar to *thestia* and recognizable by the brownish-white colour of the marginal and discal spots, the former of which is very notchedly defined inwards. The typical form from Guiana shows the frons red-brown, the middle head green and the hindhead silvery white, with a brownish-grey collar and mesothorax. Abdomen yellowish, brownish dorsally. Hindwing yellowish, brown at the costal and distal margins. Mexico to Paraguay. This species is also variable. Specimens from Peru and Bolivia have a widened *boliviana*, marginal spot, an almost white costal margin of the forewing, and a much darker brown hindwing: — **boliviana** *f. n.* — while those from Brazil and Paraguay — **meridionalis** *f. n.* (159 d) — have much lighter hindwings, *meridio-* the costal margin, collar and thorax also turning almost white. *nalis*.

tanam- **R. tanampaya** *sp. n.* (159 e). Beside *epigena boliviana*, another very similar species occurs in Bolivia. *paya*. It only differs in the very narrow and almost purely white marginal spot with a quite uniformly undulated rounded interior border, the fringe in its environs being also white, separated from it by a dark brown marginal line, the spot reaching besides down to the submedian fold, the fringe below it being green; the white discal spot is reniform, not round; costal margin and frons white, hindwing almost white, only very scantily strewn with brown, with a somewhat undulating brown marginal line, the fringe speckled dark brown. Abdomen almost white towards its end. Forewing beneath greenish-white, costal margin white, subcostal area and the very narrow marginal spot dark brown. Hindwing yellowish-white, a brown strigiform spot above vein 6, fringe speckled dark brown. Rio Tanampaya, Bolivia (La Paz). Coll. STAUDINGER in the Berlin Museum.

excavata. **R. excavata** *Schs.* Head and thorax quite unicoloured green, abdomen yellow, darker in the ♂ than in the ♀. Forewing with a slight concavity below the apex, the fringe within being white, otherwise brown. Costal margin very narrowly yellowish-brown, an indistinct discal dot is white. Hindwing of ♂ yellowish-brown, of ♀ yellow. Under surface of ♂ yellowish-brown, of ♀ yellow with a brownish shadow in the marginal concavity, the hindwings with blackish-brown marginal dots. Expanse of wings: 36 mm. From Brazil (Petropolis).

dealbata. **R. dealbata** *Dogn.* resembles the following *deolis*; frons white, vertex and tegulae green; collar and mesothorax of a colour like "coffee with milk", abdomen above white intermixed with grey, beneath all white like the legs. Forewing with a white costal margin and cellular spot, the marginal spot is narrow as in *deolis*, but white like the fringe which is intermixed with some grey. Hindwing purely white, speckled somewhat grey on the ends of the veins. Loja (Ecuador).

deolis. **R. deolis** *Cr.* (159 d). Shape of wings similar as in the *thestia*-group, but the notch on the forewing is situated between the veins 5 and 6, and the costal margin shows a distinct prominence behind the middle. Head and tegulae green, collar and thorax dark brown; discal spot dark brown, in a yellow ring; margin inclusive of fringe between 2 and the apex narrowly dark brown. Hindwing and abdomen light ochreous, hindwing more or less brown at the margin. Beneath greenish-yellow with a rusty red costal margin, a dark brown marginal spot and 3 or 4 green strigiform spots between the apical veins, hindwing ochreous, costal margin, apex *brun-* and distal margin red-brown. — **brunescens** *Dogn.* is a form with quite brown hindwings and abdomen, *nescens*, described from S. Paulo de Olivenca (Amazons).

apicalis. **R. apicalis** *Wkr.* (159 d, e) looks almost the same and may be merely a form of it, distinguished on the forewing by the brown marginal spot widening inwardly in the shape of a notch between 5 and 6, the purely yellow hindwing lacking the brown margin. The discal spot is often enormously large in the ♀♀, we figure such a ♀. Described from Honduras, occurring also from Mexico to Colombia and Guiana.

dolorosa. **R. dolorosa** *Drc.* belongs yet to the same group with a dentate distal margin and is discernible by the head and collar being all white, with a brown thorax and green tegulae; abdomen and legs yellow. Forewing dark green, white at the costal margin, with a large brown cell-end spot and a brown marginal spot. Hindwing light yellow, black at the costal margin and apex. Expanse of wings: 38 mm. Brazil (Cabo).

aethra. **R. aethra** *Drc.* (159 e) introduces a group of smaller species with notchless wings and a more or less distinct inner-marginal marking. *aethra* has the most strongly pectinated antennae. Head and thorax green, only the frons and a longitudinal stripe at the interior margin of the tegulae are whitish; abdomen pale ochre. Forewing light green costal margin very narrowly reddish-yellow; a very fine dark dot at the cell-end, a fine yellowish longitudinal streak in the basal half of the inner margin is bordered with black above and widens in the centre of the inner margin, forming a semicircular thickening. Hindwing purely white. Forewing beneath pale greenish, the costal margin as well as the chest and anterior femora are orange. Mexico to Colombia.

nadina. **R. nadina** *Schs.* (159 e) is similar, but the head is white, green only in the neck. Forewing darker green, the costal-marginal stripe of a purer white, widening somewhat and more yellowish towards the apex, the cellular spot larger, dark brown, in a yellowish ring, the white inner-marginal stripe extends only over a third of the inner margin and is bent up here to a short vertical white streak. Hindwing feebly suffused with pink, abdomen salmon-coloured orange. Guiana.

zikani. **R. zikani** *sp. n.* (159 e) is allied to *nadina*, larger, slimmer, lighter green, the head almost quite green,

collar and thorax light sand-coloured grey, the tegulae only very narrowly green, the abdomen whitish ochreous. The costal-marginal stripe and the fine discal dot are purely white; a small white triangular spot at $\frac{1}{4}$ of the inner margin has its base on the inner margin and is bordered slightly darker above. Hindwing purely white. Chest and anterior femora yellowish ochre; a large oval black central spot is on the ventral side of the abdomen. 1 ♂ from Passa Quatro (Sul de Minas) (Zikan leg.), in the Berlin Museum.

R. amazonica *sp. n.* (159 e) is another very similar species, somewhat smaller, with broader wings, *amazonica*. much rounder at the apex, and longer pectinated antennae. Head green, frons white; collar and the interior edge of the tegulae sand-coloured grey, the tegulae and mesothorax green, abdomen whitish ochreous. Costal margin of forewing whitish pink, the white discal spot much more conspicuous; the 1st third of the inner margin and the small triangular spot whitish pink. Hindwing white, margin and fringe faintly tinged with yellowish pink. Chest and anterior femora rusty yellow, ventrum yellowish-white. Forewing beneath pale green, the costal margin and apex very broadly pinkish-orange down to vein 4. 1 ♂ from Massauary (Amazons) in the Coll. STAUDINGER of the Berlin Museum.

R. languida *Schs.* (159 f). Head green, collar and thorax broadly grey, only the exterior edge of the *languida*. tegulae green, abdomen pink. Forewing green with a fine yellowish-white costal margin, a black discal dot and a brownish-grey narrow inner-marginal stripe in the basal half, then widened into a small spot containing a few green scales. Hindwing whitish pink. Forewing beneath whitish with a reddish costal margin. Brazil (Rio).

R. purpusi *sp. n.* (159 f) forms the transition to the following species. Head greenish-white, collar and *purpusi*. mesothorax dark brown, tegulae and forewing light bluish-green, costal margin reddish-yellow, discal dot blackish-brown in a broad white ring; base of inner margin whitish, then blackish-brown as far as the middle, where it widens into a spot which extends to vein 1. Hindwing pale reddish-yellow. Forewing beneath greenish, hindwing white, both with reddish orange costal margins. Abdomen pinkish ochreous, the two first segments light brown. Ventrums yellowish-white, chest, palpi and anterior femora pinkish ochreous. 1 ♂ from Soconusco (South Mexico), in the Berlin Museum.

R. myops *Fldr.* (159 f) is a somewhat larger species; head and thorax green, only the interior edge of *myops*. the tegulae and a spot on the metathorax are grey, the former separated from the green by a deep blackish-green stripe. Forewing green with a fine yellowish-white costal margin, a blackish-brown discal spot in a very fine light ring; the basal half of the inner margin with a narrow light brown longitudinal stripe which is bordered with a deep greenish black above and is widened spot-like at the end. Hindwing deep pink like the abdomen, with a very large black spot on the ventral side. Forewing beneath greenish with darker green fringe, the costal-marginal half tinged orange. Colombia; Brazil.

R. simillima *sp. n.* (159 f) is very closely allied to *myops*, but easily discernible by the entirely brown *simillima*. mesothorax, only the exterior edge of the shoulder-plates being narrowly green, the abdomen quite pink without the brown hair on the two first segments and without the black spot on the ventrum which is yellowish ochreous. Costal margin of forewing pink, the blackish-brown discal spot much larger, and the inner-marginal stripe which is deep blackish-brown here extends only to the first of the inner margin without its end being essentially widened. Hindwing lighter pinkish ochreous. The whole under surface is reddish ochreous. Amazons and Blumenau. Type in the Berlin Museum.

R. incita *Schs.* is similar to the preceding species, but much smaller. Costal margin of forewing straight *incita*. on two thirds, the last third convexly bent down to the apex. Head and tegulae green, collar and thorax brown, abdomen brownish at the base, the rest reddish-ochreous, ventrum white. Forewing green with a small black discal dot and a long black inner-marginal stripe as far as the middle. Hindwing purely white; under surface whitish, the costal margin feebly tinged with pink. Expanse of wings: 32 mm. Peru.

R. unda *Schs.* (159 g). Head green, collar and mesothorax brown, tegulae and forewing light green; *unda*. costal margin very narrowly yellowish, a black dot bordered with yellowish is at the cell-end; a small blackish-brown spot at the base of the inner margin. Hindwing yellowish pink. Under surface yellowish white, both the costal margins pink. Abdomen pink above, yellowish ochreous beneath. Brazil, Peru.

R. sciritis *Drc.* (= *lappa Schs.*) (159 g). Head green, collar, mesothorax, and the interior edge of the *sciritis*. tegulae light brown; tegulae and forewing green; costal margin narrowly ochreous, discal dot black, an ochreous inner-marginal stripe extends to the anal angle and is upwards convex in the middle and bordered with darker green above. Hindwing white, abdomen pink above, white beneath, with a long blackish-brown central spot. Forewing beneath greenish-white, hindwing white, both with orange costal margins. Brazil, Peru.

R. dentifera *sp. n.* (159 g). Head green, frons and the borders of the eyes pink, collar, thorax, and inner *dentifera*. edges of the tegulae from light brown to sooty black, a green spot in the centre of the thorax; tegulae and forewing green, costal margin broad reddish-yellow, discal dot blackish-brown, scantily edged with yellowish; inner margin yellowish-white, widening behind the middle into a large circular reddish-yellow spot, intermixed and edged with blackish-brown hairs which are expanded at the inner margin in a fairly large scale-dent. Hindwing diaphanous white, with reddish-pink hair at the inner margin, the distal margin and fringe of the ♂ being

pale orange. Abdomen pale pinkish ochre, the two first segments of the ♂ above with blackish-brown hair; ventrum white; palpi, anterior hips, and femora deep salmon-orange, tarsi black. Types from Mexico (Orizaba) in the Coll. DRAUDT, co-type 1 ♀ from Costa Rica (Turrialba) in the Berlin Museum.

apollinairei.

R. apollinairei Dogn. (= klagesi Rothsch.) (159 g) is similar to *dentifera*, larger, the orange costal-marginal stripe widens apicad, the inner-marginal stripe extends to the anal angle and is broadly greenish-olive, somewhat reddish orange above, and bordered with deep dark green especially in the basal half above. The white hindwing has a broad pink costal margin; abdomen pinkish salmon-coloured. Colombia (Bogota; Villavicencio).

thalassina.

R. thalassina H.-S. (= prasina Bsd.) (159 h) is an apparently variable species. Head green, collar and thorax more or less blackish-grey, intermixed with single green hairs, only the distal halves of the tegulae deep blackish-green. Forewing of a peculiarly transparent bluish-green, with darker green veins; inner margin as far as up to the submedian fold deep dark green, convex above, tapering towards the anal angle, where it terminates in a blackish-brown hair-dent, the centre of the inner margin exhibits a lighter brownish triangle intermixed with blackish-brown hairs. Hindwing transparently white, more or less tinged pink and with pink veins or quite greyish-pink, more intensely pink-haired at the inner margin, abdomen pinkish orange salmon-coloured, anus blackish, ventrum white, spotted blackish-brown. Palpi, hips and femora pink, tibiae and tarsi sooty blackish-brown. Colombia to Brazil. — **albidula** Dogn. (159 h) is presumably no separate species, but only a form of this variable species with entirely white hindwings, only the costal margin being slightly tinged with pink; the blackish-brown colour of the thorax is continued to the two first abdominal segments; the dark inner-marginal stripe of the forewing is less convex above. The two forms are evidently connected by all kinds of transitions, numbers of which are at hand from the Berlin Museum. Guatemala; Colombia; Brazil; Peru.

fulvipennis.

R. fulvipennis Btlr. Head and thorax green, frons white with two small orange spots, palpi ochreous; collar dark brown, abdomen orange. Forewing dull emerald-green with an orange costal margin and a white discal spot; fringe white, violettish-grey at the ends, two similarly coloured small spots in the apex. Hindwing orange. Under surface bright yellow with broad reddish orange costal margins, forewing with a lustrous pinkish-brown marginal area, apical half of hindwing orange-red. Legs brown. Expanse: 38 mm. São Paulo.

pallida.

R. pallida Jones. Head and thorax green, palpi, legs and antennae ochreous, collar reddish ochreous; abdomen ochreous. Forewing light green with an ochreous costal margin and a tiny white cell-end dot. Hindwing and under surface white. Expanse of wings: 38 mm. Castro (Paraná), Brazil.

simois.

R. simois Drc. (= luna Schs.) (159 h) is very similar to *pallida*. Head and thorax green, abdomen pink above, white beneath. Forewing green, the costal margin narrowly bordered with white, a small white dot at the cell-end. Hindwing white. Under surface white with green fringe and reddish costal margin which is white in the ♀; the abdomen is here also white above, only basally with a slight pink tinge. Brazil; Peru.

rotundata.

R. rotundata sp. n. (159 h) has peculiarly broad, rounded wings. Head light green, frons white, collar brown. Thorax dull green, grey at the base of the abdomen, abdomen white, feebly yellowish. Forewing dull light green, costal margin very narrowly yellowish-white, with a tiny white discal dot. Hindwing purely white. Forewing beneath of a very delicate light green, hindwing white. ♂♀ from Bolivia (Villa Montes) in the Berlin Museum.

albiceps.

R. albiceps sp. n. (159 i) is an entirely isolated species. Head and palpi white, palpi laterally finely striped blackish-brown; collar and thorax green, metathorax with 2 sand-coloured grey spots; abdomen ochreous, white beneath. Forewing dark grass-green, costal margin ivory white, widened a little in the middle; a large oval white spot at the cell-end widens between the veins 3 and 4 behind the cell, the margining and the veins in the spot dark brown; fringe at the distal and inner margins dark greyish-brown. Hindwing pale orange. Forewing beneath pale greenish with a broad yolk-coloured costal margin, a transparent discal spot, and dark brown fringe. Hindwing pale yellow. 1 ♂ from Blumenau in the Senckenberg Museum (Frankfort-on-the-Main); 1 ♀ from Brazil (where?) in the Berlin Museum shows the broader white costal margin striated brown.

mona.

R. mona Jones. Frons green, hindhead brown like the palpi and legs; collar and thorax green, abdomen light reddish-yellow. Forewing green, costal margin ochreous, strewn with brown, a large white spot strewn with blackish-brown is at the cell-end, a smaller one behind it between veins 2 and 3, and a still smaller one above the latter; another small white antemedian dot at vein 1. Hindwing monotonously light reddish-yellow. Expanse of wings: 44 mm. Santos (Alto da Serra).

erdae.

R. erdae Schs. is somewhat similar, but much more profusely spotted white. Head, thorax and forewing green, palpi and vertex reddish-yellow. Abdomen pale yellowish orange above, lighter beneath. Costal margin of forewing light reddish-yellow, strewn with black; a round white spot at the cell-end, and a smaller one behind it between 2 and 3, both strewn with blackish-brown; antemedian white dots on the veins, and a subterminal double row of white vein-dots. Hindwing yellowish-white. Expanse of wings: 40 mm. Sa. Catharina.

costalis.

R. costalis Wkr. (159 i). Here, or already with the preceding *mona*, begins a group of mostly larger species which were ranged under a special genus: *Moresa* Wkr., but there are no anatomical differences. Head and palpi whitish, the head with a brown frontal spot; thorax dark green, abdomen light ochreous. Forewing green with a broad whitish costal margin scantily speckled with blackish-brown; a variably large white lobate

spot, likewise strewn with black and edged with black at its upper margin, extends from the first third of the costal margin to the anal angle. The white hindwing shows a faint yellowish tinge. Brazil.

R. obliquifascia *Rothsch.* (159 i) is very similar to *costalis*, distinguished by a reddish-yellow head, the abdomen and hindwing being orange, more or less tinged with pink; the whitish costal-marginal stripe is much more intensely strewn with black above, like the narrower and much less lobated oblique spot which is not edged with black. Guiana to Brazil (Espiritu Santo).

R. magniplaga *Schs.* (159 k) likewise resembles the two preceding species, but the head is white, the costal-marginal stripe distinctly pink, the oblique spot shorter, extending neither to the costal-marginal stripe nor to the tornus, brownish, uniformly strewn with a darker brown. Abdomen orange like the hindwing. Guiana to Brazil.

R. hieroglyphica *Rothsch.* (159 k). This very peculiar species has developed from the preceding species, and is unmistakable for the oblique spot extending into 3 fingers, being tinged pinkish carmine and crossed by a light postmedian line. Abdomen orange, hindwing pale pinkish salmon-coloured. Amazons.

R. plumbiplaga *Rothsch.* Head reddish-yellow, antennae black with ochreous pectinations; thorax deep green, abdomen yellow reddish-brown. Forewing deep green with a sooty blackish-brown costal margin with a large brownish leaden grey oblique spot from below the centre of the subcosta to the distal margin between 4 and 2; a short white stripe, followed by some white dots, extends from the last fifth of the costal margin into the surface of the wing. Hindwing reddish-yellow in the costal third, yellowish-pink below it. Expanse of wings: 52 mm. French Guiana.

R. walkeri *Schs.* (= *costalis* *Fldr.* nec *Wkr.*) (159 k). Head and palpi light brown, thorax dark green, abdomen pale orange. Forewing green with a broad whitish costal margin speckled blackish-brown. Hindwing pale yellowish. Brazil to Paraguay.

R. pallidicosta *Schs.* (159 k) is extraordinarily similar, but the whole head is green, with a white spot on the vertex, the abdomen is more brownish ochreous with a large blackish-grey hair-spot on the first segment, anal hair whitish. Costal margin of forewing somewhat straighter, the apex thereby more pointed. Forewing bright dark green with a pink-tinged costal margin and a small yellow discal dot. Hindwing yellowish-white. French Guiana to Brazil.

R. aldaba *Dogn.* (159 k) is a small species, with a green head and thorax, and an ochreous abdomen. Forewing green with a broad yellow costal margin and yellow fringe; subterminal traces of a slightly darker transverse line which projects towards the margin on 4 and 5 with two short notches. Hindwing pale yellowish. Ecuador (Loja).

R. eurytis *Drc.* This species and the following *vitula* are doubtfully ranged here, as the short insufficient description affords no clue as to the shape of the wings etc. I can therefore only render the description: head white, thorax and abdomen brown, tegulae green, legs whitish brown. Forewing dark green with a white costal margin and a white discal spot; apex and part of the distal margin dark brown. Hindwing dark brown, whitish at the base; fringes of both wings brown. Under surface yellowish-white, intensely dusted dark brown. Expanse of wings: 1½ inch. Venezuela (Merida).

R. vitula *Drc.* Head, antennae and thorax brown, tegulae green; abdomen brownish-white, legs light brown. Forewing dull green, costal margin white, fringe green. Hindwing white. Both wings beneath greenish-white, the costal margin of the forewing yellow. Expanse of wings: 1½ inch. Venezuela (Merida).

Additions:

P. 922, after *M. hirsuta* *Schs.* insert:

M. agathanzela *Schs.* is nearest to *hirsuta*, but distinguished by white hindwings which are somewhat transparent, scantily scaled, with indistinct dark marginal scales which extend also upwards along the inner margin. Forewing reddish-grey above the cell and vein 3, red-brown below it, the apical area coppery reddish orange, the lines very similar to those of *hirsuta*, all parallel, a marginal double row of black dots. Expanse of wings: 34 mm. Campo bello (Rio), Brazil.

P. 953, after *D. centralis* *H.-S.* insert:

D. nondescripta *Kaye.* Forewing chocolate mixed with yellowish-green, especially at the costal margin behind the centre; discal spot small, mixed with greenish-yellow on both sides, an indistinct lunular postmedian line, another subterminal one, small dark spots before it between the darkened veins of the marginal area. Hindwing transparent greyish-white with a darkened apex and inner margin. Expanse of wings: 54 mm. Trinidad.

P. 966, after *achates* Dogn. insert:

guasca. **D. guasca** Schs. differs from the 3 similar species in the complete white circular marking in the distal area. Forewing reddish cinnamon basally, bordered with white and defined by a curved black line, a brown area behind it, strangulated in the middle, bordered outside by a black line which borders on the white circle which is distally filled with light reddish-brown, proximally with cinnamon; behind it, at the costal margin, there is a brown triangular spot, outside a white subterminal line which touches the white circle on 5. Hindwing white, reddish-brown at the distal and inner margins. Expanse of wings: 39 mm. Colombia.

P. 970, after *aroensis* Schs. insert:

sexnotata. **D. sexnotata** Kaye. Forewing light brownish, dusted with violettish-grey basally, the costal and inner margins more yellowish-brown; the apical area with a large reniform or bean-shaped dark brown spot which is bordered by a black line representing a 6 on the right forewing; 2 small dark spots in the apex. Hindwing greyish-white, apex feebly scaled grey. Expanse of wings: 46 mm. Trinidad.

P. 977, after *albovirens* Dogn. insert:

mahalia. **D. mahalia** Schs. is very closely allied to *albovirens* and chiefly distinguished by purer white hindwings and a darker basal area of the forewing. Forewing hyaline white, dark scales form an indistinct double postmedian line; basal area dark violettish-grey, strewn with black, extending from the antemedian line obliquely to the anal angle; the marginal third of the costal margin is violettish-grey and cinnamon. Hindwing scantily scaled, white, only the fringe somewhat darker. Expanse of wings: 38 mm. Colombia.

poppea. **D. poppea** Schs. is also closely allied; the white forewing is scantily strewn with cinnamon-brown, the basal area obliquely cut off, brown as in *mahalia*, strewn with black, enclosing a dark band from the base of the costal margin, and a similar double antemedian line; a double blackish-brown line extends through the cell-end, another double line on and behind the cross-vein, and a blackish-brown preapical shadow, enclosing a fine dark, deeply dentate line behind which there is a more faded subterminal line bordered with whitish. Hindwing white with a narrow brown marginal line. Expanse of wings: 35 mm. Campo bello (Brazil).

P. 990, after *B. tonac* Schs. insert:

kalodonta. **B. kalodonta** Kaye. Forewing greenish-grey, mixed with violettish-grey, with a lighter brownish spot in the marginal area between 2 and 4, the basal area darker leaden grey with 3 parallel undulate lines in it; the distal area is lighter than the interior part, with dark veins, and one black punctiform spot each between 3 and 4, and 6 and 7. Hindwing white, the costal margin dark brown, with a white spot in the middle. Expanse of wings: 40 mm. Trinidad.

eglossa. **B. eglossa** Kaye has a stunted proboscis. Forewing dull greenish, darker in the basal third, defined by a double dark line; a blackish spot before the postmedian line between the veins 2 and 3; a subterminal row of small reddish-brown spots between the black veins. Hindwing scantily scaled greyish-white with a dark costal spot before the apex. Expanse of wings: 36 mm. Trinidad.

P. 1014, after *E. pallida* Schs. insert:

zophara. **E. zophara** Schs. Forewing white, dusted dark grey from the base to the postmedian line, with traces of a white anterior transverse line, with some small black spots behind it; a white median line is bordered with black outside, an oblique black line is behind it below the cell; discal streak thick black, bordered with white inside; posterior transverse line black, bordered with white, with a line of black spots behind it, the indistinct undulate line black. Hindwing black with a fine brown marginal line and a black anal spot. Expanse of wings: 38 mm. Campo bello.

P. 1025, after *P. apulana* Schs. insert:

pohlana. **P. pohlana** Schs. Forewing reddish ochreous in the basal area, cinnamon brown behind it, the centre of the costal margin sand-coloured like the inner margin, the centre of the cell darker brown; a silvery white spot in the upper cell-angle, the cross-vein with an S-shaped silvery line; distal area reddish-violet, more lilac at the margin; at the costal margin, before the apex, there is a large purple brown triangular spot bordered with a lighter colour, a similar area before the inner margin at the anal angle, a fine silvery line before the apex; 2 antemedian parallel blackish-brown lines. Hindwing whitish, dusted with cinnamon. Expanse of wings: 68 mm. Itatiaya (Rio).

P. 1038, after *H. angulinea* Schs. insert:

cabnala. **H. cabnala** Schs. Forewing yellowish-brown with a curved subbasal line bordered with a lighter colour, a slightly darker double median line, meeting submedianly and forming a ring filled with yellowish below it;

the light posterior transverse line from 6 mm before the apex, angled on 6, ending 4 mm before the anal angle; an oblique shadowy spot near the centre of the distal margin. Hindwing dark fawn. Expanse of wings: 42 mm. Brazil.

H. jacksoni Kaye. Forewing reddish violettish-grey with an indistinct ring-macula in the cell and an indistinct discal spot; inner margin and a very indistinct subterminal band reddish-grey, the latter bordered inwards by a double posterior transverse line; distal area somewhat darker. Hindwing greyish-white with a reddish tint, more intensely red at the margin. Expanse of wings: 48 mm. Trinidad.

Alphabetical List

of the American forms of *Notodontidae* with references to the original descriptions.

* signifies that the form is also figured at the place quoted.

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16. Family: *Megalopygidae*.

Like many other lepidopteral families, the *Megalopygidae* are distinguished by a great number of characteristics. We cannot conclude any affinities from single ones of these characteristics, as the species of to-day do not show, which of these characters are due to acquired convergency. In morphological respect, the *Megalopygidae* are nearest to the African *Phaudinae* which HANDLIRSCH regards as a tribe of the *Zygaeninae*, these as a subfamily of the *Zygaenidae*, and the latter like the *Megalopygidae* as a family of the superfamily of *Zygaenina*. However, a closer relationship of the *Megalopygidae* to the *Zygaenidae* is not proved. Cf. JORDAN in Nov. Zool. 34 (1928) p. 135 on the morphological differences between the *Megalopygidae* and *Phaudinae*.

The only fact is that the American *Megalopygidae* of our days represent, in a sexual-morphological respect, almost uninterrupted stages of development, among which also the palaearctic, Mediterranean-African genus *Somabrachys* can be so cogently ranged that it may be said to be a constituent disjoined from the American *Megalopygidae*. The other parts of the world are without any *Megalopygidae* at all, and thus they can be justly denoted as an old typical element of the neotropical fauna, having sent only very few branches of highly developed species to the nearctic region.

Ancient authors as well as collectors of the present days have frequently confounded the family with *Lymantriidae*, *Lasiocampidae*, *Zygaenidae*, *Cossidae*, *Limacodidae*. For this reason it is absolutely necessary to describe them rather minutely.

The neuration is characterized in the forewing by the presence of the analis, in the hindwing by three — instead of two — separate inner-marginal veins, and in both wings by the presence of a cellular media dividing the cell as far as the base or almost to it in two longitudinal parts. The cell is relatively extensive in both wings; therefore the veins arising from it appear to be shorter than for instance in the *Lasiocampidae*, so that they are easily distinguished already by this characteristic. The media is never forked within the cell of the forewing in the American species; and there are no accessory cells. The axillaris of the forewing is very shortly forked at the base and frequently, though not invariably, despatches one or several secondary branches to the inner margin. The palpi are very small, they may even be mere knobs or absent. The tibial end-spurs are likewise small, individually from all stages of atrophy and coalescence to entire absence; no middle spurs of the tibiae, no second pair of tibial end-spurs or tarsal end-spurs. The fact that the atrophies of the palpi and spurs are due to correlation becomes evident in the *Aidinae*, where they are somewhat more distinctly developed. The proboscis is also very rudimentary or absent, and there is no tympanal organ. However there is between the eye and the antenna, laterally sunk into a hollow, JORDAN's chaetosema, a circular organ of sense with radially placed bristles. The antennae are differently developed in the ♂ and ♀. The male antennae are pinnate, though only basally in the *Aidinae*, flattened and plain in the *Zyzypye*; the length of the stem and the width of the pinnae vary much individually in some species. The female antennae are more narrowly pinnate or even plain, sometimes they also vary individually. The frenulum is normally developed, capable of function in the ♂, except in *Megalopyge* which genus lacks the retinaculum. The thorax of the *Megalopygidae* exhibits a remarkable characteristic of the family: the deep longitudinal median fold in the anterior part of the mesonotum. The abdominal segments are densely haired and clothed with parallel short bristles of a sometimes bright (orange) colour. The ♀ exhibits a bundle of externally smooth anal wool which is once or twice sharply curled inside, from which the family derives its name; this silky wool is the felt covering the eggs which are mostly flatly deposited in paired rows.

Most of the species are very hairy and have rather broad wings with rounder inner margins; the wings are never indented, tailed, very much prolonged, or pointed. The largest species has an expanse of 90 mm, the smallest of 10 mm. *Megalopygidae* have almost only been captured at night on artificial lights, many species

apparently favouring a certain flying time. ZIKÁN, however, observed also the ♂ of *Megalopyge hyalina* towards noon, visiting the ♀♀ that were kept in the breeding-box. Of many species the ♀ is still unknown.

The biology has been described of but few species, chiefly that of the North-American species. We have already spoken of the way the eggs are deposited. Beside three pairs of normal thoracic legs and the anal legs, the larvae exhibit six — instead of usually four — pairs of claspers on the abdomen; but the first and last pairs of these legs (lacking the larvae of other families) on the 2nd and 7th abdominal segments are more feebly developed, the coronae of hooks are rudimentary here or absent. The mostly dense hair of the abdominal segments is grouped around a subdorsal and a dorsal pair of bristly tubercles on each segment, sometimes parted, from bristly to curled. Some species of *Megalopyge* are provided with a long hair-tuft on the neck, sometimes also in the centre of the dorsum. Glandular lobes the function of which is unknown hang down behind the spiracles of the abdominal segments. The head can be drawn into the wrinkled first thoracic segment and becomes quite invisible, if a huge long-haired, apically parted thoracic crest is present. The larvae of *Aidos*, however, are almost bare, the short bristles are sunk into flat hollows. Certain places on the body of some species exhibit, among the usual hair, shorter, thicker, hollow poisonous hairs which terminate basally into a poison-bag or a system of glandular tubes containing poison. The chemical nature of this poison, a colourless liquid, has not yet been sufficiently explored. It has a destructive effect upon the human skin, producing pain and a swelling of the lymphatic glands. JONES crushed a larva of *Megalopyge* in the hard palm of his hand; the effect was that his arm was paralyzed for weeks. Already when slightly touching the larva of a *Padalia orsi-lochus* with one's finger, the whole arm may be swollen for several days with fever and pain (POHL). The latter larvae are colloquially known in Brazil as "bizos de fuero" (fire-animals) or as "bizos de rato" (rat-animals), while the Indians in Paraguay call them "Iso Yagua" (jaguar-worm); the comparison with the jaguar indicates at the same time the colouring, dangerousness and swiftness, for they are able to run fast, and in doing so the high-standing hair-tufts may have a steering effect. Some explorers are reminded of poodles by the agility and the rough skin of the *Megalopyge*-larvae; in Mexico they are called "perrito pachón" (small hound).

The food of the larvae is multifarious as in other low Heterocera; they were found on Cupuliferae (oak), Rutaceae (Citrus), Resoaceae, Ulmaceae, Myrtiflorae, Papilionaceae trees, Gramineae (*Panicum*), and others. Many species, however, are not polyphagous, but rather oligophagous, because they are sometimes excellently adapted to the life on their food-plant. A. SCHULTZE observed that the excrement-clods of the *Megalopyge* larvae are hollow. The pupation takes place in leathery, tenacious, dense, though not quite hard cocoons covered with an exterior rough and an interior smooth and dense film. In addition there is sometimes yet a third very loose, spongy, bulky web which strikingly copies the bark of a tree, under the cover of which the cocoons, either singly or by twos or threes, are flatly appressed below crotches of the trees (*Megalopyge lanata*). Many larvae remain unupated in the cocoons for months even as long as a year and a half, dying off on being disturbed, as the larvae are generally very delicate and therefore difficult to breed. Empty cocoons are seen hanging on the trees for years after and, bleached by the sun and rain, they assume an entirely changed exterior (ZIKÁN). The cocoons are provided with a roundish lid which is only superficially spun on; the way this lid is produced is not yet known. When the pupae, in which all the appendages of the imagines are stored in half-free cases, emerge, they take off part of the lid and press themselves half out of the cocoon. The species living on low plants embed their cocoons in the earth. The cocoons of *Aidos amanda*, which are spun to the underside of leaves of different trees, look like the webs of ichneumon-flies, especially since also their hiding places are copied.

Most of the American species live in the hot lowlands of the tropical forests and savannas. The southernmost boundary of their range is about the line from Buenos Ayres to Mendoza in Argentina. In the north one species penetrates to the Atlantic States, nine to the hot Southern United States: Texas, Arizona, California. Six of these ten species, however, have been ascertained also in Mexico, the other four being closely allied to Mexican species. *Megalopygidae* have also been captured more than once at great altitudes in the Andes, but almost invariably they were such specimens that were carried from the plains up to these heights by warm currents of air in the evening; in the larval stage very few species occur in the cold country, in the "tierra fria" of the Andes. Numerous species have a very extensive range: from Mexico to South Brazil. More locally confined are the species of the Andes, of the savannas and pampas, representing in some respect the generalized species for the most part. Chile is without any *Megalopygidae*.

The *Megalopygidae* can be divided into three divisions owing to the different course of the subcostal vein on the male hindwing:

I. The subcostal vein anastomoses with the whole anterior cell-vein: *Trosiinae*.

II. The subcostal vein anastomoses with the basal part of the anterior cell-vein: *Megalopyginae*.

III. The subcostal vein is free, connected at most with the cell by a bar: *Aidinae*.

The ♀♀ of the *Aidinae* and *Trosiinae* exhibit the same course of the subcostal vein as in the ♂♂. It varies, however, in the ♀♀ of the *Megalopyginae*; it is like that of the ♂♂ in few species, but in most of the species it is like that of the *Trosiinae*. In phylogenetic respect the free subcostal vein of the *Aidinae* effecting an invigoration of the costal margin of the wing is the most advanced, the anastomosing subcostal vein of the *Trosiinae* the most retarded, while in most of the *Megalopyginae* it is explicable as a conservative element in the females, as a progressive element in the males.

Among the *Trosiinae* there are yet in other respect the most generalized *Megalopygidae*, i. e. in the organization of the 10th ventral segment of the ♂♂. In *Norapella bipennis* it is preserved as a complete ventral segment with paired appendages on the sternit and tergit. Step by step a simplification of this organization can be followed up, till finally, in certain species of *Norape*, a single small lobe of the tergit represents the last, chitinized remainder of the 10th segment. In this way the 10th segment does not only differ almost invariably from one species to the other in the *Trosiinae*, but it shows in distinctly separable groups of species an ever varying organization which is determined by the absence or presence, by the separation or anastomosis, finally by the dorsal, lateral, or ventral position of its constituents: uncus, socii, and gnathos. Thus the stages of development of the 10th segment contrast with each other, explicable as a checking and, at the same time, as a specialization of its development. These stages were assumed for the *Trosiinae* as the foundation for determining the genera. If we compare the *Megalopyginae* and *Aidinae* with this generic principle we notice that, in these two divisions, the organization of the 10th ventral segment has almost been stationary at a certain stage of development. Their genera and partly also their species are not equivalent to those of the *Trosiinae*.

I. *Trosiinae*.

Excepting the mostly brightly marked and coloured species of *Mesoscia* and *Trosia*, we are chiefly met with a want of marking and with white colouring among the *Trosiinae* to which also the pygmean *Megalopygidae* belong. The few species that are coloured or provided with a scheme of markings on the wings generally take up an archaic position within their genus according to the state of the 10th ventral segment, and we may conclude from this that their scanty, uncomplicated and variable colouring and marking is rudimentary and that the many purely white species have issued from marked and coloured primary forms. By the loss of pigments a convergency of the species and even of the genera in their outward appearance has been produced, as is unequalled in the lepidopteral kingdom. We may only remember species such as *Mesoscia itatiayae*, *Macara pasaleuca*, and *Norape beggoides*, which can easily be confounded, if their generic character is not ascertained from the 10th segment. The white unmarked species of *Norape*, numbering far more than 40, are almost exclusively determinable by the very constant and heterogeneous shape of their male sexual armature. Yet it is absolutely necessary for determining the genera to examine first of all the 10th ventral segment of the ♂♂. If this is neglected, only few genera remain that are discernible by their different neuration, and these may be placed ahead of the others.

A. Less than 11 veins from the cell of the forewing.

1. Genus: **Zyzypye** Hopp.

Only 9 veins or vein-branches respectively proceed from the cell of the forewing, the 3rd and 5th radial branches are absent. The only species hitherto known exhibits almost plain, flattened antennae of the ♂ in contrast with all the *Megalopygidae*. The 10th abdominal segment shows a tergit-appendage (uncus) in the shape of a roundish, bare plate from the centre of which a plain, slightly curved thorn arises. The genus appears to be highly specialized owing to these characteristics. The only species is:

V. calycina Hopp (160 a). Thinly scaled, semidiaphanous, faintly marked by dark brown and white scales. Head, thorax, anal aperture, and legs white-haired, hindlegs blackish above, abdomen black, loosely covered with white hairs. Antennae light brownish, scantily scaled white. Expanse of wings: ♂ 11.5 mm. Taperinha, Amazons.

2. Genus: **Vescoa** Dyar.

Only 10 veins proceed from the cell of the forewing, the 3rd radial branch is absent. Distinguished from two other genera that are characterized in the same way by the 1st radial branch of the forewing not extending separately, but in a long anastomosis with the subcostal vein. The 10th segment is similar to that of *Malmella*, the not paired uncus borders dorsally, as a bare ridge ending in a small thorn, on the entirely fused socii which are provided with a structure of tactile hollows. Only one species:

ma. **V. ma** Dyar (160 a). Scaled greyish-brown, all the veins finely lined white, fringe white. Forewing with a white spot at the end of the cell. Hindwing with a white basal area. Abdomen greyish-brown, thorax intermixed with white. Head whitish, antennae light, with a whitish shaft, broadly pinnated. Legs white. Expanse of wings: ♂ 15½ mm. Peru and Lower Amazons, probably more widely distributed.

3. Genus: **Microcladia** Hopp.

Veined like *Vescoa*, but the 1st radial branch of the forewing is free. Distinguished from *Microrape* by a paired, short, bivalve uncus. White dwarfish species. The two species hitherto known are distinctly separable by the male sexual armature.

pygmaea. **M. pygmaea** Hopp is purely white, with a faint silky gloss, the costa brownish on the basal half of the forewing beneath. The completely developed 10th segment contains, as a sternit-appendage, a free, tongue-shaped, not paired gnathos. Sacculi distinctly developed. Mexico.

pusilla. **M. pusilla** Hopp exhibits a more intense silky gloss, the basal half of the forewing beneath with a blackened costa. The gnathos is only indicated by the sternit being more intensely chitinized. Sacculi extremely small, knob-shaped. Rio de Janeiro.

4. Genus: **Microrape** Dyar.

Veined like *Microcladia* from which it differs in the not paired, well developed uncus the shape of which varies from one species to the other. The species differ besides in the very differently shaped appendages of the genital segments. The American primeval forests probably contain yet many undiscovered species. White pygmean species. Only two species are known hitherto, bearing blackish markings on the white forewings:

santiago. **M. santiago** Hopp has a smoky grey angular mark at the cell-end of the forewing and is brownish also at the inner margin and apex of the forewing. Expanse of wings: 10 mm. South Colombia.

signata. **M. signata** Hopp (160 a) with an expanse of 12 mm shows a broad feeble black band from the centre of the inner margin almost to the centre of the veins 4—5 of the forewing, terminating in a black spot; next to it there is another black spot in the centre of the cell, so that the end of the cell represents a blank white spot. Irregular blackish dusting at the inner-marginal area and below the cell, at the apex, at the centre of the distal margin, and at the costal area of the forewing. Hindwing and body white. From the Lower Amazons. The two species differ also in many details of the genital armatures; *santiago* has a well developed scent-organ on the tegumen before the uncus, in *signata* it is absent.

As to the following purely white species we must consider that considerable differences in size may occur within the species, for instance the forewing may be from 6½ to 9 mm long, so that it might easily lead to mistakes, if we were to state the exact sizes of these pygmean species.

camela. **M. camela** Hopp, from South California, exhibits intensely glossy, somewhat prolonged forewings with transverse stripes.

filata. **M. filata** Hopp, from Bolivia, Colombia and the Amazons, is recognizable by long filiform sacculi which frequently project from the anal end.

gnathata. **M. gnathata** Hopp, from Peru and the Lower Amazons, has rather narrow wings and a broad arched gnathos.

cristata. **M. cristata** Hopp, from South Brazil, exhibits tufts of chitinized, narrowly lanceolate listels on the tegumen, presumably representing a scent-organ.

jasminata. **M. jasminata** Dogn. (= *tenuis* Hopp), from South Ecuador, Bolivia, and Peru. The wings show a slight greenish tint; the species is characterized by a hooked tapering uncus, very narrow long delicate harpes and likewise delicately chitinized sacculi with very broad ends.

nivea. **M. nivea** Hopp (= *sycophanta* Dogn.), from Bolivia and Peru. The clumsy curved uncus is dorsally set with spikes, the harpes are coherent by a high chitine-wall behind which the small club-shaped sacculi are situate.

hippopotama. **M. hippopotama** Hopp, from Costa Rica, Colombia, and the Amazons, has rather broad short wings, an almost straight uncus, double harpes, and hollow-shelled sacculi with tapering ends.

minuta. **M. minuta** Druce, from Panama and Colombia, resembles a small *Norape* in its habitus. The harpe is here a short pointed dent, the sacculus is terminally incurved, bicuspid.

simplex. **M. simplex** Hopp, from Peru, lacks the harpes, the sacculi are similar to those of *minuta*, but with one point.

M. shilluca Schaus, from South Brazil, which I have not seen, is described to have sacculi similar to *shilluca*, those of *Norape tosca*.

B. Forewing with 11 veins.

a) Antennae red.

The three genera comprised here have antennae from purple red to bluish-red, and white or partly red hair on the head. There are also some species of *Norape* with reddish antennae, but they can be recognized by the partly yellow hair on the head. Red hair do not occur in *Norape* nor does yellow colouring occur in the following genera.

5. Genus: **Proterocladia** Hopp.

Recognizable by the long anastomosis of the 1st radial branch of the forewing with the subcostal vein. Besides, *Proterocladia* is intermediary between *Aithorape* and *Hysterocladia*, the characters of which it unites. Only one species:

P. roseata Hopp (160 a). White, slightly greenish in fresh specimens, shoulder-angles red, head red as *roseata*, far as the frons. The red colouring of the antennae easily vanishes in specimens of collections. Costa of forewing beneath blackish from the base to beyond the middle. From Peru, Uberaba (Minas Geraës), and Matto Grosso.

6. Genus: **Aithorape** Hopp.

The species of this genus are much larger on an average than those of the *Hysterocladia*. They are externally discernible by the neurulation of the forewing: the third media and the first cubital vein are short-stalked in *Aithorape*, separated, however, in *Hysterocladia*. Moreover, they differ in the sexual armature: the uncus of *Aithorape* has a defined spike at its end, which is absent in *Hysterocladia*. The uncus-appendages (socii) are dorsally inserted in *Aithorape*, ventrally-basally, however, in *Hysterocladia*. All the species of *Aithorape* have harpes, while the *Hysterocladia* have only one species with even rudimentary harpes. Most of the species of *Aithorape* have a narrowly black-edged costa in the forewing, the ♀♀ are apparently without it.

The species of *Aithorape* are difficult to determine externally, as they look almost alike. But their male sexual armature shows constant extraordinary differences.

A. longanella Hopp has large harpes with broad ball-shaped ends, an anellus laterally ending in one *longanella*, long tip each, and very long transtilla-branches. Peru.

A. roseicornis Dogn. (= *bella* Druce) (160 a) has still longer harpes which, however, remain narrow, pointed *rosei-* to the ends and often project from the abdomen. This is the most widely distributed species. Costa Rica, *cornis*, Colombia, Ecuador, Peru, Bolivia, Upper Amazons.

A. flammicornis Schaus seems to differ with *roseicornis* geographically; it has been found in Trinidad, *flammi-* Guiana, Venezuela, and the Lower Amazons. Its harpes are shorter, but similarly structured as in *roseicornis*. *cornis*. Constant differences have been ascertained on the uncus and the transtilla-branches.

A. candelabaria Hopp has very long narrow falciform sacculi basally coherent with the shelled broad *cande-* short harpes. Peru. *labaria*.

A. spinulata has very broad, shelled harpes on the inside of which the small horn-shaped sacculi are *spinulata*, situate. Peru.

A. albicostata Hopp is without or almost without the fine black margin of the costa of the forewing. *albi-* The dorsal appendages of the uncus are longer than in *spinulata*, and without the large basal spike. Trinidad, *costata*. Lower Amazons, Minas Geraës, Paraguay.

A. frontalis Schaus, the northernmost species, has also a white costa of the forewing, white hair on the *frontalis*, head, the uncus-comb is reduced to a paired basal spike. Mexico and Guatemala.

A. analis Hopp (160 a) has the southernmost range. The uncus exhibits but faint traces of former spikes; *analis*, large, club-shaped sacculi and low, broad harpes; it has white hair on its head, and broad pectinate antennae. Sa. Catherina, also on the Itatiaya (Brazil).

7. Genus: **Hysterocladia** Felder.

The differences from *Aithorape* have been stated above. Many species exhibit besides more red colouring of the hair on the head, of the collar and thorax, but it is not always constant and, in spite of its conspi-

cuousness, it must not be used for determining the species except with caution. The genus is specially characterized by the lateral-basal appendages of the uncus, which are also often serviceable for the diagnose of the species, though it is not advisable to regard every difference of shape, of spikes of these appendages, slight differences in the shape of other male sexual parts as the characters of a species; they are either variable or caused by a changed position (which at once yields a very different projection), or they are effected by a preservatory treatment with a solution of caustic potash, alcohol and xylol. The determination of *Hysterocladia* is a task that cannot be solved satisfactorily without training and material.

- mirabilis.* **H. mirabilis** Schaus, from Colombia, is easily recognizable by the black costa of the forewing extending to the apex, and besides it is the largest species known (length of forewing: 15 mm) and therefore looks like an *Aithorape*. Vertex of head red. Anterior and middle legs blackish. Appendages of the uncus without the spikes.
- ferecostata.* **H. ferecostata** Hopp, from Peru, has also a black costa which, however, does not extend to the apex; it is a smaller species with narrower, somewhat prolonged forewings (11 mm long), and small roundish hindwings. Vertex of head red, slightly intermixed with white. The uncus-lobes terminate into a long thorn almost reaching the sacculi which are slender, ramified; the anellus is deeply sinuate with long lateral tips.
- primigenia.* **H. primigenia** Hopp, from Peru, is second in size (length of forewing: 13 mm); it has male sexual organs similar to those of *Proterocladia* and is therefore the only *Hysterocladia* with filiform rudimentary harpes ending in a hair-pencil and arising on huge, dark-chitinized hollow bases. The head of the only specimen at hand is coloured red between the base of the antenna and the eye.
- latiunca.* **H. latiunca** Hopp (160 a) is one of the smallest species (length of forewing: 9—9½ mm) and may be identical with *corallocera* Fldr. the specific character of which, however, is no more ascertainable from the figure of a ♀. The red hair-tuft of the thorax may also be absent. The uncus has broadly oviform wings. The sacculi twine round the anellus. Widely distributed: Cuba, Guiana, Amazons, Ecuador.
- roseicollis.* **H. roseicollis** Dogn. (160 a), as the name indicates, has a red collar, and besides red thoracal hair covered by the white tegulae; the vertex of the head is pink. The same red colour, however, is also found in *vicina* and *tolimensis*. The uncus has broad wings, narrowed apically; uncus-lobes roundish, the one pair with a long spike. Guiana, Upper Amazons.
- vicina.* **H. vicina** Hopp, described as a subspecies with transitions, differs in the narrow, prolonged one pair of uncus-lobes, and broader sacculi provided with knee-shaped hunches. Peru, Bolivia.
- tolimensis.* **H. tolimensis** Hopp has the same exterior and differs in short, scanty spikes of the appendages of the uncus, broad flat sacculi which are broadly turned over on the inside, and the deeply sinuately parted anellus with rounded terminal lobes. Colombia (Cañon del Tolima).
- servilis.* **H. servilis** Hopp is a rather large species (length of forewing: 12 mm) from Peru; the head is partly coloured red, the uncus is narrow, not winged, with large appendages, one pair of which terminates into a large spike. The sacculi are large, curved, intensely chitinized inside, the anellus deeply sunk.
- wernerii.* **H. wernerii** Hopp, from Colombia, is recognizable by the dense number of spikes on the end of one pair of the uncus-lobes; the sacculi are large, with lateral tips.
- elongata.* **H. elongata** Hopp is a large species (length of forewing: 13 mm), from Peru, with especially large prolonged uncus-lobes, one pair of which is apically set with several small spikes, with a narrow long uncus, large sacculi in the shape of broad hooks, the inside of which is intensely chitinized.
- lena.* **H. lena** Schaus exhibits the two pairs of uncus-appendages roundish, almost fused, the sacculi narrow, pointed, slightly curved. From Costa Rica, Venezuela, Guiana, the Amazons, and Colombia.
- ignicornis.* **H. ignicornis** Schs. is rather small with a winged uncus, the one pair of appendages are knee-shaped and irregularly spiked; the shape of the sacculi is somewhat variable, either broader or narrower small hooks, sometimes prolonged apically; middle legs blackened inside. Head white or partly red. This seems to be a characteristic representative of the tropical coasts, known from Panama, the western coast of Colombia, Guiana, and the Amazons.
- conjuncta.* **H. conjuncta** Hopp with red hair on the head was separated from it owing to the shortened transtilla-branches and the narrow uncus which is not winged. Ecuador and British Guiana.
- eriphua.* **H. eriphua** Dogn. is the only *Hysterocladia* with an apparently rudimentary marking or partial colouring on the forewings; brownish stripes between the veins are widened at the distal margin on the veins and fringe. Head white, with single red places around the antennae and on the vertex. Described as *Mamella*, but according to DYAR it belongs to this genus here. The species has remained unknown to me. Panama.

b) *Antennae colourless, ochre or black.*

8. Genus: **Coamorpha** Dyar.

The 1st radial branch (vein 11) of the forewing anastomoses here with the subcostal vein (12) as in *Proterocladia* from which it differs externally in the colourless antennae. Regarding the sexual armature of the ♂, the genus is isolated from the *Trosiinae* and resembles rather the *Megalopyginae*. The uncus is a curved smooth thorn. The socii are ventrally broadly connected with the rectum (scaphium). One species only:

C. innoxia Schaus (= *glutina* Schaus). Head and chest grey, mixed with white. Abdomen dark grey, *innoxia*, with some white hairs above. Forewing greyish-brown; a white spot at the base, a white streak below the cell, interrupted at veins 2 and 3, a white streak above the basal half of the inner margin, some white ones at the distal inner margin, at the outer half; fringe white with dark spots at the end of the veins, and faint, terminally white markings between the veins. Expanse of wings: 32 mm. Costa Rica. I have not seen the types which are in the Washington Museum.

9. Genus: **Norapella** Hopp.

The genus *Norapella* represents the most primary stage of development of the male 10th ventral segment in the *Trosiinae*. The tergite-appendages, uncus and socii are still paired here, and besides one species exhibits a paired gnathos as the appendage of the sternite. The species are uniformly white, rather small, with smooth forewings which exhibit a black costal streak beneath, and light antennae.

N. bipennis Hopp (160 b). The ♂ has an expanse of $11\frac{1}{2}$ to $13\frac{1}{2}$ mm and differs from the other species *bipennis*, in the 1st cubital vein and 3rd median vein (veins 3—4) of the hindwing being short-stalked instead of separated. The paired uncus-hooks are distantly separated from each other, whereas they are close together in the other species. Socii slender, appendent only to the extreme base of the uncus-thorns, extending into the interior of the 10th segment; a paired gnathos, chitinized blackish-brown, outside granular, globular, but smooth and somewhat concave inside. The harpes are very small, delicate, hairy, near the 10th segment. The sacculi are large, apically on one side pinnate by lineary lancet-shaped chitine-bristles, presumably distributing scent. Taperinha near Santarem, Amazons, discovered by ZERNY (Vienna).

N. rhadina Dogn. (= *fassli* Hopp), described as a *Trosia*. The ♂ (expanse: 20—22 mm) has also the *rhadina*, uncus-thorns divided as far as the base, but they are close together. The socii are fused laterally with the uncus-thorns on half their length, their continuation reaching the length of the uncus-thorns. Pacho near Muzo, Colombia.

N. gracilis Dogn. (described as *Archylus*) is similar to *rhadina*, of about the same size, with broad, basally *gracilis*, coalescent socii from the interior sides of which the intensely chitinized uncus-thorns arise; the lateral lobes of the socii are feebly chitinized. Peru, Bolivia.

N. parva Schaus (described as *Trosia*). The ♂ (expanse: 17—20 mm) chiefly differs from *rhadina* in *parva*, the lateral tips of the socii-lobes being intensely chitinized at their ends. South Brazil.

10. Genus: **Cephalocladia** Hopp.

Cephalocladia is characterized by a peculiar structure of the 10th male ventral segment. The latter consists of a roundish massive, slender, somewhat curved staff at the end of which there is a broader, roundish, dark-chitinized head which is bivalvular on its ventral side. On the right and left sides of this uncus composed of staff and head, there is rectangularly to the uncus, one flat chitine-listel each, the socii. The species have the same exterior as *Norapella* and are externally hardly discernible from each other.

C. weneri Hopp is purely white, forewing without stripes, veins faintly white. The sacculi are flat, *weneri*, intensely chitinized, dentiformly bent over inwards at the end, widened basally. From the Rio Caqueta, South Colombia.

C. mossi Hopp differs in shorter (longer in *weneri*) valves of the uncus-head, shorter and broader socii, *mossi*, and much larger and broader harpes. Pará (Brazil) and Guiana.

C. fulvicornis Dogn. (described as a *Hysterocladia*) of which I only know the photograph of the male *fulvicornis*, sexual armature has falciformly curved slender sacculi. From the Upper Amazons.

11. Genus: **Mesoscia** Hbn.

The genus *Mesoscia* Hbn. (*Saltiga* Wkr., *Archylus* Wkr., *Ramaca* Dyar) is characterized by the appendages of the male 10th ventral segment being represented by an unpaired uncus and lateral paired socii or by the socii being laterally fused with the uncus. From this organization differ: *Malmella* in which the uncus projects as a dorsal comb beyond the ventrally fused socii, *Macara* and *Trosia* the fused socii of which are likewise situate ventrally to the uncus, and *Norape* in the species of which the uncus is absent or only rudimentary. In contrast with the compared genera, *Mesoscia* observes a more original stage in this respect. Correspondingly also most of its species exhibit yet colourings and markings which *Malmella*, *Macara*, and *Norape* have lost or which are only rudimentary in them. But also single *Mesoscia* show already the loss of pigment. Most of the *Mesoscia* exhibit the median branches 2 and 3 (veins 4 and 5) on a long stalk, but this mark varies individually and occurs also in single specimens of other genera. The species are not only discernible by the male sexual armature, but mostly also by their colourings and markings.

- pusilla*. **M. pusilla** Stoll (= *latifera* Wkr.) (160 b). The brown distal margin of the forewing is pierced here by white veins. Collar pink or white. Hindwing with a more or less large white central spot. Guiana, Panama, Colombia, Amazons to Peru.
- dumilla*. **M. dumilla** Dyar (160 b) is the Mexican representative of this species, the brown distal-marginal zone of the forewing is smaller, the brown median band at the inner margin still broader, the collar invariably white, hindwing almost white. The male sexual armatures of both the species are distinctly separated; *pusilla* is especially characterized by a longer casing of the penis-mantle and a broad-shelled anellus.
- dyari*. **M. dyari** Schs. is distinguishable by the strongly reduced white postmedian band of the forewing. Costa Rica.
- pascora*. **M. pascora** Schaus (160 b). Here all the brown of the forewing and hindwing is more grey and besides interrupted by white veins. South Brazil.
- procera*. **M. procera** Hopp (160 b) with a pink or white collar shows the brown distal margin of the forewing and hindwing broken up into wedge-shaped brown stripes between the veins; this species has very long sacculi which are bare like the harpes, but hairy in *pusilla*. From the Amazons.
- eriphora*. **M. eriphora** Scpp (= *antonina* Dogn.) (160 b) is very similar to *procera* in the wedge-shaped brown stripes at the distal margins of the wings, but it is larger, and the brown median band of the forewing is hardly widened at the inner margin; it lacks the white belt at the base of the thoracic dorsum. Guiana, Panama, West Colombia.
- anguilinea*. **M. anguilinea** Schs. (= *inflexa* Hopp) (160 b). The white postmedian band of the forewing is almost rectangularly incurved, it ends pointedly near the subcostal vein. The sizes of the ♂♂ differ here from 15 to 23 mm, and besides there occur specimens with entirely white hindwings. Guiana, Amazons, South Colombia (Moeoa).
- terminata*. **M. terminata** Schs. (= *fluxa* Schs., *meroma* Drc.) (160 b). This species as well as
- lorna*. **M. lorna** Schs. (160 h) are so characteristically coloured and marked that we may refer to the figures. Both the species are widely distributed, *lorna* from Mexico downwards, *terminata* from Costa Rica downwards, in Guiana, Venezuela, Colombia, Ecuador, on the Amazons from Para to Peru, but they are absent in South Brazil.
- itatiayae*. **M. itatiayae** Hopp is all white with a narrow black costa of the forewing, and black tibiae and tarsi. In the structure of the male 10th ventral segment it is relatively near *M. lorna*, but very different from the externally rather similar *N. beggoides* Dyar with which it occurs on the Itatiaya. On an average, *itatiayae* is the smaller species with somewhat narrower forewings. Fresh specimens show that *itatiayae* has a dorsal light yellow hair-tuft as the base of the abdomen, while in *beggoides* the whole abdomen is suffused with yellowish. If the curved sacculi project from the abdominal end, the species are discernible by the sacculi being gradually pointed in *itatiayae*, distinctly defined in *beggoides*.
- guttifascia*. **M. guttifascia** Wkr. (160 b) (described as an *Archylus*) is a white species with black feet, the forewing marked with black streaks and dots. Amazons, Guiana, Colombia.
- unifascia*. **M. unifascia** Dogn. (160 b) differs from *guttifascia* in the smaller number and size of the black spots and especially in the shorter socii of the males. Known from Costa Rica and Panama; described and figured as *guttifascia* in the Biologia Centrali-Americana.

12. Genus: **Trosia** Hbn.

Trosia Hbn. (*Sarothroma* H. Sch., *Sciathos*, *Edebessa* Wkr., *Endobrachys*, *Isochroma* Fld., *Alimera* Möschl., *Langueys* Butl., *Thoscara* Schs.) is characterized by the little pigeon shape of the appendage of the 10th male ventral segment, produced by the coalescence of the uncus with the socii into an azygous body, covered by a thin skin with a structure of tactile hollows, only the extreme end being sometimes bare. As in the 13th genus *Macara*, the socii are situate ventrally to the uncus. Brightly coloured species which are only rarely white owing to a loss of the pigment, often with characteristic markings. But the colourings and markings frequently form transitions to each other, and the species are partly more closely allied than in other genera. For the usual distinctive mark of the ♂♂, the shape of the sexual armature, is not always suitable here for determining the species. Only few species can be safely separated in this way; the organization of the sexual armature is the same in nearly all the species, and smaller differences in the shape of the stout or slender uncus, of the glandular-lobate, hairy sacculi, the shelled slender harpes, the cornuti etc., prove to be inconstant. Besides some species exhibit a great variability of size, colouring and marking, though they are not exactly races. Extreme forms appear to be confined to certain localities, but the same tendency of variation occurs in distantly remote parts of Central and South America. The way the colourings have developed as pigmenting stages can often be recognized: black is replaced by red, red by orange, orange by yellow, yellow fades into white. On the other hand, however, also dark brown pigments occur as new formations, and besides reddish ochreous pigments are covered by black owing to certain climatic conditions (in alpine districts or rainy forests). Also other morphological details, such as the length of the hair, the wing-contours, are only average distinctive marks for the species. Distinct morphological differences between the real species, as far as they have been explored, are present in the female genitals, but they cannot yet be described to-day, especially since the ♀♀ of many species and forms are not yet known.

1. *Edebessa*-group.

In many respects the *Edebessa*-species are the most generalized of the genus. They are relatively large and show especially bright colours and markings. The 10th male ventral segment is broader and flatter than in the other species and sometimes exhibits yet dorsally at the end a middle seam as a rudiment of former pairedness.

T. nigropuncta Drc. (160 c) unites on the wings the markings of the other species of the group, but it seems to be little variable. It has a black abdomen, a red mesothorax, a black prothorax and head, and black legs. All the black is more or less dusted over with leaden grey. The width of the forewings is rather variable. Peru, Ecuador, Colombia. *nigropuncta*.

T. nigrorufa Wkr. (= *obusta* Dogn.) (160 c) has a black head, thorax and 1st ventral segment, dusted with leaden grey, a light vermilion abdomen, black legs, sometimes with small white or red parts. The marking of the wings is variable; the large black parts are broken up into smaller spots and streaks, the red places become ring-shaped or moon-shaped. Extreme such forms are: *nigrorufa*.

T. bicolor Mschl. (= *languciata* Schs.) (160 c) both in the ♂ and ♀. *nigrorufa* and its transitions are known from Peru, Ecuador, Colombia, the Amazons and Guiana, *bicolor* hitherto only from Guiana. *bicolor*.

T. circumcincta Schs. (160 d) has a black head, thorax and 1st abdominal segment dusted with leaden grey, the rest of the abdomen is light vermilion above, black beneath. Femora and tibiae outside red, inside black, tarsi red. These marks are noteworthy, especially for the distinction of the ♀♀ of *circumcincta* and *purens*, which are otherwise sometimes very similar. — **purens** Wkr. (160 d) has a red head and thorax, the prothorax with a dorsal saddle which is dusted with whitish grey, similar lateral spots on the mesothorax and a dorsal one on the metathorax. The legs are red, with scanty whitish hairs. Abdomen red also beneath; also the 1st ventral segment is red above. *circumcincta* is hitherto only known from Guiana, *purens* from Rio de Janeiro, Minas Geraës, Paraguay, the Lower Amazons, and Guiana. *circumcincta*. *purens*.

2. *Revocans*-group.

T. revocans Fldr. (160 d) (described as *Endobrachys*) is allied to the *dimas*-group in spite of the different scheme of markings; its male sexual armature can be hardly distinguished from that group. The name is due to a figure of the ♀ from French Guiana, by which KIRBY was induced to regard the species as a *Notodontida*, Synonymous are *jeanette* Dyar from French Guiana and *arpi* Schs. (*ferugina* Jones) from Rio de Janeiro; the differences of colour, according to which the latter were named, vary individually, though in South Brazil the yellow tints may be more common and the grey tints of the hindwings frequently more reduced than in *revocans*.

Guiana. The type of *ferugina* shows a pink thorax with a magnificent gloss, whereas otherwise the thorax *caramia*. mostly exhibits only smaller pink or white spots. — **caramia** Dyar (160 d), from Peru, is an orange-red variety which, however, forms transitions to *revocans* everywhere on the Amazons. In all kinds of colourings *revocans* is distributed from Peru down the Amazons to Para, in Guiana, Paraguay, Minas Geraës, and South Brazil.

pulchella. **T. pulchella** Schs. (160 d) is very closely allied to *revocans* and likewise variable in the colouring. It is recognizable by 1 or 2 small black longitudinal streaks in the anterior part of the cell of the forewing. Besides it is still more variable in colours than *revocans*. Purely yellow specimens from Peru pass over to dark grey ones on the Amazons, and the grey colouring may also extend to the abdomen. The yellow colouring may change to deep orange-red, the pink parts of the thorax may also pass over to the wings, and the wing-contours vary so much that the forms become quite similar to *dimas* Cr. The species is absent in South Brazil.

placida. **T. placida** Jones (160 c), however, is almost constant in its colouring and marking; its range seems to be confined to the Corcovado and Itatiaya near Rio de Janeiro. Vertex of the head, femora and thorax orange, the latter with a pink or white belt-zone, the costa of the forewing, the abdomen, tibiae and tarsi are deep black, the tarsi pointed with white hairs. Forewing broadly edged with yellow subcostally and on the long inner margin, otherwise greyish-black like the hindwing. A narrow orange belt near the base of the abdomen.

3. *Acca*-group.

acca-acca. **T. acca** Schaus (160 e) with its geographical races is distinctly defined from all the species by the harpes of the male sexual armature exhibiting near the apex a broad short lateral excrescence which is absent in the other species of *Trosia*. In — **acca-acca** Schs. the abdomen and hindwings are yellowish ochreous, the blurred *ribbei*. dark transverse band of the forewing is more distinctly marked, in — **ribbei** Drc. (160 e) the abdomen and hindwing are reddish ochreous, the transverse band of the forewing indistinct or absent. These differences occur in both genera. *acca-acca* is known from South Brazil (Espírito Santo to Santa Catharina) and Paraguay; *electra* Hopp, from Paraguay, founded upon small differences in the shape of the sacculi, is synonymous, as these differences are not constant; *ribbei* is widely distributed, in Bahia, on the Amazons as far as Peru, Guiana, Venezuela, Colombia, Panama to Mexico. Transitions of the two races are found on the eastern slopes of the Andes in Colombia, Ecuador, Peru, and Bolivia. The brightest red specimens of *ribbei* became known from Costa Rica, while specimens from Mexico, Guiana and Bahia are again more yellowish ochreous. Another race *aterrima*. — **aterrima** Hopp (160 e) is a descendant of *ribbei* owing to the reddish ochreous head, thorax and femora, with blackish-grey to deep black tibiae, tarsi, wings and abdomen a product of the intensely rainy forests on the western coast of Colombia.

The following species exhibit normal branchless harpes. They resemble *acca* only in their colouring.

ochracea. **T. ochracea** Hopp (160 e) is very similar to *acca*. Only the type from Rio de Janeiro is at hand. Forewing and thorax are lighter and more grey, hindwing and abdomen more yellowish ochreous, the hair smoother, longer and more scanty.

The two following species represent transitions from *acca* to the *dimas*-group in their colouring and marking.

rufa. **T. rufa** Jones (160 e). Both sexes with rather dark brown, thinly scaled forewings exhibiting a reddish shine produced by single red hairs. The wing is crossed, from the costa to the inner margin, by a band of black, thinly scaled spots which spread widely on the costal half of the wing and become indistinct thereby. Head brown, frons red. Thorax brown, abdomen red, anus light brown. Anterior legs with short black hair on one side, with long red hair on the other side, the other legs red and light brown. South-Eastern Brazil: Alto da Serra (São Paulo), Corcovada and Itatiaya near Rio de Janeiro.

rubrivena. **T. rubrivena** Jones (160 f) has almost the reverse colouring: forewing red, thinly scaled, with a light brown shine produced by brown hairs. The transverse band of black spots through the wing as in *rufa*. Head red, frons brown or red. Hindwing reddish, likewise thinly scaled. Thorax red, suffused with light brown. Abdomen red. Legs red or partly light brown. Brazil: Castro (Paraná) and Matto-Grosso.

pellucida. **T. pellucida** Mschlr. (*Chrysopyga*) (= [*Thoscora*] *brugea* Schs., [*Podalia*] *darca* Dyar) (160 f) is a species that has frequently been misinterpreted owing to the original description of the ♀. The ♂ has dark brown forewings which are densely scaled and show somewhat darker veins. Hindwing somewhat lighter, with a streak of dark hair near the anal margin. Thorax dark brown above, ochreous beneath like the head, legs and anus. The abdomen has double hair, the lower being dark brown, the upper ochreous. The ♀ is more thinly scaled on the wings, but of the same colouring. Guiana, Venezuela, Colombia (Eastern Cordilleras and western coast).

T. brucea Schs. (Thoscora) (160 l) which has been placed as a synonym to *pellucida* must probably be *brucea*. regarded as a distinct species. Both the sexes differ from *pellucida* in longer, uniformly ochreous hair on the abdomen, the ♂ also in ochreous hair on the anal margin of the hindwing. Venezuela, Guiana, Pará.

T. xinga Dogn. (described as *Podalia*), from the Rio Xingu (Amazons), which I only know from the *zinga*. description, has pale blackish-brown wings and fringes, the abdominal margin of the hindwing is covered with long reddish hair like the abdomen. The latter, the head, and the coxae (presumably the femora) are reddish, the tarsi of the first pair of legs covered with long blackish hair. Thorax slightly brownish.

T. zikáni Hopp (160 l), from Minas Geraës (Brazil), is allied to this species and may be only a differ- *zikáni*. ently coloured form of it with light grey scales which are more intensely brown only on the base of the wing, the costa of the forewing and on the veins. Head orange-brown, thorax dark brown, abdomen intensely orange-red, with a yellow annus. Hindwing with orange-red hair at the anal margin. Femora orange-red, tibiae yellowish-grey, tarsi brown. The orange-red colouring is replaced by ochre in some specimens.

T. omayena Schs. (160 l), described as *Gerontia*, but placed to *Podalia* by DYAR, in fact looks like a *omayena*. *Podalia*, especially since it is the only *Trosia* exhibiting white antennal shafts. Yet it undoubtedly belongs to *Trosia* owing to the 10th ventral segment of the ♂. Head, thorax, and forewing pale greyish-brown, the forewing with prominently dark veins. Abdomen and hindwing, as well as the thorax beneath and the femora are more yellowish-brown, especially at the anal margin of the hindwing. In the ♀ the thorax and the hair of the legs are partly more dark brown, but partly also nearly whitish. British and Dutch Guiana.

4. *Dimas-punctigera* Group.

T. dimas Cr. (= *tricolora* Fabr.) (160 f). *dimas* and *punctigera* exhibit the transverse row of spots on the forewing, traces of which were already discernible in *rufa* and *rubrivena*. They are two common closely allied species of almost the same wide range: Mexico to South Brazil. *dimas* is generally the smaller species; the ♂ has broader shorter forewings, a more narrowly coloured costa, longer looser hair, a shorter and broader uncus. *punctigera*-♂ has an expanse varying between 40 and 27 mm, *dimas*-♂ between 39 and 20 mm. One of the most distinct differences is the number of the spots of the transverse band through the forewing: 8 in *dimas*, 7 in *punctigera* which almost invariably lacks the costal spot owing to the broader red costa.

T. dimas Cr. CRAMER's figure of it is a failure, the habitat stated to be the "West Indies" is doubtful, *dimas*. as the species occurs in Trinidad, but not in the West Indies. The usual colouring is: head and its surroundings red or mixed with white, thorax white, with 6 red spots, abdomen red, beneath and at the anus white, femora red, beneath white, tibiae and tarsi black, interrupted by white, the tibiae with longer hair. Forewing white, or feebly pink owing to the under surface showing through, costa red or orange, the transverse row of spots black, under surface red or partly white; hindwing above and beneath red with white fringe. Besides this most common colouring there occur all kinds of chromatic deviations excepting the tibiae and tarsi which seem to be invariably black and white. The other parts of the body vary in red, yellow, white, and brown colours, and the red colour may vary from an intense carmine to a pale pink and may also pass over into yellowish-red tints; yellow occurs in all stages between dark ochre and white. The chief colourings are: thorax white, yellow, red, brown, thoracal spots red, yellow, white, forewing above white, yellow, brown, red, costa of forewing red, white, yellow, forewing beneath red, red partly with white or yellow, entirely white or yellow, abdomen red, yellow, white. The fringes of the wings are sometimes also partly of different colours: red, black, yellow, white. Femora red, yellow, or white. When combining only the more common ones of these colourings we discover more than 486 differently coloured forms, of which surely a great part occurs in nature. Besides, however, there are also varieties in the marking. Thus the forewing sometimes exhibit longitudinal rays of other colours such as white, brown, yellow, and a smoky brown coat which is narrow in the basal area and extends over a more or less great part of the forewing. Such forms may be called — **fumosa** (160 f); ZIKAN collected of a *fumosa*-form quite a *fumosa*. number of transitions to the normal form, occurring from a slight smoky brown tinge to entirely dark brown forewings and to a dark brown instead of red thorax. Other similar forms of *fumosa* are also known from Costa Rica, Colombia, Peru, and Bolivia, they occur also on a yellowish ground-colour of the forewing. The transverse band of black spots through the forewing is also variable. It is elongate, curved once or twice, single or all the spots widened or strigiform; Mexican specimens showed also much smaller spots. — Only few of these many varieties, and by no means the extremest colourings, have been denominated. One may, however, use the existing names in order to classify the variations at least to some extent: — **flava**-forms (*flava* Dogn., in- *flava*. *costata* Schs. [160 f], *tolimata* Dogn. [160 f], *misda* Dyar, *amarilla* Hopp [160 f], — **albida**-forms (*albida* Dogn. *albida*.

rosita. [160 g]. (= *metaleuca* Drc. with *donckieri* Dogn., *obsolescens* Dyar) and — **rosita**-forms (*rosita* Schs.) (160 g); quite red-coloured forms, as we have figured one, are extremely rare. A melanistic aberration of *dimas*, which
nigra. may be named — ab. *nigra* (160 l), is deep black in all its parts, but the forewing exhibits yet the transverse row of spots. From Peru (Tring Museum).

punctigera. **T. punctigera** Stoll (160 g) is less variable, the *flava*- and *rosita*-forms of *dimas* have not been observed here. The distal-marginal area of the white forewing usually exhibits a more or less intense tinge of smoky brown which may be narrower or broader, so that the fringes appear to be interrupted white; sometimes, however, they are also blackened. The generally rather broad red costa of the forewing is followed by a white precostal streak. Forewing beneath red with the precostal white streak, but sometimes also entirely white. Hindwing mostly quite red, sometimes white at the base (form *amala* Dyar which, however, is by no means confined to Mexico). The transverse band of black spots through the forewing shows irregularities only of the inner-marginal spot which may be of a red colour and removed more distally. The abdomen of *punctigera* is generally
anax. red also beneath, being another mark of distinction from *dimas*. A particularly white-coloured form is — **anax** Dogn. (160 g) exhibiting white forewings with a red costa, and white hindwings with sometimes red-edged distal margins, while the abdomen beneath and the anus are white. This form is hitherto known only from Villavicencio (Colombian Eastern Cordilleras).

roseipuncta. **T. roseipuncta** Drc. (160 g) is a normally coloured *dimas* from which it differs only in the red, instead of black, spots of the band on the forewing, in the absence of other chromatic forms and in its being confined to South-East Peru.

fallax. **T. fallax** Fldr. (160 g). The transverse band of black spots through the forewing lacks the third dot (counted from the costa). The species is apparently constant in its colouring and marking, but the forewing, excepting the red costa, is rather uniformly greyish-pink distinctly contrasted by the white fringe, just as on the red hindwing. The tibiae and tarsi are covered with long white hair on one side. On the Rio Micay (Colombia), WERNER HOPP observed the species coming to the light about two hours earlier than *punctigera*, at 10 p. m. Costa Rica, Panama, Colombia, Ecuador.

semirufa. **T. semirufa** Drc. (160 g) resembles *punctigera* in the habitus. Forewing brown excepting the white costal stripe which is narrowly red outside. The transverse row of black spots through the forewing is absent or rarely rudimentarily represented by single dots. Peru, Bolivia.

zernyi. **T. zernyi** Hopp (160 g) is quite isolated among the *Trosia*. The neuration is also different, since the 2nd and 3rd medial veins (veins 4 and 5) of the forewing and the 1st cubital vein and 3rd medial vein (3 and 4) are on a short stalk instead of being separated. Judging from the shape of the 10th abdominal segment, however, the species belongs to *Trosia*. The 9th abdominal segment of the ♂ shows very long, strongly curved sacculi; the penis-case rests on a high support of the tegumen and is far away from the base of the sacculi, but near the harps. Completely dark greyish-brown with a darkened costa of the forewing and somewhat lighter fringe. Expanse of ♂: 15 mm. The short black antennae are broadly pinnate. Amazons: Taperinha near Manaus.

13. Genus: **Macara** Dogn.

The nomenclature of the genus is strangely confused. *Macara* owes its name to an individual anomaly of the veins sometimes occurring in these species in the way described and otherwise. The generic type *argentea* Dgn. however, proves to be synonymous to *argentea* Drc. (*Carama*) which DYAR placed first to *Norape*, later to *Trosia*. Besides there was yet a genus *Sulychra* Butl. But the attempt of uniting the *Macara*-species with this genus was frustrated by the generic type *argentea* Butl. being an artefact, i. e. the ♀ of *Norape argyrorrhoea* Hbn. (= *Carama pura* Butl.) with male antennae glued on. Moreover, *pasaleuca* Maass. was placed to the *hymantriidae* (*Leucoma*) by the author, to *Mesoscia* Hbn. by DYAR, and its synonyms *verditincta* and *niveitincta* Dogn. to *Mesoscia*. Furthermore, *purens* Schs. and *nigripes* Dyar were described as *Trosia*, *dyari* Dogn. as *Malmella*, *terena* Dogn. as *Mesoscia*.

In *Macara*, the appendage of the 10th male ventral segment is azygous and represents a roundish, massive, less chitinized "ventrum" bearing dorsally near the end a strongly chitinized small pointed hook or clasp-thorn; the latter extends distally as far as the "ventrum". Nearly all the species have light, relatively long antennae, white wings with a black costa of the forewing; the yellow colouring of the head and abdomen occurring in many white species of *Norape* is absent here.

argentea. **M. argentea** Drc. (*argentea* Dogn.) (160 h) is recognizable by the broad silvery transverse stripes on the forewing, similar to the Lymantriid genus *Caviria*. Costa of forewing white, legs black, partly covered with white hair. Costa Rica, Panama, Colombia, British Guiana, Ecuador, Peru.

nigripes. **M. nigripes** Dyar has likewise a white costa on the forewing which is less glossy, as it only shows a single

short transverse stripe. Tibiae and tarsi black. The thorn of the uncus is straight, slender. British and French Guiana, Pará, Trinidad, also from the Upper Amazons.

M. pasaleuca *Maass.* (= *verditincta*, *niveitincta* *Dogn.*) (160 h) is white, with hardly any gloss and *pasaleuca*. stripe, thinly scaled, the costa of the forewing narrowly black. Much flown specimens are feebly greenish, the black costa is then indistinct. West Colombia.

M. purens *Schs.* (= *mataca* *Schaus*) (160 h) is smaller, with narrower forewings and a distinct black *purens*. costa. Middle and hind legs black, covered with white. Described from French Guiana, the specimen figured from South Brazil.

M. heinrichi *Hopp.* The white forewing likewise without any transverse stripes, though fresh specimens *heinrichi*. exhibit longitudinal stripes of the forewing between the veins, by which the wings become very lustrous. Costa of forewing white, finely black at the base at most. Legs blackish. The uncus-thorn of this species is short and thick, curved. Peru, Ecuador, West Colombia.

The following two species I know only from the descriptions and a photo of the male sexual armature.

M. terena *Dogn.* has lustrous white wings. The forewing is a little prolonged at the apex, with a fine *terena*. black costa on the basal half. Middle and hind legs white. The photo of the male sexual armature shows sacculi with a narrow stalk and an almost spoon-shaped terminal part, feebly chitinized and ciliated. Tolima (Colombia).

M. dyari *Dogn.*, according to the description, has a reddish-yellow head, thorax and forewing, the latter *dyari*. with a postmedian row of black streaks from the middle of the inner margin to vein 7; hindwing pale reddish-yellow. Bogota (Colombia). The colouring and marking of this species seems to form a transition to *Trosia*; the close relationship of the two genera is probable owing to the condition of the male 10th abdominal segment.

14. Genus: **Malmella** *Dogn.*

According to the organization of the male 10th ventral segment, the genus ranges between *Mesoscia* and *Norape*. It has an unpaired uncus with which the socii are ventrally entirely grown together, from which only a dorsally apical comb of smooth chitine projects, breaking off sharply towards the ventral side. The uncus which is thus distinctly isolated prevents the species from being placed to *Norape*, and the ventral coalescence of the socii from being united with *Mesoscia*. The genus is not discernible by external marks, the length of the antennae and peculiarities of the neurulation upon which it was established do not prove to be constant. Thus also one of the four species originally described as *Malmella* belongs to *Norape*, one to *Macara*, and one to *Hysterocladia*.

M. strigiprima *Dogn.* (160 h), the generic type, is a small species with long antennae, the dingy white *strigiprima*. forewing is covered with brownish hair on the costa and all the veins, the vertex, dorsal abdomen and hindwing are white, the legs feebly brownish. From Tolima in Colombia.

M. nigricollis *Hopp* (160 h) looks like a *Norape*, as the white species exhibits transversely striped and *nigricollis*. thereby glossy silvery forewings and a yellow vertex; the tufts around the antennal base, however, are white. The collar is broadly blackish-brown, but this occurs also occasionally in species of *Norape*. Abdomen without yellow colouring, purely white. Middle and hind legs purely white. Peru and Ecuador.

15. Genus: **Repnoa** *Dyar.*

Repnoa *Dyar* (*Praenorape* *Hopp*) shows the appendages of the male 10th ventral segment paired; they consist of two slipper-shaped, hollow pouches which are delicately chitinized and set with touch-cilia; they do not represent the real uncus which has been lost or is rudimentarily represented by a very tiny chitine-staff, but the socii. *Norape* also lacks the real uncus, but the socii replacing it are never paired. — The species *dimidiata* *Wkr.*, *arpi*, *thanatos*, *amarga* *Schs.*, *cinninata* and *fuscoapicata* *Dogn.*, which were placed to this genus in the older literature, are *Megalopyginae*. Only 1 species:

R. imparilis *Schs.* (= *amazonica* *Dogn.*) (160 h). Only the ♂ is known. Vertex yellow, antennae basally *imparilis*. white. Thorax white with little grey. Abdomen yellow at the base and anus, the rest greyish-brown above. Middle and hind legs white. Forewing white, especially the cell and costa; all the veins with lines of brown hair. Hindwing also white, the brown lines of the veins narrower. British Guiana, Amazons, East Colombia. — **alba** *Hopp* (160 h) lacks the brown lines on the veins and the brown colouring of the abdominal dorsum, *alba*. but it has no other differences. The white form is known from British Guiana, the Lower Amazons, Espiritu

Santo, Paraguay, and the Itatiaya (Brazil). ZERNY captured both the forms at the same time on the Lower Amazons.

16. Genus: **Norape** Wkr.

Norape Wkr. (*Mallotodesma* Wall., *Ulosota* Grt., *Sulychra* Bltr., *Anarchylus* Dyar) is characterized with the 10th male abdominal segment by the absence of the real uncus, or it may be quite rudimentary, while the socii are unpaired, grown together, mostly representing a flat, glandular, partly ciliated small chitine-leaf. In some cases this organisation is not to be recognized directly; thus the formation is indistinctly paired at the end in *incolorata*, or it shows lateral paired lobes in *puella*, *nigrovenosa*, *albilineata*, *glabra*, *pampana*, which are thus probably closely allied, or it is massive and conglobate at the end in *cingulata* and *vesta*, or long, cylindrical in *rothschildi* which shows an interesting adaptation: the socii being originally feeling organs replace here the uncus which operates as a clasp-hook.

The colourings and markings of the *Norape*-species are probably always to be regarded as rudimentary, as they coincide with a relatively more original structure of the 10th male ventral segment. The pigments are at any rate no reliable marks of distinction for a species of the *Trosiinae*, and in this respect also a great number of *Norape*-species, which can be distinctly determined by the male sexual armature, are inclined to variations.

For purposes of discrimination, we have divided the *Norape*-species according to their pigment-colourings. However, some species exhibit variably coloured wings, while in others the yellow colouring of the head and abdomen vary, and black-legged species partly occur also with white legs. When speaking of white or black legs, this always refers to the middle and hind legs, as the forelegs are invariably blackened on their insides.

A. Species recognizable by pigments of the wings:

- incolorata*. **N. incolorata** Jones (160 i). Greyish-brown, all the parts rather intensely tinged, especially on the costal area of the forewing. Forewing smooth, without stripes. A rare species from Castro, Paraná (Brazil).
- mexicana*. **N. mexicana** Schs. (*Archylus*, *Anarchylus*) (160 i). White, forewing with a black dot at the end of the cell and at the end of the inner-marginal vein. Antennae long, light. Mexico.
- cana*. **N. cana** Dogn. (*Sciathos*, *Trosia*) (160 i) is hitherto known only from the environs of Bogotá in Colombia, where it occurs in three transitory chromatic forms: silvery white with a grey shine, or distinctly grey, or more
- flavescens*. or less suffused with lemon colour. The latter form has been described as — **flavescens** Dogn. (*Malmella*) (160 i). The forewing shows a fine black costa. Tibiae and tarsi black. Vertex of head yellow. Abdomen suffused with yellow. Collar whitish or yellow, anteriorly edged with black. The antennae of the males vary in length, especially also in the width of the pinnae. The neuration of the wings varies in some respects.
- dyarensis*. **N. dyarensis** Hopp (nec *terena* Dogn.). Only 1 specimen is at hand, from Mt. Tolima (Colombia). Forewing scantily scaled, distinctly striped and with a bright silvery gloss, white, tinged with brownish, the hindwing more whitish. Head, thorax, abdomen, legs white.
- tenera*. **N. tenera** Drc. (= *Archylus tener* Drc., *Ramaca achriogelos* Dyar) (160 i) is distinctly marked, forewing with hardly noticeable stripes. Collar blackish, sometimes also white. Thorax white or blackish, metathorax mostly black. Abdomen without yellow colouring. All the tarsi blackish. The neuration of the wings varies in some respects. Mexico and Arizona.
- laticosta*. **N. laticosta** Dyar (160 i) is white, with a broad black costa of the forewing, and likewise very feebly striped, without a silvery gloss. Head yellowish around the antennae, vertex white. Collar white, more rarely narrowly blackish. Abdomen purely white, without yellow. Tibiae and tarsi blackish. The species is closely
- eutecta*. allied with *tenera* owing to the male sexual armature. Mexico. — **eutecta** Dyar (*Mesoscia*) (160 k) is only a pigment-form of *laticosta* flying at the same time (June) and places in Mexico; the sexual armature is the same, the neuration of the wings varies in the same way, and the head is also yellowish around the antennae, the vertex white. Tibiae and tarsi blackish.
- puella*. **N. puella** Wkr. (= *pectoralis* Wkr.) (160 k) is the type of the genus. Characterized by fine black areas between the veins of the otherwise white, transversely striped, glossy forewings. Vertex yellow, though with white basal tufts around the antennae. Abdomen white, middle and hind legs white. South-East Brazil, for instance Rio de Janeiro, Itatiaya, Sa. Catharina, Paraná, Esp. Santo.

N. venata Schs. (160 k) is very closely allied to *puella*, but distinguished in the male sexual armature *venata*. by half as long harps and, externally, by prolonged black areas between the veins at the inner margin of the forewing. The species is larger, on an average, than *puella*. South-East Brazil, rarer than *puella*.

N. undulata Jones (160 k) does not differ from *venata* in the male sexual armature, but it is differently *undulata*. marked; a small single or double streak in the end of the cell, a subterminal row of blackish, roundish-square spots; basal third of costa beneath blackish. Hindwing purely white. Forewing with transverse stripes. Vertex and basal tufts of antennae white, whilst the vertex is yellow in *venata* and *puella*. A rare species from Paraná, Sao Paulo, and Minas Geraës (Brazil).

N. jaromillo Dogn. (160 k) is likewise near to *puella*, as the male sexual armature shows. Forewing *jaromillo*. dingy white, studded with brownish scales, and with a central straight blackish line proceeding from the base and disappearing beyond the centre of the wing. Abdomen and legs light brown. Loja, Ecuador.

N. miasma Dyar is brownish white in all its parts, but individually of variably intense tints, especially *miasma*. on the forewing beneath the costal area of which is sometimes intensely dark brown. Legs dark brown, slightly covered with white scale-hairs. From Castro, Paraná (Brazil).

N. miasmoides Hopp (160 k) is extraordinarily similar to *miasma* externally, but the male sexual arma- *miasmoides*. ture is quite differently shaped; the very appendage itself of the 10th ventral segment (uncus) is quite different in the two species: broad and ending in three small broad tips in *miasma*, a single lobe only basally somewhat broader in *miasmoides*. The latter species is likewise known from South-East Brazil, e. g. from Uberaba in Minas Geraës.

N. nigrovenosa Drc. (= *Trosia venata* Schs., *Pod. pallida* Dogn., *Tros. schultzei* Hopp) (160 l) varies *nigro-venosa*. much in its colouring, which has led to the synonyms mentioned. Head from dark brown to yellow, thorax from white to brown, abdomen from yellowish white to yellowish brown, legs brown, tibiae and tarsi blackish. Also the forewing with a brown costa and brown-edged veins and the grey hindwing exhibit different tints. The species is widely distributed, especially in Costa Rica, Colombia, on the Amazon River, and in Peru; it occurs also rarely on the Itatiaya (ZIKAN).

N. beggoides Dyar (*Trosia*) (160 l) has white smooth forewings without transverse stripes, but with a *beggoides*. black costa, and externally it resembles *Mesoscia itatiayae* as well as *Macara pasaleuca*. Vertex of head yellow. Collar and the long patagia-hairs feebly yellowish, the rest of the thorax white. Abdomen suffused with yellowish. A common species in South-East Brazil.

N. fuscoapicata Dogn. (*Repnoa*) is a small white species scantily marked grey; the distal margin of *fusco- apicata*. the forewing, especially in the apical region, and the anal part of the abdomen are grey, the hindwing narrowly edged with grey, but the fringe white. From the Amazons. — **heringi** Hopp has exactly the same male sexual *heringi*. armature, so that it is probably only a race or form. It has purely white hair on the head and abdomen; without any yellow colouring. Forewing purely white, smooth, without stripes. Middle and hind legs white. From Paraguay and Argentina.

B. White species:

The great number of species with purely white wings exhibit but slight, mostly unreliable differences in their exterior. In most of the cases, the discrimination of these species is only possible in the males by reason of the very characteristic shape of the sexual armature, the exact description of which exceeds the scope of this work. Whosoever is more closely occupied with these species, may be referred to the special literature, particularly the "Mitteilungen aus dem Zoologischen Museum Berlin", 13th volume (1927), p. 209—336, and 15th volume (1929), p. 41—51, where most of the sexual armatures have been figured.

In normal cases, the white *Norape*-species look as follows: vertex of head yellow. Antennal shaft white or ochreous, more rarely reddish. Thorax white, with radiately arranged long hairs of the patagia (in fresh specimens). Abdomen suffused with yellow on the dorsum, or with a yellow tuft at the base. Forelegs black inside, the other legs white. Forewing with silvery transverse stripes, beneath with a blackish costal stripe which, however, may also be absent.

The following table of deviations from this normal case will facilitate finding a number of species:

a) All the tibiae and tarsi black: *muelleri* forma *atripes*, *virgo* (occurring also with white legs), *taurina*, *plumosa plumosa*, *plumosa biacuta* (occurring also with white legs), *jordani*, *nevermanni*, *insinuata*, *cornuta*, *obtusa*, *pampana*, *glabra*. However, there occur also species in which the black legs are covered with white scale-hairs.

b) Yellow colouring different: *argyrorrhoea* (abdomen white, *argyrorrhoea* f. *pruinosa* (also the vertex white), *cingulata* (without yellow), *zikaniana* (vertex white, but the tufts around the antennae yellow), *foliata* (without yellow), *fuscoapicata* and *heringi* (without yellow), *hadaca* (abdomen white), *damana* (vertex yellow, but the tufts around the antennal base almost white, colouring of abdomen unknown), *glabra* (variable, abdomen white or yellowish, vertex yellow, or yellow with a white tuft around the antennae, or all white), *albilineata* (vertex white, but the tufts at the antennal base yellow), *pampana* (abdomen white). The yellow colouring of *tamsi* is unknown. The yellow colouring of the abdomen is not to be confounded with the bands of the abdominal rings with parallel, frequently yellow bristles.

c) Forewings without transverse stripes: *albilineata*, *glabra*, *pampana*, *miasma*, *foliata*, *miasmoides*, *tamsi*, *heringi*, *argyrorrhoea*. The limit is not distinct, some species exhibiting hardly noticeable transverse stripes.

Finally, many species can be determined by their habitat, since most of the species are confined to a certain range.

We begin with three species forming together with the already mentioned *nigrovenosa* and *beggoides* a natural group by their 10th ventral segment (uncus) being trilobate, presumably produced by the uncus having grown together with the socii, by reason of which they were originally placed to the *Mesoscia*:

albilineata. **N. albilineata** Hopp (161 a). Forewing thinly scaled on the surface, but intensely scaled on the veins. Brazil: Esp. Santo, Itatiaya, Sa. Catharina.

glabra. **N. glabra** Hopp is a small species with smooth, not striped forewings. The neurulation varies somewhat. Sacculi long, bent, basally widened, gradually tapering at the end. A typical representative of the Argentine Pampas.

pampana. **N. pampana** Hopp is closely allied to *glabra*, likewise confined to the Argentine Pampas; externally recognizable by the absence of the yellow basal tuft of the abdominal dorsum. Uncus large, straightly truncated at the end, lateral tips pointed. The sacculi are longish, pointedly ending horns exhibiting a little swelling basally inside.

argyrorrhoea. **N. argyrorrhoea** Hbn. (= *Carama pura* Btlr., *Sulychra argentea* Btlr.) (161 a) is the most common species distributed from Texas to Buenos Ayres. Vertex yellow, abdomen without yellow hair. Forewing smooth, without transverse stripes. The males differ much in size, length of forewings: 11—17 mm. The costa of the forewing beneath exhibits a black streak not extending to the apex, but this streak is sometimes absent. The males are often also discernible by the sacculi projecting somewhat from the abdomen and being bent like a knee towards the uncus; the harpes are likewise bent like a knee, but towards the sacculi. — **N. pruinosa** Berg (= *Carama butleri* Baker, *Trosia euthula* Dyar) represents only a form of this species characterized by its purely white vertex. This form is by no means geographically confined, but to be noticed wherever the typical form lives.

vesta. **N. vesta** Schaus (161 a). The forewing of this small species shows 4 or 5 distinct transverse stripes at equal distances, extending from the inner margin to the posterior edge of the cell. The uncus is a small roundish club, spherical at the end. Brazil: Amazons, Esp. Santo, Rio de Janeiro, Itatiaya, Paraná.

cingulata. **N. cingulata** Jones (161 a). Forewing intensely striped, therefore with a bright silvery gloss, vertex yellow, abdomen with bright orange ringlets, but purely white hair. The uncus likewise ends spherically, but it is longer than in *vesta*. Harpes short and broad, straight at the end. Brazil: Alto da Serra (São Paulo) and Itatiaya.

hadaca. **N. hadaca** Dyar has likewise a yellow vertex, striped forewings, and a purely white abdomen, which combination is not to be noticed in the other white species of *Norape*. The uncus is long here, pointed lancet-like, thin and flat, the sacculi are stout, long, curved in the basal part, spherically thickened basally. A rare species. Mexico.

zikaniana. **N. zikaniana** Hopp (161 a). A species with remarkably red antennae, reminding us of the genus *Aithorape* which, however, is without any yellow colour. The vertex is white here, but the tufts around the antennae are bright yellow. Abdomen dorsally suffused with yellow. The uncus has the shape of an oval leaf. Brazil: Rio de Janeiro, Itatiaya, Sa. Catharina; presumably still farther distributed in South-East Brazil.

foliata. **N. foliata** Hopp is a small species, the smooth, stripeless forewings being about 11 mm long. Without any yellow colour, therefore similar to *heringi* externally. Uncus of the approximate shape of a narrow ivy-leaf. Sacculi broad basally, with slender, hook-like ends. Only 1 specimen known from Cucutá in Colombia, near the frontier of Venezuela.

N. tamsi Hopp. A small species with narrow wings. Length of forewings: 11 mm. Wings without *tamsi* stripes. It cannot be noticed in the only specimen whether the head and abdomen exhibit any yellow colour. Uncus delicate, broad at the base, obtuse at the end. The sacculi are bulbous chitine-plates, scantily set with cilia. Buenos Ayres.

N. muelleri Hopp. Stripes of forewing rather indistinct, costa beneath white. Uncus broad, short. The *muelleri* sacculi are short, feebly arched chitine-walls the anterior edge of which bear one large, crooked or straight thorn each on the sides and in the middle. Mexico, Guatemala, British Honduras. A form of this species has black middle and hindlegs — f. **atripes** Hopp. *atripes*.

N. variabilis Hopp is not easy to determine, as it varies extraordinarily in many respects. Length of *variabilis* forewings 11—18 mm, width 6—10 mm. In general it is a species with rather small, narrow wings. The uncus is a delicate, obtuse triangle. As the sacculi can be rolled up, they vary in shape from one specimen to the other. They usually represent small, notched chitine-walls. Widely distributed: Pará, Brazil, on the whole Amazon River as far as Peru, in Colombia and Venezuela. A form was separated with a broad blackish collar — **atricollis** Hopp, from the Upper Amazon R. *atricollis*.

N. virgo Btlr. Like several other species, it has black tibiae and tarsi. The uncus is short, roundish, *virgo* broad, delicately chitinized, but edged by broad chitine-listels. Sacculi bent geniculately, with a thorn at the end, but of different projections. Texas, Mexico, and Colombia. A form is separated with white middle and hindlegs — f. **albipes** Hopp. Mexico. *albipes*.

N. cretata Grt. is not distinguished as an imago from *virgo* f. *albipes*. Only DYAR's statement that the *cretata* larvae of *virgo* and *cretata* are distinctly different, forces us to separate this species for the present. In case of the differences in the larvae being explained as an error, *cretata* would have to be regarded as the species (*albipes* being a synonym) and *virgo* as its form (with black legs). *cretata* is known from the southern states of U.S.A. — Larva, according to DYAR, in the surroundings of Washington, on *Cercis canadensis*; with long white hair, marked with yellow, brownish red, and black. Cocoon in the earth in September, emerging in July.

N. nevermanni Hopp is allied to *virgo*, likewise with black legs. The uncus is longer, almost just as *nevermanni* broad at the end as at the base. Costa Rica, Panama.

N. taurina Hopp has also black tarsi. It is smaller, on an average, than *virgo* and *nevermanni*. The uncus *taurina* is similarly built as in *virgo*, somewhat narrower at the base. Very differently shaped, however, are the sacculi looking like tiny, basally very broad cow-horns. Mexico, Guatemala.

N. caprina Hopp. Size very different, length of forewings: 10—15 mm. The uncus is an oval, rather *caprina* small, delicate lobe. The sacculi are strongly curved horns arising from the sides of an irregularly dentate plate. British Guayana, Venezuela, also from the Upper Rio Negro, Colombia.

N. arietina Hopp, near *caprina*, with a similarly built uncus. The sacculi are rather large, triangular- *arietina* roundish plates terminating into short thick horns. From the Amazons: Manaos, Santarem, also from the Rio Essequibo in British Guayana.

N. capreolata Hopp. The uncus is an obtuse triangle framed with thick chitine-listels, according to *capreolata* which the species may belong near *virgo*. The sacculi bear one lateral branch each at the end and in the middle, but they are of variable shapes. Colombia: Muzo.

N. truncata Hopp. The uncus is short, very broad, arched somewhat like a hood. Sacculi long, flatly *truncata* curved, broadly truncated at the end, proceeding from the abdomen. According to the shape of the anellus, the species is divided into three geographically separated races: *truncata truncata* Hopp; anellus roundish in front, convexly arched, not pointed, bearing a small roundish appendage in the middle. Merida and Caracas, Venezuela. — **cavata** Hopp; anellus more intensely chitinized, broad, concavely arched, gradually pointed *cavata* in front. North Peru (Rio Charape) and Colombia (Central Cord.). — **hastata** Hopp. Anellus narrow, intensely *hastata* chitinized, extended into a long point. South Colombia (Cali, Popayan, Pasto) and Panama.

N. schausi Hopp. Uncus very broad and short, with a short broad tongue in the middle. The sacculi *schausi* are distantly separated, falciform horns with long appendages towards the inner sides. Costa Rica: Guapiles and Sixola. A rare species.

N. draudti Hopp. Uncus tongue-shaped. The sacculi are slender, long-hooked clasps, basally widened *draudti* spherically. The length of the sacculi varies. A common species from Mexico.

N. obtusa Hopp. Uncus very broad and short, as in *schausi*, but centrally tapering into a short point. *obtusa*. Sacculi feebly bent, long, broadest basally, gradually narrower and then again broader and flatter, feebly den-

tate on the inside and slightly bent in the end-part, distinctly interrupted narrower to the roundish-truncate end. Rather widely distributed: Bolivia, on the Upper Amazon R., Uberaba (Minas Geraës).

damana. **N. damana** Hopp. Vertex yellow, almost white around the antennae. Forewing very indistinctly striped. It is not known, whether the abdomen shows any yellow colour. The only specimen at hand has an uncus similar to *puella* and *miasma*. The large harpes are basally broken up into bands. Sacculi short, roundish obtuse, scantily haired, passing broadly knee-shaped over into the tegumen, which is interrupted between them, and connected with the base of the harpes by a band. Alto Paraná (Argentina, Paraguay).

testudinalis. **N. testudinalis** Hopp. Uncus basally broadly divided into two rather narrow branches, with a short roundish lobe in the middle. Harpes extraordinarily long, projecting far beyond the uncus. The sacculi are large dark brown, smooth, glossy chitine-walls with slight details, round at the end, broadly angled on the insides and from there to the base broadly undulate. West Colombia: Rio Micay and Bella Vista near Tumaco, numerous.

Insinuata-Group.

The species of this group can be comprised by the similar structure of the uncus and are probably related to each other.

insinuata. **N. insinuata** Hopp has blackish tibiae and tarsi, and the costa of the forewing beneath is blackened almost to the apex. The uncus is an oblong lobe broadly rounded in front, dorsally with two bare narrow parallel ridges. The sacculi viewed ventrally look almost just like those of *plumosa-angustior*, but dorsally seen they are sharply flawed, the end-part more or less broadly lancet-shaped. From the Upper Rio Negro, Colombian Eastern Cordilleras, and from Peru, Carabaya.

cornuta. **N. cornuta** Hopp has also blackish tibiae and tarsi, and a blackened costa of the forewing beneath. The uncus widens gradually at the base, but it is otherwise similar to *insinuata*, and the species may be considered as a race. The sacculi differ from *insinuata* in the end-part, ventrally seen, being uniformly narrow and terminating into a small, interrupted, still narrower end-part. From East Ecuador, El Rosario, Rio Pastazza.

consolida. **N. consolida** Hopp has white middle and hindlegs, the costa of the forewing beneath is white. The uncus is flatter and shows a broad bare zone dorsally in the end-part at that place where a narrow raised double ridge is to be seen in *insinuata*. The sacculi, when seen dorsally, likewise exhibit a flaw which, however, is situated in the basal third, the remaining larger part of the sacculi is tapering only quite in front and thereby makes a very clumsy impression. Bolivia, Chulumani.

cathara. **N. cathara** Dyar. Middle and hindlegs grounded black, but covered with white scale-hairs. The species is smaller on an average than *plumosa-angustior*, with less distinct transverse stripes on the forewing, the antennae more red. According to the uncus, the species belongs to the *insinuata*-group, it is somewhat winged, widened at the base. Sacculi very similar to *plumosa-angustior*, without the sharp flaw of the *insinuata*-species, still more pointed at the end than *angustior*. Paraguay.

Plumosa-Group.

This group can also be comprised owing to the similar structure of the uncus which is rather flat, long, narrow, truncate at the end, thus of the approximate shape of a short needle-leaf of a fir-tree.

plumosa. **N. plumosa** Btlr. Sacculi long, slender, bent, proceeding from the abdomen, suddenly tapering at the end into a bent point. Legs blackish. Brazil: Para and Lower Amazon R., Guiana, Venezuela. The size of the species is rather variable, length of forewings: 15—19 mm. — **biacuta** Hopp. The ends of the sacculi have two short points. Middle and hindlegs blackened or white. Bolivia, Peru, Upper Amazon R. and Colombia (*angustior*, Muzo). — **angustior** Hopp. The sacculi terminate narrow into a gradually narrowing, less bent end-part. Legs white. Brazil: Rio de Janeiro, Itatiaya, Minas Geraës, Sa. Catharina. A common species.

jordani. **N. jordani** Hopp is allied to the *plumosa*-forms in the structure of the uncus. Middle and hindlegs blackish. Sacculi thicker, but shorter, and the end-part is distinguished by a small, less chitinized tongue set with touch-cilia, and by a small exterior intensely chitinized appendage. Only 1 specimen known, from French Guiana.

*Walker*i-Group.

This group approximates *plumosa* in the uncus which is very similarly built, narrow, long, somewhat thicker. Besides, the species united here form an interesting series of development in the shape of the

sacculi on which three parts can be distinguished, i. e. the foot, the ventrum, and a thorn at the end.

N. walkeri *Btlr.* This species initiates the series of developments; the sacculi are here of the most complicated structure. The most remarkable feature is that they can be freely moved and turned round an axle like the balance of a watch. The foot, partly concealed behind the large anellus-shield, is very large and studded with numerous little spikes. The ventrum is very hairy on the interior sides. The anal part is shaped almost like the head of a bird with a very short, strongly chitinized beak corresponding to the thorn in the other species. The size of the males differs considerably: length of forewings between 17 and 22 mm. Range: from Pará to Obidos on the Amazon R., Guiana, Minas Geraës (Uberaba), Itatiaya.

N. tosca *Hopp.* This species exhibits the next stage of development of the sacculi: the foot is reduced to a stout stump and without spikes. The ventrum is still very hairy though not so densely as in *walkeri*, the dark chitinized anal part of the sacculi is produced into a plump thick thorn, longer than in *walkeri*, shorter than in the following species. A small species: length of forewings about 15 mm. Argentina: Tucuman.

N. xantholopha minor *Hopp.* This species shows a further modification of the sacculi. The foot is narrower. The ventrum exhibits but few single hairs, but it has remained less chitinized. The thorn has become slender and already similar to the following species. The species is still smaller than *tosca*. Length of forewings: 11—13 mm. Hitherto only known from Eastern Peru, Rio Pachitea. — **xantholopha xantholopha** *Dyar* (= *corporalis* *Hopp.*). Here the sacculi are still more modified: the foot is still smaller and more slender, the highly arched ventrum is strongly chitinized and without any hair, the thorn is placed quite outside and does not project beyond the foremost part of the ventrum. This form is widely distributed in Mexico, Guatemala, Panama (but so far not known from Costa Rica), Colombia, Ecuador. — **major** *Hopp* differs from the preceding form in the thorn of the sacculi projecting far beyond the ventrum. Central Colombia. Larger on an average.

N. acuta *Hopp.* Here the ventrum of the sacculi is extended at the end into a sharp point. The species is of variable sizes: length of forewings 13—18 mm. Guatemala, Costa Rica, and Panama.

N. rothschildi *Hopp* likewise belongs to the *walkeri*-group, but it has taken a special development. The uncus is extremely long, almost semicircularly bent, massive, roundish, projecting far beyond the abdomen, with a small, spiked shield at the apex. The sacculi are also very large, spoon-shaped if viewed from the side. without a defined foot, with a hairy ventrum the basal part of which is finely dentate, and with a thorn shaped similarly to that of *walkeri*. One of the largest species of *Norape*: length of forewings 19—21 mm. Peru and Upper Amazons.

C. Species of an undetermined position.

N. ovina *Sepp.* This species which had played an important part among the *Megalopygidae* in early literature, cannot be determined at present. SEPP figures the ♀ with an expanse of about 45 mm, with striped forewings, a blackened costa of the forewing beneath, and yellow ringlets of the abdomen. The larva is yellow with black stripes and lives on *Panicum plicatum* in the surroundings of Paramaribo, Dutch Guiana. The pupation takes place underneath the surface of the earth or wrapped up between leaves. ♂♂ bred at the habitat might reestablish the species.

N. discrepans *Wall.* (*Mallotodesma*), likewise described according to a ♀, shows white antennae, a yellow vertex, a white abdomen with yellow ringlets, and a yellow hair-tuft on the dorsum, with white middle and hind legs, the forewing beneath with a slightly brownish costa. The habitat is stated to be Brazil. This description would apply to more than a dozen species.

N. cretacea *Hopp* (*Repnoa*). Likewise a ♀, a small species with an expanse of 23 mm. Completely white, forewing without stripes. Bolivia. This species probably does not belong to the *Norape*.

Finally, according to the present elaboration, the females of all the white species of *Norape* cannot be determined. In some cases, the slight external differences of the species suffice for the determination of the females, if they are yet within the original takings. Thus, for instance, the ♀♀ of *zikaniana*, *albilineata*, *argyrorrhoea*, *cingulata*, *vesta*, *heringi*, *cathara* are rather well discernible by the external marks of the ♂♂ (*cathara* by their red antennae). The determination of the ♀♀, however, by reason of sure morphological differences, i. e. the shape of the genital organs, is reserved to the future. These organs will probably also exhibit considerable differences in shape.

Additions.

On p. 1083, insert after *M. dyari*:

interpunctosa. **M. interpunctosa** Dogn. (described as *Mesoscia*) is allied to *dyari* and may likewise be regarded merely as a race or differently coloured form of *alydda* Drc. The ♂ has a blackish ochreous head, thorax and abdomen the greenish yellow forewing with a series of black internerval spots; hindwing light ochreous. Colombia, Tolima.

alydda. **M. alydda** Drc. (described as *Alpis*) (161 c). The silky brown forewing with a blackish costa and black basal spot are separated from the light distal margin by black, outside whitish, spots. Hindwing light yellowish. Head, thorax, abdomen and legs brown. Costa Rica, Ecuador, Peru. — DOGNIN describes another *nigella.* Colombian form with a different colouring, of which only the ♀ is known: — **nigella** (described as *Norape*) with blackish or dark grey hindwings and isochromatic or olive brown colour. Colombia: Tolima. It may be that *nigella* represents merely the ♀ of *interpunctosa*.

On p. 1085, insert after *N. jaromillo* Dogn.:

isabela. **N. isabela** sp. n. (161 c). Head yellow, thorax, abdomen and legs yellowish white, the forelegs brownish on one side. Forewings ochreous, all the veins ruled with broad white lines. Hindwing yellowish white. Peru: Oconeque, Carabaya (G. OCKENDEN). Type in the Tring Museum.

II. Megalopyginae.

The *Megalopyginae*, as we have already mentioned, are not to be separated into genera and species in the same sense as the *Trosiinae*, because the appendages of the 10th and 9th segments of the male abdomen, which form stages of development in the *Trosiinae*, have stopped on the very same point of organizatory development in the *Megalopyginae*. Whatever remains of sexual-morphological differences of the ♂♂, must be used with the same caution for the distinction of the species as other differences, the neurulation, marking and colouring, hair and scales. On the whole, these differences are scanty, and not always indubitable as regards constancy. Accordingly also the species are partly very closely allied to one another, and the whole of the *Megalopyginae* exhibit quite closely contiguous elements of marking and colouring. Another difficulty for the determination of the species is the extraordinary variability of widths according to the size of the individual insects, the width of the wings, the length of the antennae, of the colourings and the markings produced by them. This variability of widths is presumably caused by the single individuals having different lengths of life as larvae. Especially the full-grown larva can, according to observations, immediately proceed to its pupation or remain for many months (up to 18 months) unpupated in the spun cocoon, whilst the pupal stage seems to be confined to a time of about 4 weeks. In this way all the stages of development are to be found throughout the year, particularly in the districts without definite rainy seasons. Whether the larvae feed during the dry or rainy seasons, is of great influence upon the size of the individual insects and upon the development of pigments. In this connection is also the formation of decidedly melanistic specimens. Moreover, the ♂♂ and ♀♀ of the *Megalopyginae* sometimes differ considerably in colouring and marking. Finally, the ♂♂ are sometimes observed to approach individually the ♀♀ in colouring and marking, the ♀♀, however, to approximate the male marking and colouring; thus are produced gynomorphous ♂♂ and andromorphous ♀♀, and in extreme cases occur individual insects which, from the antennae (♀ from more feebly pectinate to plain) to the anal hair (♀ distinctly curled hairballs) are completely ♂♂ on one side and ♀♀ on the other side (*Meg. lanata*).

We divide the *Megalopyginae* into two genera, *Megalopyge* Hbn. and *Podalia* Wkr. They differ in the ♂ of *Megalopyge* lacking the retinaculum of the frenulum, whereas in *Podalia* it is developed. The numerous other genera that have been established cannot be maintained owing to the inconstancy of the marks of distinction used. Thus belong to *Megalopyge*: *Gasina*, *Alpis*, *Zebonda* Wkr., *Chrysopyga*, *Ochrosoma* H.-Sch., *Oylothrix*, *Pimela* Clem., *Lagoa* Harr., *Cyclara* Schs. To *Podalia* Wkr.: *Gois*, *Malmis*, *Bedalia*, *Unduzia* Dyar.

1. Genus: **Megalopyge** Hbn.

Nuda-group.

nuda. **M. nuda** Stoll (= *partheniata* Dyar) (161 c). Wings scantily scaled, the veins on the forewings with fine black lines on both sides, but only those proceeding from the cell-end extend to the distal margin. Fine black streaks between the veins. Hindwing with fine black hair on the veins. The ♀ has the same, but sometimes much darker ground-colour on the wings. The other colourings are very variable: head, thorax, abdomen

and femora yellow or rufous brown, dark brown to blackish, the thorax mostly mixed with white and black, which mixture passes over to the basal area. Tibiae and tarsi black and white, with long hair. The insects easily lose part of the vestiture of their wings, especially the black lines, and the ♀♀ look then uniformly light or dark brown, their anal ball being from light yellow to black. The larva is represented by mistake in STOLL according to the precise description by DEWITZ; it lives in Venezuela, on a yellow-blossoming Cassia, and other plants. The larvae live unupated in the cocoons for as long as 18 months and in this way sometimes reach Europe alive. Widely distributed: Guiana, Venezuela, Paraguay, South Brazil, Bolivia, Peru.

M. krugii Dewitz (161 c) is similar to *nuda*, but much smaller. The black lines between the veins are *krugii*, broader but less distinct, the veins themselves with whitish hair. A black spot at the cell-end of the forewing is preceded by a brightening. Unlike *nuda*, the ♀♀ are here sometimes much lighter coloured than the ♂♂. Larva and cocoon according to DEWITZ similar to *nuda*; on Rosa. — Portorico, Cuba, Colombia.

M. salebrosa Clem. (= *agdamea* Drc.) (161 c). A large, distinctly marked species reminding us of *nuda salebrosa*, by the fine lines of the middle part of the veins, although its colouring and marking forms a transition from *nuda* to the *xanthopasa*-group. Mexico, Guatemala.

Lanata-group.

M. lanata Stoll (= *citri* Sepp) (161 d) is one of the commonest, most widely distributed species, varying *lanata*, in size, colouring and marking partly individually, partly geographically. The head, 6 thoracic spots and the long femoral hair on one side are pinkish red, the abdomen dorsally with pink rings, the wings frequently with a slight pink hue, especially in the ♂. A white zone in the median area of the forewing, interrupting the marking, is sometimes very extensive (Venezuela). Mexican specimens are darker and more hazily marked, those from South Brazil mostly distinctly marked and sometimes very similar to *urens* Berg. There are also cases in which the ♂♂ assume the faded marking of the ♀♀, or the ♀♀ the distinct marking of the ♂♂. A half-sided intersex or hybrid has become known from Sa. Catharina. Larva (figured by SEPP, biology by JONES) whitish, with dark red tubercles from which the long dark brown and the short blackish venom-hairs arise. It lives on numerous trees and shrubs, also on foreign ones, such as *Mangifera indica*, *Citrus aurantium*.

M. urens Berg (161 d) is allied to *lanata* and exhibits all its details of markings. Only the colouring *urens*, is somewhat different, the dark brown tints are more blackish here, the light brown ones more whitish, the pinkish-red ones often reduced and smaller than in *lanata*. The ♀ of *urens* has the same marking and colouring as the ♂. The larvae of the two species differ distinctly, especially in the hairs of *urens* being mostly spatulate and the tubercles yellowish or greenish instead of purple. The larva, according to BERG, lives on *Feijoa sellowiana* Berg, but according to BOURQUIN (in litt.) it occurs also on Citrus, Rosa and many other trees and shrubs of Argentina, South Brazil, Uruguay, Argentina, Paraguay. BERG states also Venezuela, but this probably refers to *perseae*.

M. perseae Dogn. (161 e) is distinguished by the light, yellowish-pink ground-colour of the wings and *perseae*, by plain, somewhat wedge-shaped dark stripes between the veins. The ♀ has the same colouring and marking as the ♂. The cocoons of this species were found at the foot of the tree *Laurus perseae* L. Peru, Ecuador, Colombia, Venezuela. — The author distinguishes from this another species — **translucens** Dogn. with hyaline *translucens*, wings and the same, but less distinct markings, short black fringes, while the fringes in *perseae* are ochreous, interrupted by black. Vertex black (*perseae* ochreous). From the Tolima and Quindiu, Colombia.

M. torva Schs. (161 e) is a rare species, of which only the ♂♂ are at hand so far. The type is from Costa *torva*, Rica, other specimens from Peru, one of which is figured. The species looks like a small *Podalia fuscescens* with indistinct postmedian markings of the forewing, or like a large *M. albicollis* with a slightly modified colouring and marking. It is characterized by the brownish colour of all the white markings and the whitish, distinctly defined, black-centred spot at the base of the forewing, as well as a double tuft of blackish-brown hairs at the base of the abdomen. The hair of the basal area of the forewing is undulate, and we may assume that the ♀♀ exhibit distinctly curled white hair also at the costa of the forewing.

M. tharops Stoll (= *multicollis* Schs.) (161 e). The problematical figure by STOLL seems to represent *tharops*, a badly preserved and wrongly figured ♀; the author himself remarks that the white stripes of the wings are somewhat transparent. Judging from *multicollis* Schs., the species is widely distributed: Guiana, Venezuela, Panama, Colombia, Amazons, Ecuador, Peru, Minas Geraës. The size of the specimens and the colouring varies considerably here, too; there occur such with entirely white hindwings, while the inner margin is generally brown.

lampira. **M. lampira** Dyar (161 e) represents the Mexican edition of this species, distinguished by the larger extent of the dark area of the forewing at the inner margin. Described and figured as *radiata* in Biologia Centr. Amer.

radiata. **M. radiata** Schs. (161 f) is likewise closely allied and forms the southern race of *tharops*. The brown or light brown tints of *tharops* are blackish-brown here, all the white is more reduced. Whilst the prothorax and tegulae of *tharops* ♂ ♀ exhibit one white saddle each, the prothorax of *radiata*-♂ and also the tegulae of *radiata*-♀ are blackish-brown. South-Eastern Brazil: Curityba, São Paulo, Itatiaya, Passa Quatro. Larva according to Jones (where it is determined as *tharops*) on Guava, partridge-coloured, ripe for spinning at the end of March, but it emerged only in January after 320 days. — **flavivertex** Schs. with a yellow (instead of white) vertex is a somewhat differently coloured form occurring similarly also in other species. São Paulo.

albicollis. **M. albicollis** Wkr. (= *grandis*, *fasciata* Wkr., *vipera* Schs.) (161 f). The ♂ has a white vertex, the ♀ a brown one, besides the white and brown hair of the basal area of the ♂ forewing is smooth, or indistinctly curled only at the base of the wing, while it is distinctly curled in the ♀ beyond half of the wing; the curled hairs easily fall off. This species likewise exhibits considerable differences of size and colourings from blackish-brown to light brown. Especially the intensity of the white colouring varies frequently; for instance, specimens with a reduced white colouring of the forewings exhibit the generally white tufts on the femora and tibiae brown. Moreover, we meet with a yellow (instead of white) colouring of the vertex and tegulae. Widely distributed from Panama to Bolivia and South Brazil, Guiana, Amazons. — **superba** Hy. Edw. is the Central American race of *albicollis* distinguished by the claws, especially on the hind feet, being white-haired at the base. Generally also the brown colouring is somewhat lighter. Mexico. The same race occurs also in Guatemala, Honduras and Costa Rica, but also the typical *albicollis* and transitions between them occur here; the transitory forms are especially characterized by the claws, particularly those of the hind legs, exhibiting only single white hairs at the base.

braulio. **M. braulio** Schs. (161 g) may be considered as the Paraguayan local race of *albicollis*, but the differences (wings coloured more yellowish-grey, with a less distinct white marking of the postmedian area of the forewing) disappear in the series compared with South Brazilian specimens. In general, the South Brazilian male specimens exhibit lighter hindwings, while those of the female hindwings are always dark brown.

peruana. **M. peruana** sp. n. ♂ (162 a). Judging from the marking, this species is about intermediary between *torva* and *tharops*, uniting the elementary markings of the two species. Head, collar, and legs pinkish-brown, the thorax mixed with white. Abdomen pinkish-brown. Wings likewise with a pinkish-brown hue on them, the forewing at the distal margin with veins lined black on both sides, the median area pinkish-brown, the basal area blackish. Hindwing brown, lighter between the veins. Peru: Carabaya, San Domingo (OCKENDEN). Type in the Tring Museum.

Apicale-group.

apicalis. **M. apicalis** H.-Sch. (*Ochrosoma apicale* = *Zebonda basigutta* Wkr.) (161 g). The colouring and size also of this species vary considerably. The ♂ shows a white spot near the base of the forewing, which is absent in the ♀. The ♀♀ generally show a uniformly thin cover of blackish scales, with a yellow apical spot of the costa of the forewing and yellow fringes at the anal margins of the hindwings. The ♂♂ which sometimes exhibit the same colouring may have also yellow veins, especially on the forewing, and the hindwings are usually lighter. Forelegs from light yellow to white. Abdomen with a blackish dorsal stripe, or quite dark brown. Described from South Brazil, but widely distributed, Guiana, on the Amazons as far as Peru, Colombia.

lecca. **M. lecca** Drc. (161 g). Larger than *apicalis*, from which it differs also in some details of the marking. The yellow apical spot of the forewing is absent, and the veins are not prominently yellow. At the cell-end, however, there is a light spot. The distal-marginal area of the forewing is lighter, distinctly visible in the ♀♀. As in *apicalis*, the ♀ lacks the white spot near the base of the forewing. Besides, the legs of the ♂ are white, those of the ♀ brown. This species likewise exhibits considerable variations of size and colourings from light brown to blackish brown.

hina. **M. hina** Dogn. (162 a). ♂ similar to *apicalis* with the light veins and the yellow prolonged apical spot of the forewing, but it lacks the white basal spot and exhibits a small dark spot at the cell-end. Considerable differences of size and variable intensities of colouring occur also here. Sometimes a yellow costal band is to be seen on the last third of the forewing as far as the apex. The ♀♀ exhibit a darker colouring on an average. Guiana, Amazons to Peru, Panama, Colombia.

Trossula-group.

trossula. **M. trossula** Dogn. (*Prismoptera*) (162 a) has hyaline wings, except scanty brown and black hair at the base of the forewing and at the inner margin of the hindwing. Fringe black. Head and thorax brownish ochreous,

abdomen somewhat darker. Legs black, partly intermixed with white hairs. Cocoon reddish yellow. Chiriquibamba near Loja, South Ecuador. ♀ unknown.

M. hyalina Schs. ♂ (162 a) has likewise almost hyaline wings. Forewing with a black costa and a scantily black-haired basal area. Hindwing with longer black hair on the inner-marginal area. Vertex and collar ochreous, abdomen black with an ochreous anal tuft. Legs dark brown. ♀ blackish, thinly scaled with whitish markings: a large spot occupying the end of the cell, a broad band from the costa near the apex to the angle of the inner margin. Head, thorax, abdomen dark brown, anal ball dingy yellowish. The ♀ thus reminds us of forms of the *undulata*-group. Larva, according to ΖΙΚΑΝ, fox-coloured, cocoon black. South-Eastern Brazil.

Xanthopasa-group.

A group containing few species but many forms, partly composed of local races, partly of individual variations. Variable is particularly the size of the individual insects, the gradual development of brown pigments and white markings, and also the width of the forewings producing specimens with broad and narrow wings. Similar conditions have already been observed in the *Trosiinae*-species which are strictly confined in sexually morphological respect. Beside the species and forms described, most of which are figured, there are quite a number of such that are not denominated. We divide the group into two series, the first of which, the *opercularis*-series, shows the white basal spot of the forewing indistinct, strigiform or undeveloped, while it is roundish and more distinctly developed in the second, the *defoliata*-series. The white hairs of these *Megalopyge*-species, however, fall off easily.

Opercularis-series.

M. opercularis Abb. & Sm. (= *Pimela lanuginosa* Clem.) (162 b) lives in the Southern United States, but it is hardly separable from the Mexican — **ornata** Drc., as both are variable in size and colouring, forming transitions. On an average, the white submarginal row of spots on the forewing may be more rarely developed in *opercularis* than in *ornata*. The latter occurs also in Guatemala, Costa Rica and Panama, where it passes over to — **briseis** Dyar (162 b) which is typically described as a somewhat larger, darker pigmented species from Venezuela; it likewise often shows the submarginal row of white spots on the forewing. Slighter differences of tints are met with in the Guianas, in Colombia, Ecuador, Peru and Bolivia. Some of them have been denominated: — **govana** Schs. (162 b) from French Guiana, — **incachara** Schs. (162 b) from Bolivia, and — **albizona** Dogn. from the Amazons. The latter which is very closely allied to *govana* shows a more extensive white marking on the wings. Especially the thorax exhibits a broad white belt at the base, and the abdomen a white anal tuft; the forewing is white in the cell, below the media and at the base of the veins, and a white postmedian line crosses the wing. Moreover, there are still whiter coloured specimens at hand from Peru, exhibiting an entirely white thorax and an almost white abdomen. — An *ornata*- or *briseis*-form with narrower, slightly prolonged forewings is — **costaricensis** Schs. (162 b) occurring not only in Costa Rica but also elsewhere, e. g. in Panama and South Colombia. — Another variety of *opercularis* or *ornata* has been named — **bissesa** Dyar (162 c), typically in Arizona and Mexico; it differs in the more distinctly defined, broader, light yellow distal margin of the forewing, but there are transitions to the nomenclatural form. Also *briseis* varies similarly, exhibiting forms with a light yellow margin from Venezuela, Guiana and Para.

M. amita Schs. (162 c) is the southern representative of the *opercularis*-series and probably to be regarded as a distinct species, but it is likewise subject to considerable variations. The white marking of the forewing is sometimes very distinct, the lemon colour of the body passes over into brown: — **victoriana** Schs., and individual specimens occur, which represent distinct transitions to certain forms of *M. undulata*. South Brazil, Argentina.

M. amitina Dogn. is not at hand. The ♂ is covered with blackish-grey curled hair on $\frac{2}{3}$ of the forewing, the distal-marginal area and the fringe being yellow. Hindwing pale yellow. Head, thorax and abdomen yellow, legs black. Trujillo, Peru.

M. chrysocoma H.-Sch. (= *aricia* Schs.) (162 c). The ♂ has dark brown wings with scanty hair; the costa of the forewing, especially before the cell-end, is blackish, an indistinct whitish spot is at the cell-end. Body ochreous, a stripe of dark brown hairs directly before the yellow anal tuft. The ♀ has a yellowish ground-colour of the wings, suffused with dark greyish brown. Venezuela.

M. megalopygae Schs. Vertex lemon-coloured, thorax olive brown, abdomen above dark brown, subdorsally with a basal lemon-coloured tuft. Forewing dark grey, with long curled hair turning olive yellow along the proximal and distal margins. Hindwing dark grey, the distal margin and fringe narrowly olive yellow. French Guiana.

undulata. **M. undulata** H.-Sch. (= *fuliginosa* Moore, *vulpina* Schs.) (162 c) varies extraordinarily in size, colouring from olive brown to blackish brown and in the intensity of the white markings in both sexes; it was observed that uniformly dark brown ♂♂ may belong to ♀♀ which are much lighter and provided with abundant white markings, whereas on the other hand the brightly coloured ♂♂ sometimes emerge with plainly dark brown ♀♀ from the same breed. South-Eastern Brazil. The much smaller, more distinctly marked specimens from *vulpina.* Argentina are — **vulpina** Berg (162 d), forming regular transitions to *amita* Schs. — **sevarina** Schs., described *sevarina.* from Paraguay, is closely allied to *undulata*. The ♂ has paler hindwings and the ♀ is broader and darker coloured. — The larva of *undulata*, according to JONES, with black, white and brownish ochreous spatulate hair, lives on Guava (São Paulo) and other plants. Cocoon in a dense web into which the larval hair are intermixed.

uruguayensis. **M. uruguayensis** Berg (162 d). Head, thorax and abdomen brownish ochreous, intermixed with white. Wings thinly scaled, with indistinct white markings, especially in the cell. Uruguay, Argentina. — A form with more distinct white markings, especially white veins and more extensive white colouring of the cell of *chacana.* the forewing, which shows a large dark spot at the end, has been denominated — **chacana** Schs. (162 d). From the Chaco in Argentina.

lanceolata. **M. lanceolata** Dogn. ♂ with a brownish ochreous head and body, blackish legs. Forewing brownish ochreous, paler in the lower median area, the costa and the anterior part of the basal area blackish: the cell is white and forms the point of a lance, the point being turned inward. Two white distal-marginal lines approach each other at the apex. Hindwing white, feebly brownish. La Rioja, Argentina.

inca. **M. inca** sp. n. (162 d). Head ochreous, white between the antennae. Thorax, abdomen and legs ochreous, tibiae and tarsi black, white-haired on one side. Forewing brown, costal area dark brown; marked with white arc: the costa, the anterior and posterior edges of the cell as well as the media of the cell with fine white hair, the cell-end blackish, a broad white spot at the costal apex. Hindwing brown, lighter at the base. ♀ unknown. Peru: between Lima and the Chanchamayo (A. M. Moss). Type in the Tring Museum.

Defoliata-series.

defoliata. **M. defoliata** Wkr. (162 e). We figure a specimen corresponding to the type. Mexico. The species has been wrongly determined by DYAR and corresponds approximately to his *trujillo.* *trujillo* Schs. (162 e) which is to be regarded as the darkest coloured form of this series. Much lighter coloured *agesistrata.* than *defoliata*, however, is — **agesistrata** Drc. (162 e) which might correspond again to DYAR's *codiopteris*. Darker specimens than the figured Guatemala-specimen occur of *agesistrata*, and in nature there may be transitions from the lightest *agesistrata* to the darkest *trujillo*. The type of DRUCE is a badly preserved ♀ from Guatemala, according to which the author determined later on a ♂ evidently belonging to this form. Whatever DRUCE denoted as *agesistrata* later on, seems however to belong partly to *ornata* Drc. Mexico, Guatemala.

A Mexican form with a still more extensive brightening is allied to *agesistrata*. It is the form which DYAR determined as *defoliata* by mistake and which has thus remained without a denomination; it may be *dyari.* called: — **dyari** nom. nov. (162 a). The distal-marginal area of the forewing is distinctly defined light yellow, the basal area brown, blackish towards the costa.

The form *dyari* is of special importance, because it represents the Mexican edition of the oldest species *xanthopasa.* described of this group — **xanthopasa** Sepp from Dutch Guiana, of which no specimens are at hand. The Guiana-species chiefly differs from its Mexican form in the darker brown thorax and abdomen which are light yellow spotted with brown in *dyari*. SEPP figured only the ♂♂; the ♀♀ might be identified with *pellita* Felder (from French Guiana), the figure of which could not be reconstructed. — Finally we may mention the occurrence of a form of the *defoliata*-series also in South Brazil, from São Paulo, "Sierra de Cubatao". Head, thorax and abdomen light brown, forewing almost similar to that of *agesistrata*, though with a smaller white basal spot, hindwing intensely brown near the inner margin.

Two melanistic aberrations of *Megalopyge*-species of the *xanthopasa*-group are at hand from the Tring Museum, one of which we figure. Here the wings are completely black, as well as the legs and the abdomen, but the latter with a light yellow anal tuft. Head and thorax brownish ochreous, the thorax with a light yellow saddle at the base. This aberration the relation of which to one of the many chromatic forms *melaina.* can no more be ascertained owing to the black cover of the wings may be named — ab. **melaina** n. f. (162 f); Para (M. Moss). The other aberration was also collected by M. Moss on the Upper Amazon R. and has much narrower wings which are dark brown like the thorax and abdomen. The thorax has a lighter tuft at the base,

the abdomen a light yellow anal tuft. Head light yellow. The legs are normally coloured, with long white hairs on one side, black tarsi, and white-haired claws.

The following further species are allied to the *xanthopasa*-group.

M. pyxidifera *Abb. & Sm.* (= *subcitrina* *Wkr.*) (162 f). Completely brownish ochreous. The ♂ has curled hair in the basal part of the forewing, the ♀ also along the costa. Hindwing somewhat lighter. Southern Atlantic States. *pyxidifera.*

M. crispata *Pack.* (162 f) is pale yellow in all its parts, except the blackish embedding of the head in the thorax and the marking of the forewing. Also the ♂ has black, brown and white curled hair along the costa. A black spot without the cell-end. Northern United States. — An aberration — a ♀ — has been described — ab. **grisea** *Barnes & McD.*, in which the forewing and hindwings above and beneath exhibit a grey ground-colour and white fringes, but otherwise the marking of the typical species. Newark, N. Jersey. *crispata.* *grisea.*

M. lacyi *Barn. & McD.* ♂ completely yellowish creamy, except the black base of the forewing, the last tarsal joint and a narrow fringe of hair around the eyes. Costal margin of forewing somewhat darker. A small brownish spot at the apex of the cell. Forewing covered with long curled hairs. The ♀ is more creamy white, otherwise similar to the ♂. Texas. *lacyi.*

M. affinis *Dcr.* The ♂ is completely creamy white, except a series of black scales along the costal margin of the forewing, fine blackish scales in the cell, and a black dot at the cell-end. ♀ unknown. Mexico, Yucatan. *affinis.*

M. ravidia *Drc.* (= *Archylus loanus* *Schs.*) (162 g). The ♂ has white legs, hindwings and abdomen, a slightly brownish thorax and head. Forewing more intensely marked brown in the basal area, especially in the cell, the exterior part of the wing marked feebly brownish. ♀ unknown. Mexico: Acapulco and Sinaloa. *ravidia.*

M. lapena *Schs.* (= *cyrtota* *Dyar*) (162 g). From brownish-white to creamy white. Basal part of forewing with a rusty brown or pale brown spot of curled hair, outside dark brown and interrupted by white. Mexico. — The Arizona-form of this species is — **heteropuncta** *Barn. & McD.*, in which the spot at the cell-end and the preapical spot of the forewing are small, punctiform and black; this deviation, however, is also often found in Mexico and may be merely a variation of the species. *lapena.* *heteropuncta.*

Cyclara-group.

Small, fragile species of which only scanty specimens are to be found in the collections. They must be ranged with *Megalopyge*, as the ♂ lacks the retinaculum.

M. obscura *Schs.* (= *Cyclara*). Wings light greyish brown. Forewing with a broad, diffuse, dark brown postmedian shadow partly edged with white. A black dot at the base, a subterminal black spot. French Guiana, also from Peru. *obscura.*

M. brunneipennis *Schs.* Body and wings dark golden brown. Forewing with a dentate whitish postmedian line from vein 5 to the inner margin; a subterminal dark brown dot. Rio de Janeiro. *brunneipennis.*

M. ovata *Schs.* (162 g). Thorax and abdomen greyish-brown, wings somewhat lighter. Forewing with a diffuse dark brown postmedian shadow, partly edged with undulate whitish lines; a black dot at the base; a subterminal black spot at vein 7. French Guiana. — The species resembles *Pod. guaya* *Schs.* in its marking and colouring, but it is much smaller. Mr. CARL HEINRICH, Washington, calls our attention to a difference in the neurulation: veins 7, 8, 9 of the forewing arise on a long stalk in *ovata*, on a short stalk in *guaya*. Future explorers will have to decide whether the genus *Cyclara* *Schs.* can be founded in this way. *ovata.*

2. Genus: **Podalia** *Wkr.*

P. orsilocha *Cr.* (*Bombyx orsilochus* *Cr.* = *vesta*, *dorsimacula* *Wkr.*) (162 g). The species varies in size, colouring and contours of wings, also slightly in marking. The ♀♀ exhibit a broad wedge-shaped white excision on the hindwing. Widely distributed, Guiana, West Colombia, South-Eastern Brazil. — Beside this nomenclatural race there are others occurring stragglingly. — **major** *Schs.* ♂ (163 a) shows the costal half of the hindwing white, the other half brownish; the ♀♀ are similarly marked. Venezuela, Central Colombia (Muzo), Peru (Chanchamayo). — **misantha** *Dyar* ♂ (163 a) shows all the veins of the hindwing lined brown. Mexico. *orsilocha.* *major.* *misantha.*

P. schadei *Schs.* (163 a) differs from *orsilochus* in both sexes in its shorter, more compact wings, the ♀ in completely brown hindwings containing only a small white zone before the dark brown edge of the distal margin. The ♂♂ have brown hindwings which are sometimes a little lighter in the basal area. Paraguay. It *schadei.*

is open to doubt whether it is a distinct species or only a form or race of *orsilocha*. Almost the same forms are besides at hand from Guatemala and Peru.

- albescens.* **P. albescens** Schs. ♂ (163 b). Lighter in all its parts than *orsilocha*. Hindwing white with brown marginal spots at the distal margin. Specimens occur with very dark forewings. Regarding the contours, the ♂♂ are almost intermediate between *orsilochus* and *schadei*. The ♀ is still unknown. South-Eastern Brazil: Minas Geraës, Rio de Janeiro, São Paulo, Sa. Catharina.
- fuscescens.* **P. fuscescens** Wkr. (= *megalodia* Dyar) (163 b) varies in size but little in colouring and marking. The ♀ has the same marking and colouring as the ♂. South-Eastern Brazil, also on the Amazons, the western coast of Colombia; probably its range extends still farther.
- walkeri.* **P. walkeri** Berg (= *Malmis* Dyar, *fieldia* Schs.) (163 b). This species has a different exterior in nearly every district of South-Eastern Brazil. The most extensively white are specimens from Sa. Catharina, whereas those from Minas Geraës exhibit but scanty white markings. Intermediary are specimens from São Paulo and Rio de Janeiro. The ♀ has the same colouring and marking as the ♂, but the hair along the costa of the forewing are white and curled. Argentine specimens (from Tucuman) are — **nigricostata** Dogn., they are blackish-brown, especially on the costa of the forewing. We figure another race from the Province of São Paulo — *semialba*, **semialba** Hopp (163 b). The tibiae and tarsi of all these forms have black and white ringlets.
- lanocrispa.* **P. lanocrispa** Jones (= *interlineata* Dyar) (163 c) is closely allied to *walkeri*, likewise with ringlets on the tibiae and tarsi. Forewing with pale yellowish lines between the veins, a dark postmedian line crosses the wing from vein 5 to the middle of the inner margin, but it is only indistinctly visible. The basal area with several black curled locks of hair which easily fall off. The ♀ does not differ from the ♂ in marking and colouring. Paraná and Minas Geraës, Brazil.
- tympania.* **P. tympania** Drc. (163 c) is an extraordinarily variable species, especially in the postmedian white marking of the forewing, the zig-zag lines of which may be centred black or almost quite extinct. Base and costa of forewing broadly white, with black veins, vertex white or yellow. Thorax blackish-brown, abdomen somewhat lighter. Legs with long white hairs on one side. Tibiae and tarsi brown. ♀ with the same colouring and marking as the ♂. Widely distributed from Mexico to Peru, on the Amazon R., in Colombia, Guiana.
- nivosa.* **P. nivosa** Jones (163 c) is allied to *tympania* and represents it in South-Eastern Brazil. Femora with long white hair on one side, tibiae and tarsi blackish-brown. The species looks like a *Meg. albicollis* with very intensely white markings. ♀ unknown. Paraná and Minas Geraës.
- mallas.* **P. mallas** Drc. (= *Bedalia corops* Dyar) ♂ (163 c). The blackish-brown forewing exhibits a broad white costa, a black basal and cellular spot and a narrow white transverse median line extending almost to the inner margin. Hindwing brown. Head blackish-brown, white around the antennae. Thorax, abdomen and legs blackish-brown, the legs with long white hair on the femora. Basal half and more of the forewing with curled hair. ♀ unknown. Minas Geraës, Paraná, Rio de Janeiro, Sa. Catharina.
- vicina.* **P. vicina** Hopp ♂ (163 c) differs from *Mallas* in the white thoracal tuft, lighter hindwings and another direction of the shorter, broader, median white mark on the forewing, which extends below the cell towards the interior angle and is composed of curled white hair. Differences in the sexual armature have also been ascertained. ♀ unknown. From Itatiaya, also from Villavicencio, Colombia.
- intermaculata.* **P. intermaculata** Dogn. This species, very similar to *vicina*, shows the median white spot on the forewing divided into two finely split parts, the lower one hollowed out outwards, prolonged, almost to the inner margin. According to HEINRICH, this species also shows differences from *vicina* in the male sexual armature. ♀ unknown. South Peru, Eastern Bolivia.
- angulata.* **P. angulata** Hopp ♂ (163 d). The median white spot of the forewing is almost triangular here and is not composed of curled but of smooth hair. All the white is interrupted by black veins. ♀ unknown. Macas, Ecuador.
- gamelia.* **P. gamelia** Drc. ♂ (163 d). Excepting the blackening of the costal region of the forewing, all the brown markings are broken up into spots. ♀ unknown. Peru, Guiana, Western Coast of Colombia.
- pedacia.* **P. pedacia** Drc. ♂ (163 d) has a black head, collar, abdomen and legs. The tegulae are grey, the anus and underside of the abdomen white. Antennae ochreous. The marginal spots of the hindwing are variably developed. ♀ unknown. Peru, Carabaya.
- pedacioides.* **P. pedacioides** Dogn. Antennae of ♂ with a white shaft and greyish-black pinnae. Thorax blackish-grey, tegulae blackish-grey, edged with white. Forewing with a narrower white distal margin than in *pedacia*, the marking about midway between *pedacia* and *pseudopedacia*. Colombia: Tolima.

P. pseudopedacia Dogn. ♂ (163 d). Antennae brownish ochreous, very broadly pinnate. Head and body white, mixed with grey, abdomen above predominantly grey like the legs. Wings somewhat hyaline. The author states besides that vein 6 of the hindwing is nearer to 7, while in *pedacia* and *pedacioides* it is about midway between 5 and 7, but this mark is probably variable, for it occurs also that veins 6 and 7 arise on a short stalk. The ♀ is not different in marking and colouring. A remarkable fact is that, contrary to other *Megalopyginae*-♀♀, vein 8 of the hindwing in the ♀ extends in exactly the same way as in the ♂♂, except that it anastomoses in the basal part with the anterior edge of the cell. Colombia: Bogotá. *pseudopedacia*.

Contigua-group.

P. contigua Wkr. (*Alpis*) (= *Bombyx habitus* Edw.) ♂ (163 d) is extremely variable in size and colouring. We figure a specimen which corresponds most to the description of the type (the type itself seems to be lost). Mexico, Guatemala, Costa Rica, Panama, Colombia, Ecuador, Peru. — **montana** Schs. (163 e) is a form with a lighter distal margin. We figure a most contrasting specimen, though all kinds of transitions between these two colourings occur. It is to be found wherever *contigua* itself occurs. *contigua*. *montana*.

P. salacia Drc. (163 e) differs in its more reddish-brown instead of dark brown colouring, and besides in the almost straight distal margin of the forewing, which is distinctly convex in *contigua*. Costa Rica: Irazu. *salacia*.

P. cirrata sp. n. (163 e) differs from *contigua*, *montana* and *salacia* in the distinctly curled hair of the dark brown basal area pierced by light veins. The transverse light line is scarcely visible. Abdomen, thorax, legs light brown, head somewhat darker. Hindwing even somewhat lighter than the broad distal margin of the forewing. The distal-marginal line in both wings, which is interrupted by the veins in the other species, is entirely absent here. Peru: San Domingo, Carabaya (G. OCKENDEN). Type in the Tring Museum. The type has much longer, more pectinated antennae than the specimens at hand of the other species of this group. *cirrata*.

Not one ♀ of all the species of the *contigua*-group has become known so far.

Dimidiata-group.

This group comprises four closely allied species which are rather variable individually and occur in most different districts; they can be distinguished from each other by certain marks in the male and female sexual form.

P. dimidiata H.-S. (*Limacodes dimidiatus* H.-S. = *Meg.* [*Gois* Dyar] *nigrescens* Schs., *Cyclara* [*Repnoa* *dimidiata* Dyar] *amarga* Schs., *Meg. farmbri* Kaye) (163 e) is variable in the veins, size, colouring, and marking. It has a wide range: Mexico (Tabasco) as far as Sa. Catharina and Peru. The species is discernible from the others by its thin, fragile body inclusive of the thinly scaled resp. hairy wings, and the specimens are smaller on an average and have narrower wings. The colouring of the basal area of the forewing is from dark brown to black and more extensive at the distal margin, generally leaving only a small part of the apex free, which is light brown or white. Hindwing in both sexes blackish hyaline, with a narrow light distal margin.

P. thanatos Schs. (163 f). The dark basal area of the forewing is lighter below the cell and terminates distally in pointed zigzag curves which are edged white outside. Hindwing from light brown to whitish, fringe blackened at the distal margin, more rarely at the inner margin. The ♀ is much darker, the hindwing as well as the distal margin and apex of the forewing are pierced by light veins; therefore also the white edging of the basal area of the forewing is more distinct. Guatemala, Costa Rica, Venezuela, Guiana, Colombia, Peru, but not observed in South-Eastern Brazil. *thanatos*.

P. arpi Schs. (163 f). The border between the black basal area and the light brown distal-marginal and apical part of the ♂ forewing is irregularly dentate, but not in distinct zigzag curves, though it is also edged with white distally. A vertical row of cloudy dark spots in the distal-marginal area. Hindwing light, blackish at the base and inner margin. ♀ similar to the ♂, rather thinly scaled and similar to *dimidiata*-♀ from which, however, it differs in the broader light distal margin of the forewing, especially near the angle. South-Eastern Brazil: Minas Geraës, Rio de Janeiro, on the Itatiaia, São Paulo, Sa. Catharina. *arpi*.

P. walkerensis nom. nov. (= *dimidiata* [Ocha] Wkr. is preoccupied by *dimidiata* H.-S.) (163 f, g). The species is about midway between *thanatos* and *arpi*. ♂: the light distal margin of the forewing near the angle is marked with pointed black spots, so that a white zigzag line is produced. Hindwing intensely blackened at the inner margin. ♀: hindwing similar to *thanatos*, forewing distinctly defined light brown in the apical *walkerensis*.

and distal-marginal areas, with a vertical row of blackish, outside white spots. Observed in Costa Rica, Colombia (Western Coast), Peru, Minas Geraës (Uberaba), Rio de Janeiro, and on the Itatiaya.

Cincinnata-group.

Three closely allied and similar species, but easily discernible by certain marks.

cincinnata.

P. cincinnata Dogn. (163 g). The type of the Washington Museum is in an extremely bad condition, the abdomen does not belong to the specimen, but according to HEINRICH it proved to be that of a Noctuid. Nevertheless, the species can be reconstructed by aid of a ♂ of the Tring Museum, originating from Bolivia like the type. The dark brown basal area with an indistinct black cellular spot consists of curled hair. It is distally bordered by an indistinct whitish vertical line which widens much towards the apex at vein 5 and contains several blackish streaks between veins 5 and 9 on the whitish area. The distal margin of the forewing is otherwise brown, the veins are somewhat darker. The contours of the distal margin are almost straight. Hindwing brown, with blackish veins. ♀ unknown. Bolivia.

proiecta.

P. proiecta sp. n. (163 g). The dark brown basal area of the forewing, broadly darkened at the costa, is composed of short scales. It is pierced outside from the inner margin to vein 5 by white veins and followed by an indistinct whitish vertical line and, from there to the costa, it runs back inwards roundish, likewise with an indistinct white zone outside. The distal margin is distinctly convex. An apical black spot on vein 7 in the light distal-marginal area, and an indistinct row of dark spots from the angle to vein 5. Hindwing light brownish, somewhat darkened at the inner margin. ♀ unknown. Peru, Carabaya (OCKENDEN). Type in the Tring-Museum.

guaya.

P. guaya Schs. (163 g). The dark brown distal-marginal area of the forewing with an indistinct cellular spot is formed of curled hair. It is bordered outside by an indistinct, costally more inward whitish vertical line which widens much at vein 5 towards the apex and contains four oblong black spots between veins 6 and 9. The distal margin is distinctly convex. The distal-marginal area is slightly covered with brown curled hair which is not to be found on the two other species. Hindwing whitish. ♀: forewing completely covered with curled hair, the white postmedian line is outwardly dentate in the inner-marginal part. Hindwing dark brown. Minas Geraës and Paraguay. — The species varies much in size, but its marking and colouring is constant in long series.

bolivari.

P. bolivari Heyl. (*Pentophera*) (= *Meg. pellucens* Dogn., *Unduzia gistinda*, *phaule* Dyar) (163 g). The species differs extraordinarily in the male and female sexes also in its external appearance. The ♂ is quite black, the wings hyaline, without any markings, with a black costa. ♀ considerably larger, from light brown to dark brown, head, thorax, abdomen and legs greyish brown, wings semihyaline, the forewing with a vertical postmedian row of whitish spots. Mexico, Panama, Colombia, Venezuela, Peru.

dyari.

P. dyari Joic. & Talb. Only the ♀ is known. It is much larger than *bolivari*-♀, blackish hyaline like the ♂ of *bolivari*. The black thorax bears two tufts of purely white hair in front and a small one at the base. The wings are longer and narrower than in *bolivari*. The forewing exhibits one small heap of white scales each between the veins 5, 6 and 7, near the base. Legs black, beneath with a distinctly defined row of white hair. Ecuador.

III. Aidinae.

The male *Aidinae* are provided with broadly plumose antennae feebly dentate in the terminal parts, while the antennae of the ♀♀ are thicker, plain in the basal parts, thinner and feebly dentate in the terminal parts. In both sexes, the precostal vein of the hindwing extends freely and is connected at most with the cell by a cross-vein. The cross-vein is situate more basad in *Aidos* and therefore smaller, or entirely absent, while in *Xenarchus* it extends obliquely forward to the precostal vein and is somewhat longer thereby. The *Aidinae* are more specialized by these characters than other *Megalopygidae*. The organisation of the appendages of the 10th ventral segment in the ♂♂ approximates *Trosia* with which they are also allied by the red colouring, but also the Mediterranean genus *Somabrachys* the larvae of which may be allied to those of the *Aidinae*. For the flat dorsal and subdorsal foveae of the larval ventral segments, on the bottom of which there are two rows each of divaricating short bristles, remind us of the skin-bags subdorsally developed in the larvae of the *Somabrachys*, which are filled with loose bundles of short black-hyaline spines. In the neuration, the *Aidinae* differ besides from the other *Megalopygidae* in the posterior half of the cell of the hindwing being produced into a long point terminating into veins 3—4 near which also vein 5 arises. This formation reminds us of some *Lima-codidae* to which several authors formerly placed the *Aidinae*.

All the species are interrelated, some of them are extremely variable in size and colouring. About the biology we have already spoken in the introduction to the family.

1. Genus: **Aidos** Hbn.

Aidos Hbn. (= *Brachycodion* Dyar). The characters of the genus have been mentioned in the introduction.

A. amanda Stoll (164 a). Very variable in size and colouring, widely distributed: Mexico, Guatemala, *amanda*, Panama, Colombia, Venezuela, Guiana, on the whole of the Amazons, Ecuador, Paraguay, South-Eastern Brazil. The species is easily discernible from all the others by the hindwing showing blackish veins which are conspicuous at least in the costal part of the wing. The forewing is divided by brown and whitish scales into broad transverse bands which partly show an outward black pointedly dentate edge, though the bands become indistinct according to the predominance of the brown or whitish scales. Under surface brown or whitish with brown veins. Hindwing generally broad red only at the inner margin; the red colouring is more extensive in Mexico where also ♀♀ with an orange-basal area occur.

A. yamouna Dogn. (164 a) has uniformly red hindwings, while the forewings are brown, strewn with *yamouna*. white in the costal centre of the cell, with a darker zone beyond the cell. Wings beneath red, the costal and apical districts broadly greyish brown. Loja, South Ecuador. — The species thus represents only an extreme form (hindwing without any brown), whereas other forms are partly farther distributed. — **nuncilla** Dogn., *nuncilla*, from Colombia (Tolima), is discernible from it by the interspersation of black scales on the hindwing. In — **cynosura** Dogn. (164 a) the distal margin of the hindwings is brownish or with a black streak at the angle, while the ♀♀ are red only in the basal area, the distal half being brown. The colouring of the forewings varies considerably between whitish and brown. Colombia, Amazons, Peru, Bolivia. *cynosura*.

A. perfusa Schs. (164 a) is recognizable by the whitish-yellow basal area of the forewing extending to *perfusa*. the cell and exhibiting an oblong black spot at the base of the costa, a roundish one before the inner margin. The distal margin is broadly blackish brown, interrupted by an indistinct whitish line. Hindwing red, with a broad blackish brown distal margin. Thorax whitish, suffused with brown in the middle. Abdomen red, with a narrow blackish dorsal zone. The red colouring varies between light pink and dark red, the brown colouring between light brown and blackish-brown. Both wings beneath red on the basal halves, whitish grey on the distal halves. The form — **admiranda** Schs., from Costa Rica, is merely a variation of the species. Widely distributed: Costa Rica, Panama, Colombia, Guiana, Venezuela, Ecuador, Peru, throughout the Amazons. *admiranda*.

2. Genus: **Xenarchus** H.-S.

Xenarchus H.-S. (= *Brachycodilla* Dyar). Cf. the introduction.

X. osorius H.-S. (= *Aidos castrensis* Schs.) (164 b). ♂. Forewing similar to *amanda*, but with a distinct *osorius*. white vertical streak at the angle. Hindwing white, red at the inner margin, with a row of blackish dots at the distal margin and blackish fringe. However, there are also ♂♂ the hindwings of which are coloured exactly like the ♀♀ (gynomorphous form). The hindwing of the ♀ is broader red at the inner margin, brownish elsewhere, especially at the angle and costa. South Brazil.

X. carmen Schs. (164 b). ♂. Forewing with a semicircular row of small black spots beyond the middle, *carmen*. a small white vertical streak at the angle. Hindwing red with a greyish-brown apex and fringe. ♀. Forewing without the semicircular line of black spots or only with traces of them. Hindwing more extensively red than *osorius*, broadly brown only at the costa, otherwise very similar to *osorius*. South Brazil.

X. admirabilis Schs. (164 b). ♂. Forewing yellowish white with a red and blackish marking, beneath *admirabilis*. mostly of a bright cerise colour. Hindwing white. ♀ unknown. South Brazil, also from Paraguay.

Alphabetical List

of the American forms of the *Megalopygidae* with reference to the original description.

* signifies that the form is also figured at the place quoted.

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alydda Mac. *Drc. Biol. C.-A. Het. I.*, p. 210, 1887. *
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anax Tros. *Dogn. Hét. nouv. Am. Sud* 23, p. 33, 1923.
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angustior Nor. *Hopp Mitt. Zool. Mus. Berl.* 13, p. 320, 1927.
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bipennis Nor. *Hopp Ann. Nat. Mus. Wien* 44, p. 270, 1930.
bissesa Meg. *Dyar Proc. U. S. Mus. Wash.* 38, p. 267, 1910.
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caprina Nor. *Hopp Mitt. Zool. Mus. Berl.* 13, p. 306, 1927.
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cavata Nor. *Hopp Mitt. Zool. Mus. Berl.* 13, p. 311, 1927.
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contigna Pod. *Wkr. Cat. Lep. Het. B. M.* 35, p. 1935, 1866.
corallocera Hyst. *Fld. Reise Novara II.*, 2, p. 5, 1874. *
cornuta Nor. *Hopp Mitt. Zool. Mus. Berl.* 13, p. 323, 1927.
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ferecostata Hyst. *Hopp Mitt. Zool. Mus. Berl.* 13, p. 242, 1927.
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17. Family: Limacodidae.

In Vol. XIV, p. 447, where the denomination of the family was already largely dealt with, it was also pointed out that these most abnormal lepidoptera represent a phylogenetically old family. At any rate, they are quite homogeneous in the structure of the body, and we know but few other families exhibiting such a great homogeneity even in quite remote continents. Considering the entire absence of a proboscis together with the often monstrously developed palpi, the origin of the family presumably dates back to the times when the phanerogamic plants secreting honey did not yet play any part in the vegetation of the earth, for the *Limacodidae* have no ecological relations whatever to melliferous blossoms.

Another fact in favour of this phylogenetic age is their distribution over the earth. In Australia being a most ancient part of our globe they form an important part of the lepidopteral fauna and are especially distinguished by a relatively great number of forms as well as by large-sized representatives. By the predilection of many species for the *Eucalyptus* which is most widely distributed in Australia they appear to be especially adapted to that continent; but it is a remarkable fact that they are entirely absent in New Zealand which country, however, is at any rate very poorly supplied with Macrolepidoptera. On the other hand, their number is rather small in the neotropical regions which are so abundant in modern lepidoptera, even if we consider that thorough anatomical examinations will yield quite an increase of other Tropical-American species belonging to this family. There are about 20 species occurring in the boreal parts of America, and 35 inclusive of its southern confines, and even as many as 50 species, if all the forms that have not yet been thoroughly examined prove to be distinct species. In contrast with this relatively large number, the whole neotropical region of America does not even harbour 300 well distinguished forms. North America is also well supplied with species compared with Europe where only 3 species occur which are besides very inconspicuous in the palaearctic lepidopteral fauna. This share of Europe is extraordinarily small considering the total number of about 1000 Limacodid species.

The general characters have already been largely dealt with in the Volumes 2, 10 and 14. We merely remind the reader of the most distinctive marks characterizing the family: the roundish shapes of the body in all the stages, the creeping sole of the larvae which are frequently provided with nettle-organs, the almost invariably oviform cocoon, the strange metamorphosis of the larva evinced by the stage of a preliminary pupa, the emergence of the imago after detaching a lid-shaped plug from the paper-like web. The anatomical details are specially mentioned in each of the genera.

Considering the very old age of the family, the extraordinary homogeneousness of all the *Limacodidae* known to this day is rather striking. Nowhere, not even in America which otherwise exhibits such multifarious shapes, are we met with extravagantly developed forms of the imagines, whereas the larvae exhibit various peculiarities for protective reasons. We have frequently pointed out the gall-like exterior of numerous Limacodid larvae which often cling to the leaves or stalks of the food-plant like a tumour or a parasitic formation, and quite a number of American Limacodid larvae show even a modification of this adaptation to a fruit or gall by their strikingly copying a nibbled place on this formation: the larva of *Prolimacodes scapha* from North America, for instance, represents a green fruit from which a piece has been bitten out above, so that the red flesh of the fruit appears. In a very similar way the larva of *Tortricidia testacea* Pack. exhibits a red dorsal spot looking like the red sap emanating from a nibbled green berry. The strangest phenomenon, however, not only of all the lepidoptera but almost of the whole animal kingdom, is the female imago of *Phobetron hipparchia* Cr. in its repose, exhibiting small roundish yellow spots on the reddish ground of the forewing and quite similar small round hair-pads on the feet and the articulations of the legs. The imago settles for its repose on the surface of a green leaf in such a way that it spreads the very long legs of one side far out and, in a way, hangs on them, whilst it draws in those of the other side so that the yellow articular tufts join the orange spots on

the wings, whereby the contours of the lepidopteron are totally changed. Thus it seems as if some quite amorphous object were lying on the leaf, something like a tuberous fruit or a half-masticated raspberry some seeds of which are scattered around the remainder of the fruit. The larva of this strange very sexually dimorphous lepidopteron is no less curious; it is the South-American generic associate of *Phobetron pithecium* which is widely distributed in the Atlantic states of the U.S.A. and well known as the "monkey-slug". One might rather take it for a flock of hair or a hairy spider than the larva of a lepidopteron. Its oval brown-haired body is covered with long fur-horns which look like the thick legs of a spider and are frequently held by the insect in such a way that two of these hairy formations on each side are pointing forward and two more hindward, so that the likeness of a small bird-spider is produced (cf. Vol. X, p. 666).

The family abounds in such unusual phenomena and is thereby especially distinguished from those groups of Heterocera which it seems to approximate morphologically, as for instance the *Zygaenidae*. Judging by the shape of the pupae, the *Limacodidae* probably originate from the same base as the *Zygaenidae*; in both the families the limb-cases are not firmly inserted into the trunk of the pupa, but independently developed and only loosely appressed (pupa libera). But whilst the *Zygaenidae* have been subject to a great process of adaptation during the most recent epochs, the *Limacodidae* have adhered to their original type; the objects copied by them for the sake of adaptation are old models — fruits, green leaves (genus *Parasa*), or spiders, whereas the *Zygaenidae* which are highly mimetic (in their subfamily *Chalcosiinae*) copy products of the most recent times, such as *Euploea*, *Danais*, Pierids and similar modern butterflies, from which fact we are able to conclude the epoch of their origin.

The author of this group having instigated the anatomical-morphological elaboration of the imagines in this volume, this method has proved most instructive in the *Limacodidae*. Quite a number of externally very similar individuals have already been ascertained to be different species, and this cognition will probably increase in future, so that the following elaboration of the author who we are sorry to inform our readers has died in the meantime will have to undergo various changes.

★

Limacodidae.

By H. G. DYAR †.

The name of *Limacodidae* founded upon the genus *Limacodes* Latr. may be adhered to in spite of the fact that *Limacodes* is synonymous with *Apoda* Haw. It is neither of great consequence that *Limacodes* is not at all the oldest generic name of the family, but *Heterogenea* Knoch; we therefore do not hesitate to keep up this name according to the proceeding in the volumes dealing with the other faunae.

There are two groups easily discernible by their larvae though not by their imagines. The first group comprehends larvae of a rather smooth type without horns or thorns. This group occurs throughout Northern Europe, Asia and America; certain species extend also somewhat more to the south, reaching Florida and Texas in America, whereas they do not occur at all in the Tropics, especially in South America. Although a considerable number of genera occur endemically in America, they do not deviate much structurally from the palaearctic prototype, neither as imagines nor as larvae. The latter from this group are normally armed with fleshy horns bearing stinging thorns, though single species and genera also deviate from this type. The early stages are known of but very few American *Limacodidae*.

The oldest Limacodid genus is *Heterogenea* Knoch (1783), as we mentioned above. Some time later (in 1809) *Apoda* Haw. was established, and only in 1825 *Limacodes* Latr. Further genera were only denominated in 1855 and later since the works by FRANCIS WALKER and HERRICH-SCHAEFFER.

Section I. Forewing with an open forked discal vein the branches of which form part of the cell-end; ♂ antennae plain. Distributed in the northern temperate zone.

1. Genus: **Heterogenea** Knoch.

The genus represented also in the palaearctic region differs from the other genera of this section in the absence of the middle spurs of the hind tibiae. Only two species in America.

H. shurtleffii Pack. (164 c) is a small species, the ♂ with black hindwings and black dusted forewings *shurtleffii*, with an indistinct marking shaped like a dog's head. The ♀ exhibits an even less distinct marking on the lustrous yellowish-brown forewing, while the hindwing is blackish. Expanse of wings: ♂ 10—12, ♀ 11—14 mm. Larva green with 2 yellow stripes which are connected by a red spot in the middle. Edge of frons smooth, with a yellow line. On oak and *Ostrya*. New Hampshire, Massachusetts, New York, District of Columbia.

H. minuta Reak. (164 c) is also small, both sexes of the same colouring, the forewing lustrous brownish *minuta*, yellow without any marking; hindwing blackish brown. Expanse of wings: ♂ 10.6, ♀ 11.5 mm. Larva green. 2 red lines intersecting in the middle; edge of frons with 2 horn-points, yellow. It lives on oak. Pennsylvania. The types got into the hands of H. STRECKER who, by mistake, destroyed them as an undesired material. At present not one specimen of this species exists in collections, nor has anybody seen the larva in the last 40 years. REAKIRT mentions 3 spurs on the hind tibiae of the imago. This is surely a mistake; I presume there are two; if there were 4, the species would have to be placed to *Tortricidia* Pack. with *Kronaea* Reak. as a synonym.

2. Genus: **Tortricidia** Pack.

Distinguished from the preceding genus by the presence of 2 pairs of spurs on the hind tibiae, from the following genera by short palpi barely reaching the vertex and a somewhat more projecting head, moreover by a longer and more pointed shape of the wings. Apex of forewing rounded.

T. flexuosa Grt. (164 c). Forewing from dull ochreous to brownish, with most variable markings, with *flexuosa*, a more or less distinct straight median line and a very convex exterior transverse line, more or less shaded with brown. If the latter forms a distinct dog's head marking, it is the form: — **caesonia** Grt. (164 c). Expanse *caesonia*, of wings: ♂ 14—18, ♀ 20—22 mm. The green larva is densely set with cavities, with 2 indistinctly shaded yellow lines, between them more or less red from a tiny spot to a broad band. It lives on oak. New York, Indiana, Virginia, North Carolina.

T. pallida H.-Schäff. (164 c). Forewing brownish ochreous with a silky gloss, with irregular almost *pallida*, quite absent transverse lines. — **flavula** H.-S. shows more distinct linear markings. Expanse of wings: *flavula*, ♂ 10—15, ♀ 16—20 mm. The green larva is flattened with an irregularly shaped red meso-dorsal marking which may be very extensive. In late autumn on various trees and shrubs. Massachusetts, New York, Maryland, Virginia, North Carolina.

T. testacea Pack. (164 c) has silky lustreous brownish ochreous wings with brown-striped veins; the *testacea*, easternmore form *testacea* exhibits an oblique brown shadow in the centre of the forewing, which is absent in the western form — **crypta** Dyar. Expanse of wings: ♂ 14—16, ♀ 20—24 mm. Larva green, flattened with *crypta*, a small irregular red cross on the dorsum. It lives in spring on various trees and shrubs. New Hampshire, New York, Maryland; Manitoba, British Columbia, Colorado.

3. Genus: **Slossonella** Dyar.

This genus containing but one species is characterized by the very short palpi not reaching the vertex and by the very small retracted head.

S. tenebrosa Dyar. Only the ♀ is known so far. Forewing dark brown with the usual blackish lines *tenebrosa*, of a dog's head shape, which, however, are only traceable. Hindwing black, fringe light. Expanse of wings: 18 mm.

4. Genus: **Lithacodes** Pack.

Mostly also small species characterized by the presence of two pairs of spurs on the hind tibiae and by somewhat longer palpi slightly projecting beyond the vertex.

L. fasciola H.-Schäff. (= *divergens* Wkr., *belfragei* Dyar). Forewing yellowish brown, with a white *fasciola*, transverse line which is widened in the middle somewhat like a spot and is provided with a tiny dent below it, with a purple brown shadow behind it; a fine blackish and bent exterior line. Hindwing more or less densely dusted with black. — **laticlavata** Clem. lacks the purple brown shadow behind the white line. Expanse of *laticlavata*, wings: ♂ 14—20, ♀ 20—22 mm. Larva green, stout and broadly rounded, ending quadrangular behind, indistinctly marked yellowish. It lives on many trees and shrubs. New York, Maryland, Virginia, North Carolina, Florida, Mississippi, Texas.

gracea. **L. gracea** Dyar has more pinkish brown forewings with a narrow straight white median line, with a purple shadow behind it: faint traces of a bent exterior line. Hindwing yellowish pink. ♀ still unknown. Expanse of wings: 15—17 mm. From Florida (Paradise Key).

fiskeana. **L. fiskeana** Dyar (164 c) has brown forewings, quite monotonous, with 2 blackish transverse lines, the middle one straight, edged whitish inwards, the exterior one bent; hindwing blackish. Expanse of wings: ♂ 10—12, ♀ 14—16 mm. The green larva ends quadrangular behind, it exhibits a yellow undulate subdorsal line on each side, the parts pressed in are marked yellow. It lives on many shrubs. New Hampshire, Connecticut, Iowa, New Carolina.

graeffii. **L. graeffii** Pack. (164 c) has also monotonously brown forewings with the same linear marking as in *fiskeana*, but the hindwings are brownish yellow, sometimes feebly dusted blackish. Expanse of wings: ♂ 10 to 11 mm; ♀ still unknown. The species may not differ specifically from *fiskeana*, but it is somewhat smaller with light hindwings. Texas.

5. Genus: **Apoda** Haw.

Similar to the genus *Tortricidia*, but the more quadrangular forewing has an almost rectangular apex and a straight costal margin. The names: *Cochlidion* Hbn., *Chelonias* Hbn., and *Limacodes* Latr. are synonymous.

y-inversa. **A. y-inversa** Pack. (164 c). Forewing brownish yellow with 2 parallel dark brown lines, the exterior one straight, shortened by an oblique bent apical line; the veins in the median area are sometimes striped brown. Expanse of wings: ♂ 23—25, ♀ 25—31 mm. Larva of an elliptic shape, green with yellow subdorsal lines uniting at the quadrangular anal end; frons with a yellow transverse line. On hickorey. New York, Pennsylvania, Maryland, North Carolina, Missouri, Texas, Florida. — **parallela** H. Edw. has a more irregularly bent exterior line.

biguttata. **A. biguttata** Pack. (= *tetraspilaris* Wkr.) (164 d). The brown forewing is dusted whitish in the median area between the transverse lines which are edged with whitish; a dark red-brown spot at the apex and anal angle. Expanse of wings: ♂ 20—23, ♀ 24—27 mm. Larva elliptical, quadrangularly cut off behind, whitish green with a narrow whitish subdorsal line on each side. On oaks. New Hampshire, New York, Maryland, North Carolina, Missouri.

rectilinea. **A. rectilinea** G. & R. (164 d) is smaller than the preceding species, the red-brown spots at the apex and tornus of the same colour as the basal area. Median area dusted blackish between the transverse lines, the interior line bordered with white outside. Hindwing black, fringe brown. Expanse of wings: ♂ 17 mm; ♀ still unknown. New Jersey, South Carolina, Florida.

latomia. **A. latomia** Harr. Forewing brown, apex similarly coloured, the median area lighter, inwardly bordered by the whitish-edged median line and an oblique apical line. Hindwing brownish straw-coloured. Expanse of wings: ♂ 15—23, ♀ 26 mm. Eastern Texas.

maxima. **A. maxima** Dyar is much larger than the preceding species, from brownish ochreous to reddish brown, the marginal area occasionally lighter, the centre traversed by a somewhat oblique dark line bordered with white outside. Hindwing somewhat lighter than forewing. Expanse of wings: ♂ 27, ♀ 28 mm. Larva not known. Texas (Brewster County).

6. Genus: **Packardia** G. & R.

Separated from the preceding genus only by the broader and rounder shape of the wings. *Crytosia* Pack. (nec Perr.) is synonymous.

elegans. **P. elegans** Pack. (= *nigripunctata* Goodell) (164 d). Forewing from whitish straw-colour to greyish brown with two whitish transverse lines, the exterior line cut off by an oblique apical streak, a darker shadow behind the interior line, and 2 or 3 black dots above the anal angle. Hindwing lighter or slightly dusted blackish. Expanse of wings: ♂ 15—18, ♀ 18—20 mm. Larva elliptical with a pointed anal end, yellowish green, with an undulate, indistinct, yellowish subdorsal line. It lives on various low trees and shrubs in shady forests. Massachusetts, New York. — **fusca** Pack. are darker specimens.

ceanothi. **P. ceanothi** Dyar has more orange ochreous forewings, the lines as in *elegans*, but rather indistinct, the middle line bordered with dark outside, 2 more or less distinct dark dots above the anal angle. Expanse of wings: ♂ 15—16, ♀ 19—20 mm. Larva similar to that of *elegans*, on low bushes of *Ceanothus*. North Carolina.

geminata. **P. geminata** Pack. (164 d). The chalky white forewing is strewn with brown and has brown lines, the interior one fine, the exterior one parting the apex extends to 2 white dots at the anal angle: the discal

area is often darkened brown or yellowish. Hindwing similarly coloured with a fine border-line and light fringe. Expanse of wings: ♂ 15—24, ♀ 22—23 mm. The elliptically shaped larva has a broad flat dorsal area and terminates behind in a pointed tail, whitish green, the flat area darker, with a white subdorsal line on each side. On many low bushes such as bilberry etc. New Hampshire, Massachusetts, New York, Ohio, Illinois.

P. albipunctata Pack. (= *ocellata* Grt., *goodellii* Grt.). The chalky white ground of the forewing is densely strewn with blackish brown, especially in the ♂; lines as in *geminata*, more or less intensely shaded with dark brown; the ♂ shows the dusting extended almost over the whole surface except the apex. Hindwing blackish, fringe lighter. Expanse of wings: ♂ 20, ♀ 23 mm. The larva seems not to differ from that of *geminata*. On various low bushes. New Hampshire, New York.

Section II. Forewing with a closed forked discal vein, but the one branch is usually more or less rudimentary; if this be very pronounced, the structure resembles Section I: ♂ antennae mostly pectinated. Tropical and temperate zones.

7. Genus: **Sibine** H.-Schäff.

This very difficult genus contains a great number of species which, similar to the Megalopygid genus *Norape* (p. 1084), can partly only be distinguished by the genital apparatus, whilst all of them have a rather similar exterior. Characterized by the slightly curved inner margin of the forewing and rather long palpi. Forewing with the usual 12 veins; hind tibiae with the two pairs of spurs; ♂ antennae pectinated in the basal halves, serrate or plain apically. Synonyma of the genus: *Nyssia* Wkr., *Empretia* Clem., *Eupalia* Wkr., *Streblota* Berg nec Hbn., *Neomiresa* Btlr., *Episibine* Dyar. The following key will facilitate the determination.

Synopsis of species.

1. Hindwing of ♂ more or less triangular, distal margin more or less concave 2
- Hindwing of ♂ rounded 8
2. Hindwing distinctly triangular, disc hyaline 3
- Hindwing dark, the disc somewhat whitish at most 4
3. Hindwing of ♂ with a concave distal margin *intensa* Dyar.
- Hindwing with a straight, not concave, distal margin *aurumacula* Schaus.
4. Hindwing of ♂ quite blackish brown or red 5
- Hindwing of ♂ whitish in the disc 7
5. Hindwing of ♂ straight at the distal margin 6
- Hindwing of ♂ somewhat convex at the distal margin *berthans* Dyar.
6. Forewing dark brown *zellans* Dyar.
- Forewing red with a blackish longitudinal ray *quadrattilla* D. & Hch.
7. Forewing of ♂ with large yellow spots *sibinides* Dyar.
- These spots small *barbara* Dyar.
8. Forewing mixed with light reddish brown 9
- Forewing monotonously light or dark brown 16
9. Ground-colour of forewing lighter than the markings 10
- Ground-colour of forewing darker than the markings 14
10. Forewing with a bent dark stripe from the base to the tornus; the area below it lighter red *rollans* Dyar.
- Blackish shading along the median vein and the veins 11
11. Subapical dots distinct *rufescens* (*megasomoides* Wkr.)
- Subapical dots very indistinct 12
12. Forewing of ♂ dark brown, the black markings not contrasting *rufescens* Wkr.
- Forewing of ♂ lighter brown, the dark markings contrasting 13
- Similar, but only with traces of dark markings *subalbicans* D. & Hch.
13. Aedoeagus short and broad *rufescens* (*determinata* Wkr.)
- Aedoeagus slender and thin *didactica* Dyar.
14. Dark brown, glossy, narrow wings with distinct subapical and sub-basal dots *hyperoche* Dogn.
- Broader lighter brown wings, the marking faded 15
15. Larger, the submedian and apical orange spots distinct, subapical dots large, more or less confluent *lophostigma* Dogn.
- Smaller, orange spot faded, subapical dots small *laurans* Dyar.

16. Forewing dark, glossy, a continuous silver line from the centre of the inner margin to the costal margin before the apex *nesea* Stoll.
Forewing without the silver line 17
17. Forewing with a pointed apex 25
Forewing of ♂ quadrangular, with an obtusely rounded apex 18
18. Forewing glossy, glistening, the dark parts contrasting 19
Forewing less glossy, the darker areas not contrasting 20
19. Larger; hindwing dark, with rough scales between the veins *violans* Dyar.
Smaller; hindwing of ♂ light *bonaërens* Berg.
20. Ground-colour throughout of a warm red tint 21
Less red, with predominating purple grey tints 22
21. Forewing of a glaring dark red-brown colour, with intense yellow sub-basal and subapical dots *apicalis* Dyar.
Forewing dull dark brown, dots absent or indistinct *gertrudans* Dyar.
Similar, but with intense yellow dots *permessa* D. & Hch.
Similar, the subapical dots forming a narrow line *sabis* D. & Hch.
Small, forewing light purple, without dots *pauper* Dyar.
22. Large, stout, with broad wings 23
Small, with narrow wings 24
23. The emarginated end of the ♂ aedoeagus plain, without differentiated tips *francescans* Dyar.
Each of the tips provided with a thorn *eucleides* Dyar.
24. ♂ penis without thorns *stimulea* Clem.
♂ penis with fine furred spines *sarans* Dyar.
25. Hindwing on the average contrastingly whitish in fresh specimens 26
Hindwing not whitish, at least in a series of fresh specimens 29
26. Large, wings rather broad, with distinct yellow dots *priscillans* Dyar.
Of medium size, wings narrow, no dots 27
27. ♂ genitals: anellus with a horn on each side *clarans* Dyar.
Anellus not armed 28
28. Spines of penis in one line, the basal ones small, those in the middle very large, small towards the end *tontineans* Dyar.
Penis with a dense parcel of small spines *dorans* Dyar.
Penis with a parcel of very long slender spines *giseldans* Dyar.
29. Forewing pointed, apex concave costally, prolonged 30
Forewing less sharply pointed 31
30. ♂ wings with large dots, expanse of wings: 47 mm, ♀ with a concave apex *trimacula* Sepp.
♂ forewing without or with reduced dots, expanse of wings: 35—40 mm; ♀ with a less concave apex *horrida* Dyar.
31. ♂ hypopygium: anellus with a dorsal tongue 32
Anellus without a dorsal tongue 37
32. Spines of penis very numerous at the end 33
Spines not increasing in number towards the end 34
33. Spines of penis equally numerous, long and equally long *ximenans* Dyar.
Basally few large spines, numerous small ones towards the end *joyceans* Dyar.
Basally few small spines, numerous large ones at the end *laberia* Dyar.
34. Small (♂: 25—30 mm); forewing purple brown, without markings *helenans* Dyar.
Larger (♂: 33—37 mm); more robust 35
35. Spines of penis very large and scarce, with a series of tiny ones *nitens* Dyar.
The spines short and scarce 36
The spines slender and numerous *iolans* Dyar.
36. Harpe with a uniformly conical end *rufescens* (*pallescent* Dogn.)
Harpe finger-shaped at the end, one side oblique *norans* Dyar.
37. Hindwing dark, forewing pointed, with small reddish subbasal and subapical spots *quellans* Dyar.
Similar, forewing with distinct yellow dots *blanda* Dyar.
Hindwing more or less light, forewing not so pointed, no small reddish spots 38
38. Spines of penis large, as long as the diameter of the aedoeagus *extensa* Schs.
Spines shorter, shorter than the diameter of the aedoeagus 39

39. Spines of penis large, stout, followed by many small ones *reletiva* Dyar.
 Spines fine, slender, no small ones behind them *ophelians* Dyar.

Section I. ♂: anellus with a dorsal chitinous tongue.

S. clarans Dyar. Forewing narrow, oblong, rather pointed; dark red-brown, the veins shaded blackish *clarans*, especially at the base and in the middle; 3 white subapical dots and a small subbasal one. Hindwing pinkish whitish, the veins and a broad inner-marginal area pinkish brown. Expanse of wings: 38 mm. ♀ unknown. Peru.

S. dorans Dyar (164 d). Like *clarans*, somewhat less red-brown, but in fact only discernible by the *dorans*. ♂ hypopygium. Expanse of wings: 35—43 mm. ♀ unknown. Peru, Colombia (Upper Rio Negro), in the Berlin Museum.

S. tontineans Dyar resembles *clarans* and *dorans*, but it is more dark purple without the red-brown *tontineans*. tint except the subbasal part. Hindwing somewhat less pink, greyer, uniformly light. Expanse of wings: ♂ 33—35 mm; ♀ unknown. French Guiana.

S. giseldans Dyar is smaller and more slender than *tontineans*, otherwise the same, but separated by *giseldans*. the genital apparatus (cf. synopsis). Expanse of wings: ♂ 29 mm; ♀ unknown. Brazil (Rio Negro, Amazons).

S. trimacula Sepp (164 d). According to SEPP's figure, the ♂ is large, with narrow long forewings, *trimacula*. dark purple brown with a darker central shadow; the dots yellow, 2 subapical ones and 1 subbasal one. Hindwing light with a pinkish reddish tint and a dark inner-marginal area. The ♀ (if it really belongs to this species) has a distinctly concave apex and a reddish spot here, with reduced yellow spots. Expanse of wings: ♂ 47 mm, ♀ 57—63 mm. I have not seen any ♂. Larva elliptically flattened, with short horns which are absent on the middle segments; grass-green laterally and in a quadrangular frontal spot, the rest of the dorsum yellowish green, the horns purple. The eggs are deposited in a pack: the larvae are at first gregarious, living on orange-trees. Guiana.

S. horrida Dyar (= ? *affinis* Mschlr.) (164 d). Dark purple brown with a silky gloss, wings oblong *horrida*. as in *trimacula*, dots yellow, very small, variably developed. Hindwing dark brown, rarely somewhat lighter, but the inner-marginal area is invariably broad dark. ♀ similar, apex slightly concave costally; both sexes with a darker contrasting area in the cell and at the apex. Hindwing of ♂ often with rough purple scales between the veins. Expanse of wings: ♂ 33—40, ♀ 50—58 mm. Larva unknown. Guatemala, Costa Rica, Panama, Ecuador, Colombia, Venezuela. MÖSCHLER's *affinis*, described according to 1 ♀ from Surinam, cannot be safely determined, though *horrida* is the only species I have at hand with a sufficiently large ♀ to correspond to *affinis*; *horrida* from Surinam, however, I have not at hand.

S. joyceans Dyar (164 e). Forewing triangular, rather short, dark, less red than *horrida*; dots white, *joyceans*. the subapical ones are coherent almost in an oblique line. Hindwing moderately dark, sometimes lighter in the disc, dark in the ♀. Expanse of wings: ♂ 30—33, ♀ 40—43 mm. Larva elliptical, flattened, quite light green down to the sides, with a narrow black line above the lateral horns which are very short, absent in the middle, light, with a black tip and a black basal ring. It lives on *Lansium americanum* and other plants. Panama.

S. laberia sp. n. is similar to *joyceans*, but more robust and with broader wings, though of the same *laberia*. size; separated by the ♂ hypopygium (cf. synopsis). Expanse of wings: ♂ 36 mm, ♀ unknown. Brazil (Rio de Janeiro).

S. rufescens Wkr. (= *determinata* Wkr., *plora* Schs., *pallescens* Dogn.). Wings of normal shape, *rufescens*. moderately long; dark red-brown, generally on a lighter red ground, veins and cellular area shaded black; mostly without any dots, if they are present: — **megasomoides** Wkr., white. Hindwing pinkish brown, light, *megasomoides*. darker at the inner margin. Expanse of wings: ♂ 32—38, ♀ 42—54 mm. Colombia, Venezuela, Brazil (Amazons). DOGNIN's *pallescens* was founded upon a pale much flown ♀. A fresh specimen from the same habitat is dark brown, and other ♂♂ which I range here are also dark.

S. iolans Dyar (? = *modesta* Cr.). Dark red-brown, glossy in a certain exposure to light, with a darker *iolans*. shadow through the cell and submedianly, as in dark forms of *rufescens*, but the ♂ hypopygium is different. Expanse of wings: ♂ 30—40, ♀ 43—45 mm. Larva elliptical, flattened, with very short horns, yellowish

grass-green, with a fine black line between the horns of the 5th segment and behind on the 13th segment; horns dark, the spread out spines on them pink. Brazil; Paraguay.

didactica. **S. didactica** Dyar. The ♂ is small, purple red-brown, still more reddish below the cell, the veins shaded darker, the dots white. Hindwing light. Expanse of wings: ♂ 28 mm; ♀ unknown. From British Guiana. A ♀ which seems to belong to it would correspond to STOLL's figure of *fusca*. Compare also *nitens*.

subalbicans. **S. subalbicans** sp. n. Like *didactica*, but without the broad dark area in the cell of the forewing. Expanse of wings: ♂ 30 mm; ♀ unknown. From Brazil.

nitens. **S. nitens** Dyar (? = *fusca* Stoll) has a more rounded shape of the wings and is more scantily scaled than the preceding 8 species, the veins often contrasting on the semidiaphanous ground; dots white, generally very distinct, but small; hindwing from pinkish brown to dark brown, sometimes with the rough scales of *horrida*; the ♀ with more monotonous hindwings, the subapical dots of the forewing in an oblique line as in the ♂, often somewhat confluent. Expanse of wings: ♂ 27—35, ♀ 45—47 mm. Guiana, Peru, Brazil (Amazons). Another race which I separate as — **alicians** f. n. has lighter, whitish hindwings with a pink inner margin, some are also a little darker. The ♀ is glossy and somewhat transversely striated, without subapical dots. According to 8 ♂♂ and 2 ♀♀ from Brazil, Prata (Amazons), 100 km from Pará (A. H. FASSL).

ximenans. **S. ximenans** Dyar resembles *nitens*, dark purple brown, with very small dots, the hindwings also very dark. The ♂ hypopygium similar to that of *joyceans*, but different in details (cf. synopsis, No. 33). Expanse of wings: 32 mm; ♀ unknown. Brazil (Rio Tocantins).

violans. **S. violans** Dyar is rather large, glossy dark purple brown, darker stripes in the cell and submedianly distinct in a certain exposure to light; dots light yellow, large and somewhat confluent. Hindwing dark red-brown, the ♂ with rough more purple scales between the veins. Expanse of wings: ♂ 33—35, ♀ 48 mm. Colombia.

bonaërensis. **S. bonaërensis** Berg. ♂ with rather obtuse wings, from dark brown to blackish brown, dots reduced or absent. Hindwing moderately dark, sometimes lighter in the disc. The ♀ with more pointed wings with a red apical spot, the dots white, in an oblique line, somewhat confluent. Expanse of wings: ♂ 28—30, ♀ 37 to 52 mm. Larva extremely similar to that of *trimacula*. Argentina, Brazil, Paraguay.

helenans. **S. helenans** Dyar is a small species, smooth, dark purple brown, without any marking. Hindwing light purple brown, darker along the inner margin. Hypopygium as in *bonaërensis*, but the shape of the wings is different. Expanse of wings: ♂ 25—28, ♀ 40—42 mm. Bolivia; Brazil (Amazons), Peru (Rio Putumayo).

priscillans. **S. priscillans** Dyar. Large, light red-brown, with a red apical spot and a subbasal one, with a narrow dark stripe below the cell; a single yellowish subapical dot and a subbasal one, both rather large. Hindwing light yellowish-white, the veins and inner margin broadly dull reddish, base of fringe dark. Expanse of wings: ♂ 43 mm; ♀ unknown. Mexico (Zacualpan).

lophostigma. **S. lophostigma** Dogn. Shape of wings obtuse, purple brown with extensive subapical and subbasal orange tints; dots large, round, yellow. Hindwing rather dark, pinkish brown. Expanse of wings: ♂ 33—36, ♀ 45 mm. French Guiana, Brazil (Amazons).

laurans. **S. laurans** Dyar (164 e) has obtuse wings of a lighter purple brown colour and darker fringes, with a broad orange-red tinge along the inner margin below a darker stripe; subapically no other colour, no dots. Hindwing light purple brown, the inner margin assuming the tinge of the inner margin of the forewing. Expanse of wings: ♂ 28 mm; ♀ unknown. Brazil (São Paulo Olivença, Amazons).

Section II. ♂ anellus without a chitinous dorsal tongue.

extensa. **S. extensa** Schs. (164 e). Large and with pointed wings, dark red-brown with reddish subbasal and subapical spots, a blackish shadow through the cell and below the median vein, a single white dot, often prolonged or also extinct. Hindwing light, sometimes suffused with pinkish brown, with a dark inner margin. Expanse of wings: ♂ 32—40, ♀ 45—64 mm. Larva elliptical, flattened, with very short horns, light green, the horns green. It lives gregariously and also spins the cocoons together in a common web. Mexico, Florida (Paradise Key). This species and perhaps also the following *reletiva* and *ophelians* have larvae of the cross-horny type of the Section I, but the chitinous tongue of the anellus is absent.

reletiva. **S. reletiva** Dyar is smaller than *extensa*, with different spines on the penis, otherwise very similar. Expanse of wings: ♂ 30—35, ♀ 40 mm. San Salvador.

ophelians. **S. ophelians** Dyar has more obtuse wings than *extensa* and less distinct markings, it is more scantily scaled and likewise separable by different spines of the penis. Expanse of wings: ♂ 30—35, ♀ 46—50 mm. Guatemala, Costa Rica, Panama, Colombia.

S. gertrudans Dyar. Wings obtuse, dark umber-brown, with a slight reddish tint, blackish stripes *gertrudans*, through the cell and submedianly, the dots extinct. Hindwing purple brown in various shades. Expanse of wings: ♂ 30—35 mm; ♀ unknown. Mexico.

S. permessa *n. sp.* resembles *gertrudans*, but it has distinct large yellow dots on the forewing. Expanse *permessa*, of wings: ♂ 31 mm; ♀ unknown. Brazil (Minas Geraës).

S. sabis *n. sp.* differs from *permessa* in the subapical dots forming a narrow continuous line. Hind- *sabis*, wing lighter. Expanse of wings: ♂ 30 mm; ♀ unknown. Peru.

S. quellans Dyar. Forewing pointed, glossy dark brown with contrasting areas, subapical and sub- *quellans*, basal reddish spots, without dots. Hindwing rather dark brown. Expanse of wings: ♂ 30 mm; ♀ unknown. Colombia.

S. rollans Dyar. Wings obtuse quadrangular, light pinkish red-brown with a narrow blackish stripe *rollans*, below the cell, the inner-marginal area below it bronze red. Hindwing rather dark reddish brown. Expanse of wings: ♂ 25—27 mm; ♀ unknown. Guiana, Peru, Brazil (Amazons).

S. eucleides Dyar. Wings obtuse, costal and inner margins almost parallel, dark blackish brown with *eucleides*, one subbasal white dot and 3 small subapical ones. Hindwing rather dark purple brown. Expanse of wings: ♂ 32—34 mm; ♀ unknown. Brazil, Paraguay.

S. francescans Dyar resembles *eucleides*, but it is somewhat less dark brown, and the black stripe *francescans*, below the median vein is more distinct. Genital apparatus different (cf. synopsis). Expanse of wings: ♂ 36 mm; ♀ unknown. Bolivia, Colombia (Rio Negro).

S. quadratilla *sp. n.* is allied to the following *zellans*, but of a more mahogany-red ground-colour, the *quadratilla*, forewing with a dark stripe along the median vein as far as the apex the centre of which is grey. Expanse of wings: ♂ 33 mm; ♀ unknown. French Guiana.

S. zellans Dyar. Forewing narrow, pointed; hindwing triangular with a straight distal margin; dark *zellans*, purple brown, without any markings. Hindwing almost as dark as forewing. Expanse of wings: ♂ 37 mm; ♀ unknown. Brazil (Pará).

S. berthans Dyar is like the preceding species, but blacker, with less pointed forewings; the distal *berthans*, margin of the triangular hindwing convex. ♀ less intensely blackish, with a red apical spot and a yellowish subapical stripe. Hindwing lighter brown. Expanse of wings: ♂ 34, ♀ 54 mm. Paraguay.

S. sarans Dyar is a small dark species with obtuse wings, with small white subbasal and subapical *sarans*, dots. Hindwing dark brown. Similar in marking to *stimulea*, but the penis is spined. Expanse of wings: ♂ 23 mm; ♀ unknown. Guatemala.

S. pauper Dyar (164 e). Monotonously very light purple brown; hindwing still lighter, veins and inner *pauper*, margin of a pinkish reddish tint. Expanse of wings: ♂ 21—28 mm; ♀ unknown. Mexico.

S. nesea Stoll (= *vidua* Sepp, *fumosa* Wkr.) (164 e). Forewing glossy, very dark brown, with a silvery *nesea*, shine at the inner margin towards the anal angle, a narrow subapical silver streak, and subbasally with silvery dentate lines which are quite indistinctly connected. Hindwing much lighter brown, darker at the inner margin. Expanse of wings: ♂ 35—40, ♀ 52 mm. Larva elliptical, flattened, the anterior and posterior subdorsal horns long, the lateral ones rather long, too; light green, the horns purple, a quadrangular grass-green spot in the centre of the dorsum is framed by a yellow quadrangle. Guatemala, Costa Rica, Panama, Colombia, Venezuela, Guiana, Peru, Brazil (Amazons).

S. stimulea Clem (164 f). Dark red-brown, glossy, the discal and submedian areas shaded blackish; *stimulea*, the subbasal and subapical dots white, rather large, the latter in one line, confluent in the ♀. Hindwing dark brown. Expanse of wings: ♂ 20—26, ♀ 28—38 mm. Larva elliptical, arched, the subdorsal horns on the 5th and 11th segments long, the others short; purple brown with a large bright green spot in the centre of the dorsum, extending laterally down to below the horns of the 11th segment and enclosing a purple spot dorsally, all of them edged with white; one yellow dorsal spot each between the horns of the 5th and 11th segments, two larger spots behind them. It lives on many shrubs and trees. Massachusetts, New York, Maryland, Virginia, Florida. — A form differing neither in the colouring nor in the genital apparatus, but which may nevertheless be a good species, occurs in Paraguay (1896, HEYNE, Dognin Coll.), and a red form, probably also from Tropical America, is newly described (Zoolog. Museum, Berlin) as — **ausa** *n. f.* *ausa*.

S. apicalis Dyar (164 f) resembles *stimulea*, but it has broader wings, the hindwings are lighter brown, *apicalis*, the dots yellow and more extensive, sometimes augmented by a stripe in the cell. Expanse of wings: ♂ 25 to 35, ♀ 35—50 mm. Mexico, Guatemala, Costa Rica.

- hyperoche*. **S. hyperoche** Dogn. looks like *apicalis*, but it shows yellowish-brown subbasal and subapical spots which are more or less strongly developed. Expanse of wings: ♂ 23—33, ♀ 30—40 mm. Larva exactly like that of *stimulea*. Panama, Colombia, Ecuador.
- intensa*. **S. intensa** Dyar. ♂ forewing narrow and pointed. Hindwing triangular with a concave distal margin and a hyaline disc; colouring like that of *apicalis*, the dots more extensive, yellow, inclined to lie in a bent line. ♀ with a more oblique distal margin, the middle one of the subapical dots projecting a little. Expanse of wings: ♂ 23—30, ♀ 37—45 mm. Guiana, Brazil.
- auromacula*. **S. auromacula** Schs. differs from *intensa* in its less narrow wings of the ♂, and the straight not concave distal margin of the hindwing. Expanse of wings: ♂ 31, ♀ 34—48 mm. Venezuela.
- barbara*. **S. barbara** Dyar. Wings pointed, hindwing of ♂ with a straight distal margin; dark purple brown with a red apical spot, with another submedian one behind the subbasal dots; dots light yellow, the subapical ones united S-like. Hindwing dark brown, the disc of the ♂ whitish. Expanse of wings: ♂ 33, ♀ 44 mm. Brazil (Rio de Janeiro, Sao Paulo).
- sibinides*. **S. sibinides** Dyar differs from *barbara* in its larger dots, the subapical ones of which are not united S-like. Hindwing pink at the costal margin, light in the disc, broadly dark brown at the inner margin. Expanse of wings: ♂ 34 mm; ♀ unknown. Brazil (Pernambuco).
- blanda*. **S. blanda** sp. n. Forewing as in *sibinides*, but the hindwing rounded as in *barbara*. Expanse of wings: ♂ 31—34 mm; ♀ unknown. Brazil (Minas Geraes, Rio de Janeiro, Sao Paulo).

S. Genus: **Parasa** Moore.

This universally distributed genus contains mostly green or brown and green species (cf. Vol. II, p. 345; Vol. X, p. 694; Vol. XIV, p. 462). Hind tibiae spined. Forewing with the usual 12 veins, 10 generally from the cell; palpi projecting beyond the frons; inner margin of forewing straight; ♂ antennae pectinated only in the basal halves. As the distinction of the numerous species is often difficult, we supply again an analytical key so as to facilitate the determination.

Synopsis of species.

1. Forewing of a bright apple-green 2
Forewing brown, with a green band, at least in the ♀ 14
2. With a brown marginal band which is twice inwardly angled (discally and submedianly) 3
The brown marginal band only once inwardly angled 10
3. Hindwing yellow, at least at the costal margin 4
Hindwing brown 7
4. Margin of forewing narrow, hindwing yellow as far as the margin *herbina* Schs.
Margin of forewing broad 5
5. Large; hindwing yellow almost to the margin *viridiplena* Wkr.
Small; hindwing less yellow 6
6. The brown margin blackish; hindwing dark excepting the costal margin *cucumenica* Dyar.
The brown margin not blackish; hindwing broadly yellow *loyola* Dyar.
7. Discal dot brown, marked white *campylostagma* Dogn.
Discal dot brown 8
Discal dot green, rather indistinct *imitata* Drc.
8. Margin of forewing broad; discal dot small 9
Margin of forewing narrow; discal dot of medium size *mompha* Dyar.
9. A larger species; wings longer, less rounded, the dark marking red-brown *flora* Dyar.
A smaller species; wings shorter, more rounded, the dark marking greyish black *stiphra* Her. & Hopp.
10. Marginal band with a very long submedian dent from the margin to the cell *macrodonta* Her. & Hopp.
Margin with a short dent 11
11. Hindwing yellow 12
Hindwing brown 13
12. A larger species; discal spot distinct *mossica* Dyar.
Smaller; discal dot small or indistinct *wellesca* Dyar.
13. Margin of forewing very narrow, the dent small; discal dot small, base mixed with yellow *laranda* Drc.
Large, without a discal dot, marginal dent sharp, below the apex *constricta* Her. & Hopp.
Smaller, with a discal dot, marginal dent a broad angle from the apex *laonome* Drc.
14. Forewing with a green band in both sexes 15
Forewing of ♂ without a green band 19

15. Hindwing yellow at the base 16
Hindwing dark, scantily scaled in the disc *maysi* Schs.
16. A larger species with broad wings; the green band broad, a dark mark in the
brown marginal area *indetermina* Bsd.
Smaller, with more pointed wings; the green band narrow, the brown margin
without a mark 17
17. The green band occupies more than a third of the wing and extends at the inner
margin to the base *chloris* H.-S.
The green band is narrower, not reaching the base at the inner margin 18
18. A larger species; the green band broad and uniform *cuernavaca* Dyar.
Smaller, the green band strangulated *minima* Schs.
19. Wings normally shaped, not produced apically 20
Wings of ♂ strongly produced at the apex 22
20. Light brown, hindwing yellow at the base 21
Both wings dark brown, forewing with a whitish distal line *viridogrisea* Dyar.
21. Forewing dark brown at the base, median band lighter brown, margin light *mionexia* Dyar.
Forewing as light at the base as at the margin; central band dark (expanse of
wings: 17 mm) *minuta* Her. & Hopp.
22. Forewing light brown *cebrenis* Schs.
Forewing dark brown, monotonous *schausi* Dyar.

P. herbina Schs. (164 g). Forewing green, the brown distal margin narrow, with two rounded indentions, *herbina*. running along the inner margin as far as the base; hindwing ochreous orange with a narrow brown distal margin. Expanse of wings: ♂ 21 mm; ♀ unknown. Brazil.

P. viridiplena Wkr. (164 g). Forewing bright green in the disc, distal margin rather broadly brown, *viridiplena*. spotted blackish and twice projecting angularly, the base also obliquely cut off brown. Hindwing yellow with a uniformly light brown distal margin. Expanse of wings: ♂ 24—30, ♀ 38 mm. Brazil.

P. cucumenica Dyar (164 h). Forewing dark green, the obliquely cut off basal area and the broad distal *cucumenica*. margin blackish, the latter projecting twice. Hindwing blackish brown, yellowish at the costal margin. Expanse of wings: ♀ 27 mm; ♂ unknown. Brazil.

P. loyola Dyar is smaller than *viridiplena*, the green area relatively narrower. Hindwing yellow in the *loyola*. basal two thirds with a broad brown margin. ♂ unknown. Expanse of wings: ♀ 27—28 mm. Brazil.

P. campylostagma Dogn. Green, base and distal margin narrow, the latter twice indented, with a white *campylo-* dentate discal streak encircled with brown. Hindwing dark brown. Expanse of wings: 25 mm; ♀ unknown. *stagma*. Colombia.

P. imitata Drc. (= fauna Dyar) (164 h) is a large green species with a very narrow brown basal and *imilala*. marginal area and with a darker green discal dot. Hindwing dark brown. Expanse of wings: ♂ 32—35, ♀ 46 mm. Central America, Colombia.

P. mompha Dyar is a slim species with broad wings; forewing bright green, basal area obliquely cut off *mompha*. dark brown, the margin suffused with wood-brown except a spot in the centre; an oval dark discal spot at the cell-end. Hindwing red-brown. ♂ unknown. Expanse of wings: ♀ 35 mm. Peru.

P. flora Dyar (164 h) resembles *mompha*, but it is more strongly built, with straighter margins of the *flora*. wings, the marginal band of the forewing broad. Expanse of wings: ♂ 29—33, ♀ 35 mm. Brazil; French Guiana.

P. stiphra Her. & Hopp is smaller than *flora*, with shorter and more rounded wings, the dark colour *stiphra*. more blackish grey instead of red-brown. Expanse of wings: ♂ and ♀ 25—30 mm. Peru.

P. macrodonta Her. & Hopp. Forewing with a roundedly indented basal area, a broad dark distal margin *macrodonla*. with a long submedian dent extending into the cell and reaching the dark basal colour; a transverse strigiform spot at the cell-end. Hindwing dark brown. Expanse of wings: ♂ 26 mm; ♀ unknown. Peru (Chinchuras).

P. mossica Dyar is rather large, the dark basal and marginal areas reduced, the marginal area broadly *mossica*. indented discally and mixed with lilac, a small dark spot at the cell-end. Hindwing yellow, fringe interspersed with dark scales. Expanse wings: ♂ 33—35 mm; ♀ unknown. Colombia.

P. wellesca Dyar (164 h) is smaller than *mossica*, only a dot at the cell-end. Expanse of wings: ♂ 24 to *wellesca*. 30 mm; ♀ unknown. Costa-Rica.

- laranda*. **P. laranda** Drc. (164 h) has a very narrow distal margin with only a short discal dent; the basal area is also narrow, intermixed with yellow; discal dot dark, mixed with yellow in the ♀. Hindwing dark brown. Expanse of wings: ♂ 30, ♀ 34 mm. Guatemala.
- constricta*. **P. constricta** Her. & Hopp. likewise shows a but narrow brown margin with a long sharp discal dent, without a discal dot (dark green). Hindwing dark brown. Expanse of wings: ♂ 38 mm; ♀ unknown. Panama.
- laonome*. **P. laonome** Drc. (164 h) resembles *laranda*, but it lacks its yellow infiltration in the basal area; marginal area often dusted lilac, with a broad discal dent, narrow below it; a dark discal dot. Expanse of wings: ♂ 25—30, ♀ 33—36 mm. Mexico; Guatemala. DRUCE's figure shows the margin of the forewing roundly expanded submedianly; none of our specimens shows this behaviour, but HERING & HOPP find it to be variable.
- indetermina*. **P. indetermina** Bsd. (= *vernata* Pack.). Forewing bright green, basal and marginal areas wood-brown, without dents, a dark spot in the brown margin of the forewing. Hindwing yellowish, dusted brown at the margin. Expanse of wings: ♂ 22—28, ♀ 24—30 mm. Larva yellow or red, with undulating purple lines on the dorsum and laterally; horns variably long, some long, yellow or bright red, the lateral horns short. It lives on different low shrubs. New York, West Virginia.
- chloris*. **P. chloris** H.-S. (= *viridis* Reak., *fraterna* Grt.) (164 h). Forewing somewhat narrow, triangular; the brown basal area is obliquely cut off, the marginal band broad, wood-brown, with darker striped veins, the green colour reaches the base of the wing. Hindwing yellow in the basal half, distal half brown. Expanse of wings: ♂ 16—22, ♀ 23—25 mm. Larva with a hunch in front, tapering behind into a pointed tail, brown mixed with reddish, all the horns very short and insignificant. On oaks and other foliage-trees. Massachusetts, New York, Maryland, Virginia, North Carolina.
- cuernavaca*. **P. cuernavaca** Dyar (164 i) resembles *chloris*, except the green colour not distinctly reaching to the base of the forewing in the ♂, and the brown colour is darker. Specimens from different habitats vary much in size. Expanse of wings: ♂ 12—22, ♀ 24 mm. Mexico, San Salvador, Costa Rica.
- minima*. **P. minima** Schs. (164 i) has a narrower green band than *cuernavaca*, the dark basal area is broad; darker than the margin. Expanse of wings: ♂ 16—18, ♀ 18 mm. Mexico (Eastern Coast).
- maysi*. **P. maysi** Schs. has more pointed wings than *minima*, the dark areas dark brown. Hindwing blackish, scantily scaled in the disc. Expanse of wings: ♂ 16—18 mm; ♀ unknown. Guatemala.
- viridogrisea*. **P. viridogrisea** Dyar. ♂ dark brown, the wing divided by a light undulating line, the basal half more reddish than the distal half. ♀ with a narrow green band bending towards the base, bordered with reddish outside. Expanse of wings: ♂ 24—28, ♀ 31 mm. Mexico, Guatemala, Costa Rica.
- mionexia*. **P. mionexia** Dyar. Forewing of ♂ dark brown, the base chocolate brown, a median band red-brown, the marginal area lighter brown; hindwing light reddish brown. ♀ with a rather broad green band in the place of the red median band of the ♂. Expanse of wings: 19—22, ♀ 24 mm. Argentina.
- minuta*. **P. minuta** Her. & Hopp differs from *mionexia* in the light brown basal area which is coloured like the marginal area, a darker brown median band bordered by a whitish line on both sides. Expanse of wings: ♂ 17 mm; ♀ unknown. Brazil.
- cebrenis*. **P. cebrenis** Schs. (= *lysia* Drc.) (164 i). Forewing of ♂ broadly red-brown in the middle, the base and marginal area grey, the colours intergrading; hindwing blackish, red-brown along the inner margin. ♀ with a broad shaded green median band, the margin two-coloured, red inside, grey outside. Expanse of wings: ♂ 17—20, ♀ 24—26 mm. Mexico.
- schausi*. **P. schausi** Dyar (164 i). Forewing of ♂ dark red-brown in the middle, the base and margin blackish, the colours not contrasting; hindwing blackish, scantily scaled in the disc. ♀ with a green band bordered with reddish on both sides, the base, margin and hindwing blackish. Expanse of wings: ♂ 20—25, ♀ 30—33 mm. Guatemala, Costa Rica, French Guiana, Peru, Brazil (Amazons).

9. Genus: **Zaparasa** Dyar.

Separated from the preceding genus by the absence of the spurs on the posterior tibiae. Moreover, the forewing shows veins 7 and 8 stalked, 9 absent, 10 arises from the cell. Only two species similar to the preceding genus, but much weaker.

- sylvia*. **Z. sylvia** Dyar (164 i). Forewing light green, the basal half of the costal margin with a round light brown spot crossing the cell; the light brown distal margin is somewhat excavated subcostally, more so medianly. Hindwing yellowish white. Expanse of wings: ♂ 23 mm; ♀ unknown. Mexico.

Z. brueckneri *Her. & Hopp* has brown forewings with two fine green transverse lines, both strongly ex-*brueckneri*. curved in the middle; some green colouring in the cell. Hindwing not marked. Expanse of wings: ♂ 23 mm; ♀ unknown. Guatemala.

10. Genus: **Paraclea** *Dyar*.

Likewise very similar to *Parasa* from which it differs in the antennae being pectinated in the basal two thirds. Only 1 species:

P. pretiosa *Stkr.* (= *dolita* *Schs.*) (164 i). Forewing green with a narrow yellowish straw-coloured margin *pretiosa*. mixed with brown outside and inside. Hindwing pale brownish yellow. Expanse of wings: 20 mm; ♀ unknown. Brazil.

11. Genus: **Euclea** *Hbn.*

A rather large genus of mostly small or very small species. Palpi somewhat stout with a short terminal joint, antennae of ♂ pectinated in the basal halves; posterior tibiae spurred; forewing with all the 12 veins, vein 10 usually stalked with 7—9, forewing with a straight inner margin. The colouring generally contains no red-brown or ochreous tints, often mixed with green, but the thorax is never green. The distinction being partly very difficult we supply an analytical table facilitating the determination. *Metraga* *Wkr.* and *Nochelia* *Clem.* are generic synonyms.

Synopsis of Species.

- | | |
|--|--------------------------------|
| 1. Forewing marked with green (rarely with yellow) | 2 |
| Forewing without green | 14 |
| 2. Forewing with a very large green spot occupying almost the whole wing, indented at the anal angle, here without any red | <i>incisa</i> <i>Harv.</i> |
| The green area smaller, marked red at the indentation with a more or less distinct discal dot | 3 |
| 3. The green area fills up more than the cell; hindwing light. | <i>paenulata</i> <i>Clem.</i> |
| The green area smaller; hindwing dark brown | 4 |
| 4. The green area fills part or the whole of the cell | <i>elliottii</i> <i>Pears.</i> |
| Cellular area without green | 5 |
| 5. Green divided into 2 round spots | <i>nanina</i> <i>Dyar.</i> |
| Green markings angular. | 6 |
| 6. Green markings connected. | <i>viridiclava</i> <i>Wkr.</i> |
| Green in separated spots | 7 |
| 7. The middle green spot developed about as well as the subbasal and subapical ones | 8 |
| The middle spot smaller than the others or absent | 8 |
| 8. The green strongly developed; apex of forewing quadrangular | 9 |
| Green spots small; apex of forewing rounded | 10 |
| 9. A larger species; green spots distinct, almost confluent | <i>cipior</i> <i>Dyar.</i> |
| Smaller, green spots separated | <i>cippus</i> <i>Cr.</i> |
| 10. Brown, hindwing red-brown | <i>norba</i> <i>Drc.</i> |
| Blackish, hindwing chocolate brown | <i>copac</i> <i>Schs.</i> |
| 11. Basal and apical spots connected by a row of dots | <i>interjecta</i> <i>Dyar.</i> |
| Median area absent | 12 |
| 12. Basal spot with a prolongation above | <i>querceti</i> <i>H.-S.</i> |
| Basal spot without a prolongation | 13 |
| 13. Basal spot green | <i>delphinii</i> <i>Bsd.</i> |
| Basal spot yellow | <i>aemilia</i> <i>Stoll.</i> |
| 14. Forewing with a narrow silvery line below the median vein | 15 |
| Forewing without the silvery marking | 38 |
| 15. This silvery line straight | 16 |
| Silvery line undulate or angular | 23 |
| 16. A larger more robust species. | 17 |
| A smaller, slender species | 19 |
| 17. Forewing glossy, without any brown before the white apical dots | 18 |
| Forewing light, dull, a brown spot before the white subapical line | <i>pallicolor</i> <i>Dyar.</i> |

- | | |
|---|----------------------------|
| 18. Forewing dark brown in the disc | <i>agchiatropa</i> Dogn. |
| Forewing without distinct dark spots | <i>peroloides</i> Dogn. |
| 19. Subapical dots united into a line | <i>costilinea</i> Dyar. |
| The dots separated (often all extinct) | 20 |
| 20. Ground-colour of forewing blackish brown. | 21 |
| Ground-colour greyish brown, apically often reddish | <i>determinata</i> Drc. |
| 21. Subbasal silvery line distinct | <i>plugma</i> Sepp. |
| This line extinct | 22 |
| 22. A larger species, expanse of wings: 18 mm | <i>perplexa</i> Wkr. |
| Smaller, expanse of wings: 15 mm | <i>hoboa</i> Schs. |
| 23. A straight fine subapical silvery line | 24 |
| Subapical silvery line broken or extinct | 30 |
| 24. Subbasal line obliquely outward, extending along the median vein to the base | <i>distrakens</i> Dyar. |
| Subbasal line obliquely inward. | 25 |
| 25. Quite light yellow | <i>flava</i> B. & McD. |
| With different dark brown tints | 26 |
| 26. Markings distinct and contrasting | 27 |
| Markings extinct | 29 |
| 27. No distinct discal dot, the ground monotonous | <i>dolliana</i> Dyar. |
| Discal dot present, differently coloured | 28 |
| 28. Subapical line beneath inwardly angled to a light shadow. | <i>diversa</i> Drc. |
| This line distinctly coherent with the light shadow | <i>vericrux</i> Dyar. |
| 29. Hindwing red-brown | <i>poasica</i> Dyar. |
| Hindwing dark chocolate brown | <i>lamora</i> Dogn. |
| 30. Red-brown, no silver subapically, but an oblique subbasal silvery line | <i>spadicis</i> Grossbeck. |
| Variably tinged, subapically at least with traces of silver | 31 |
| 31. Forewing of a blackish ground-colour, disc scantily scaled in both wings | <i>bidiscalis</i> Dyar. |
| Forewing differently tinged with brown or yellow, disc not transparent | 32 |
| 32. A reddish flesh-coloured spot between the subbasal and subapical silver | 33 |
| Without this light spot | 37 |
| 33. Forewing dull olive yellow, discal streaks below the cell continued to marginal spots | <i>immundara</i> Dyar. |
| More speckled; margin not spotted | 34 |
| 34. Ground-colour yellowish, no discal spot | <i>cassida</i> Dyar. |
| Ground-colour red-brown, with a discal spot. | 35 |
| 35. Wings rather scantily scaled, scales somewhat erect, ground-colour lighter | 36 |
| Wings less scantily scaled, ground-colour dark brown | <i>buscki</i> Dyar. |
| 36. From Brazil | <i>ruja</i> Btlr. |
| From Colombia | <i>baranda</i> Schs. |
| From Costa Rica | <i>jelyce</i> Dyar. |
| 37. The subbasal silver mark like a slender lunule with curved ends | <i>trichathdota</i> Dyar. |
| This lunular mark short and thick | <i>cuspostriga</i> Dyar. |
| 38. Monotonously dark brown; shape of wings oval | <i>permodesta</i> Dyar. |
| Small, reddish brown, with a curved light line parallel to the distal margin | <i>byrne</i> Dyar. |
| Yellow, with a dull pinkish reddish margin | <i>aethes</i> Dogn. |

delphinii. **E. delphinii** Bsd. (= *strigata* Bsd., *quercicola* H.-S., *tardigrada* Clem., *monitor* Pack., *ferruginea* Pack., *bifida* Pack., *excisa* Wkr., *mira* Dyar) (164 i). The nomenclatural type is the eastern race. Hindwing dark brown, not much lighter than the forewing; the green on the forewing divided into a subbasal and subapical spot, each followed by red colour. — In **querceti** H.-Schäff. (164 i) the lower spot is split. — **interjecta** Dyar shows the two spots connected by a series of small green spots which in — **viridiclava** Wkr. (164 k) are united into a complete band, while in — **elliottii** Pears. they almost or entirely fill up the cellular space. The western race is — **paenulata** Clem. (164 k), with light yellow hindwings sometimes feebly strewn with brown outside; the green area of the forewing is somewhat smaller, so that a broad dark margin and a more or less distinct discal spot remain. Clermont, Massachusetts, New York, Maryland, Virginia, North Carolina. The form — **incisa** Harv. has a somewhat more extensive green, therefore narrow dark margins, and very light hindwings, Expanse of wings: ♂ 15—24, ♀ 24—30 mm. Wisconsin, Iowa, Nebraska, Florida, Missouri, Texas. The elliptical larva is flat, green or reddish, the horns short, with yellow subdorsal lines and dark undulating dorsal and lateral lines, but the ornamentation most variable. On trees and shrubs.

E. nanina Dyar (= *nana* Dyar nec H.-S.) (164 k) is smaller than *delphinii*, but of the same colour, the *nanina*. green well developed, composed of 2 round spots, the lower one split, the upper one circular, close together, the lower one followed by red colour. Expanse of wings: ♂ 15—19 mm; ♀ unknown. Florida.

E. aemilia Stoll (= *discolor* Sepp). Forewing dark brown, subbasal spot and subapical dots yellow, the *aemilia*. former followed by red colour; somewhat larger than *cippus*. The elliptical larva is flat, green, the lateral horns rather long, the subdorsal ones unequal, long at the ends, a group of 3 short ones close together subdorsally in the middle; a red dorsal stripe dispatching lateral branches in the middle and behind, with a lateral row of red spots. It lives on various kinds of forest-trees. Surinam.

E. cippus Cr. (164 k). Forewing dark red-brown, hindwing somewhat lighter. Forewing with 3 triangular *cippus*. green spots, the middle one generally as large as the subapical one, behind the subbasal red. Expanse of wings: ♂ 15—28, ♀ 20—32 mm. From Mexico to Paraguay except Brazil.

E. cipior Dyar (164 k) is larger than *cippus*, the green spots also larger. Hindwing light brownish. Ex- *cipior*. ppanse of wings: 29—33 mm. Peru (Santo Domingo).

E. norba Drc. (164 k). Forewing dark brown, hindwing lighter; the green spots as in *cippus*, but smaller, *norba*. the wings relatively longer and more rounded, the abdomen much longer, projecting beyond the hindwings. Expanse of wings: ♂ 22 — 30, ♀ 38—40 mm. Mexico, Central America, Panama, Ecuador, Colombia.

E. copac Schs. resembles *norba*, but its colouring is blackish, with more smoky brown hindwings. Ex- *copac*. ppanse of wings. ♂ 24 mm; ♀ unknown. Peru.

E. permodesta Dyar (164 k) has the shape of the wings and the long abdomen of *norba*, but without *permodesta*. green markings; forewing glossy dark brown, in a certain exposure to light transversely striated. Hindwing lighter brown, the inner margin dark. Expanse of wings. 24—28 mm; ♀ unknown. Guiana.

E. pallicolor Dyar (164 l). Light wood-brown, forewing with a white subapical streak and with a broken *pallicolor*. silvery subbasal marking, with darker brown colouring before them. Expanse of wings: ♂ 25 mm; ♀ unknown. French Guiana.

E. agchiatropha Dogn. (164 l). Cellular area and veins dark brown, the interspaces lighter with some- *agchiatro-* what erect scales; a subbasal silvery line extends inward on vein 1, yellowish-red colouring behind it, small sub- *pha*. apical silvery dots. Hindwing light brown with darker veins, fringe light. Expanse of wings. ♂ 27—30 mm; ♀ unknown. Colombia, Peru.

E. peroloides Dogn. Forewing silvery light brown, the scales between the veins somewhat erect, olive, *peroloides*. the colouring varying according to the exposure to light; a long oblique subbasal silvery stripe and 3 subapical silvery dots, not in one line, hindwing brownish, smoky outside. Expanse of wings. 28 mm; ♀ unknown. Peru (Yahuarmayo).

E. plugma Sepp (= *perplexa* Wkr., *zygia* Drc., *chiriquensis* Schs., *colle* Dyar) (164 l). Monotonously *plugma*. dark blackish brown, the markings often inconspicuous; an oblique subbasal straight silvery line and curved subapical row of 3 or 4 dots, sometimes also two silvery dots at the veins 2 and 3; the black discal dot not prominent. Hindwing dark brown. Expanse of wings: ♂ 12—20, ♀ 25—35 mm. SEPP figures a very large ♀ from Surinam (35 mm), the ♀ is invariably much larger than the ♂, whereas the ♀ of the northern race: — ~~hoboa~~ *hoboa*. *Schs.* is very small. The larva is elliptical, the lateral horns of medium length and smooth; the subdorsal horns with 3 rather long thorns at each end, the 5 middle ones short and smooth; green, the dorsum with a red, somewhat spotted band, a white line below the subdorsal horns. Surinam, Colombia, Panama, Costa Rica, Mexico.

E. determinata Drc. resembles *plugma*, the colour of the forewing varies from dark brown to light yellow; *determinata*. the markings are often extinct. Hindwing light brown, often yellowish, with a silky gloss, and darker veins. Expanse of wings: ♂ 14—20, ♀ 22—30 mm. In the form: — ~~costilinea~~ *Dyar* the subapical dots are connected. *costilinea*. Mexico, Central America, Colombia.

E. diversa Drc. (= *vericrux* Dyar) (164 l). Forewing dark brown with a long straight subapical silvery *diversa*. line and an undulate subbasal silvery line, a pinkish brown spot between them; discal dot dark brown, dark shades before the silvery markings. Very variable in the marking; in — *retroversa* *Dyar* the markings are less *retroversa*. distinct, the subbasal silver is irregular, and more or less distinct reddish colouring before it. Expanse of wings: ♂ 20—23, ♀ 22—32 mm. The elliptical larva is thick and small, the dorsal area dark blue, narrow, with a carmine dorsal line, irregularly widened on the expansions, one quadrangular carmine spot each on the rings 6, 7, 9 and 10; the subdorsal edge yellow, the sides green; the horns are thick and rather short, the subdorsal ones on the 5th and 11th rings being the longest. On different plants. Mexico, Guatemala.

- poasica*. **E. poasica** Dyar resembles *retroversa*, with quite indistinct markings, a large reddish spot behind the subbasal silver. Expanse of wings: ♂ 24—25 mm; ♀ unknown. Costa Rica.
- lamora*. **E. lamora** Dogn. (164 l) differs from *poasica* in much darker brown hindwings. Expanse of wings: ♂ 21—25 mm; ♀ unknown. Colombia.
- distragens*. **E. distragens** Dyar (164 l). Forewing wood-brown, without the red tinge of *diversa*, the marginal area, especially towards the anal angle, lighter yellowish; the subbasal silvery line obliquely outward, then inward along vein 1; hindwing light red-brown with a yellow reflection. Expanse of wings: ♂ 23—27 mm; ♀ unknown. Costa Rica, Panama.
- flava*. **E. flava** B. & McD. Quite light ochreous; subapical and subbasal silvery lines indistinctly connected by a dark curved shadow. ♂ still unknown, expanse of wings: ♀ 22 mm. Arizona.
- dolliana*. **E. dolliana** Dyar (164 l). Monotonously red-brown; a subapical bent silvery streak, the subbasal silvery line undulate, thick, blackish before and behind it. Hindwing dark red-brown. ♂ unknown. Expanse of wings: ♀ 27 mm. Costa Rica, Arizona.
- spadicis*. **E. spadicis** Grossbeck. Forewing monotonously red-brown, the hindwing lighter. The subbasal silvery streak oblique, somewhat undulate, no other marking. Expanse of wings: ♂ 20 mm. ♀ unknown. Arizona.
- bidiscalis*. **E. bidiscalis** Dyar (= *doriens* Schs.) (165 a). Dark purple blackish, watered somewhat darker; the subbasal silver extinct, but small subapical silvery dots, and one on vein 3, the disc hyaline on both wings. Expanse of wings: ♂ 20—23 mm; ♀ unknown. Guatemala, Panama, Colombia.
- immundara*. **E. immundara** Dyar (165 a). Forewing olive brown, yellowish, with 3—5 more or less connected subapical silvery dots, the subbasal silvery marking angular, undulate; the ground mixed with blackish, especially basally and on the veins, a streak behind the cell; marginal area more or less spotted, especially in the middle; discal dot absent. Hindwing brown, with darker veins, fringe yellow. Expanse of wings: ♂ 22—24, ♀ 27—28 mm. Mexico (Tabasco), Guatemala.
- cassida*. **E. cassida** Dyar (165 a). Forewing with a light yellowish ground-colour, the scales somewhat erect and thin, speckled blackish especially basad, defining a light pink spot which is situate between the subapical silvery dots and the subbasal strongly undulated line; discal dot absent. Hindwing somewhat lighter than in *immundara*. Expanse of wings: ♂ 23—24 mm; ♀ unknown. Brazil (Amazons).
- rufa*. **E. rufa** Btlr. "Red-brown, opalescent in the disc between the veins, dark reddish brown in the disc and below it, the inner margin, distal margin and veins light, with a silky gloss; subapical silvery dots, the subbasal silvery line strongly angled; a dark discal dot. Expanse of wings: ♂ 25 mm; ♀ unknown." Brazil (São Paulo). The species had been considered a synonym to *perplexa* Wkr. (by me in 1905 and once more in 1926); but BUTLER's description refers more to a species allied to the following *baranda*. In 1911, SCHAUUS examined the type of *rufa* and ascertained that it is different from *perplexa*, yet this statement had been forgotten until some time ago.
- baranda*. **E. baranda** Schs. (165 a). Forewing dark reddish brown with a large round discal dot, the ground only slightly irrorated darker; a flesh-coloured spot between the subapical silvery dots and the subbasal line is U-shaped in the middle. Hindwing lighter brown with darker veins and brown fringe. Expanse of wings: ♂ 24 to 28 mm; ♀ unknown. Colombia.
- jelyce*. **E. jelyce** Dyar is smaller than *baranda*, with more pointed wings, somewhat more scantily scaled, the apical veins more prominent. Expanse of wings: ♂ 20—23 mm; ♀ unknown. Costa Rica, Panama.
- buscki*. **E. buscki** Dyar (165 a) is somewhat smaller than *jelyce*, the wing opaque, dark brown, with a but feebly reddish area between the subapical dots and the U-shaped subbasal silvery line; discal dot present, but indistinctly marked. Hindwing dark brown. Expanse of wings: ♂ 18—21 mm; ♀ unknown. Panama (Canal Zone).
- trichathdota*. **E. trichathdota** Dyar. Forewing dark brown, dusted reddish subapically and subbasally, the distal veins and vein 1 whitish; the subapical silver extinct, the subbasal marking is a widely open slender crescent; hindwing black. Expanse of wings: ♂ 18 mm; ♀ unknown. Costa Rica, Panama.
- cuspostriga*. **E. cuspostriga** Dyar (165 a) differs from the preceding species in the short and thick subbasal silvery crescent. Expanse of wings: ♂ 14—17 mm; ♀ unknown. Guiana.
- byrne*. **E. byrne** Dyar (165 a) shows the wings shaped like *determinata*, the wings reddish brown, the hindwings redder than the forewings; a very feeble bent light distal line extends from the costal margin before the apex to the centre of the inner margin, the colour before it being somewhat darker; no other markings. Expanse of wings: ♂ 12—16 mm; ♀ unknown. Guatemala, Costa Rica.

E. aethes *Dogn.* (165 b). Light yellow, with a broad light pink area along the distal and inner margins. *aethes*. Hindwing light yellowish. Expanse of wings: ♂ 22—24 mm; ♀ unknown. Colombia.

12. Genus: **Talima** *Wkr.*

Very closely allied to the preceding genus, distinguished by more slender palpi with a more distinct terminal joint. The colouring of the forewing is more distinctly red-brown and ochreous in various tints.

T. straminea *Schs.* (165 b). Wings of a broad, triangular shape; forewing reddish yellow, shaded brown *straminea*, along the inner and distal margins, the veins and a slightly undulated distal line brown; an oblong oval reddish subbasal area. Hindwing brown, lighter along the costal margin, the veins distinct in the ♂, vanishing in the ground in the ♀. Expanse of wings: ♂ 20—23; ♀ 25—27 mm. Mexico and Costa Rica.

T. sissypha *Dyar* (165 b) resembles *straminea*, but the whole forewing is darkened purple brown. Inner *sissypha*, and distal margins still darker, the reddish subbasal area brightly contrasting. Hindwing much darker brown than in *straminea*. Expanse of wings: ♂ 21 mm; ♀ unknown. Guatemala.

T. ingenour *Dyar*. Wings long and narrow, both the forewings and hindwings, the markings as in *sissypha*, a yellowish apical spot just as distinct as a subbasal one. Expanse of wings: ♂ 20—25 mm; ♀ unknown. Colombia, Guiana, Brazil (Amazons).

T. aurora *Dyar* (165 b) differs from *ingenour* in the lighter ground-colour of the forewing, powdered *aurora*, with yellow, the veins distinctly marked. Expanse of wings: ♂ 22—25 mm; ♀ unknown. Costa Rica, Panama.

T. flexilinea *Dyar* (165 b). Forewing dark brown, only with a fine exterior line bending towards the *flexilinea*, inner margin; behind it at the apex there is a large dark purple grey shadowy spot; hindwing darker brown; ♂ unknown. Expanse of wings: ♀ 24—26 mm. French Guiana.

T. varians *Dyar* (165 b). Forewing light purple brown, shaded darker basally, the veins darker outside, *variens*, traversing the fine undulatingly bent exterior line behind which there is a broad dark purple brown apical spot. Hindwing light yellowish straw-coloured with a purple grey area through the centre. ♂ unknown; ♀ 23 mm. Venezuela.

T. columbiana *Dogn.* (165 b). Forewing lustrous light reddish brown, the veins finely darker; the exterior *columbiana*, line rather broad and straight, from the costal margin before the apex to the middle of the inner margin. Hindwing light brown; ♂ unknown; expanse of wings; ♀ 30 mm. Colombia.

T. phara *Drc.* Greyish reddish brown; a discal spot, the veins partly, and a fine exterior line dark brown, *phara*, the marginal area behind it indistinctly more shaded purple; hindwing dark red-brown, dusted blacker in the ♀ than in the ♂. Expanse of wings: ♂ 15, ♀ 21—25 mm. Described according to specimens from French Guiana; DRUCE's type from Colombia.

T. rubicolor *Dyar* (= *parva* *Dyar*, *aphasia* *Dyar*) (165 b) is smaller and more reddish than *phara*, the *rubicolor*, marginal area in the ♀ less shaded darker or not at all; the forewing of the ♂ is more or less, often very intensely, tinged with dark purple brown, the veins often striped darker. Hindwing of the ♀ dark brown, of the ♂ lighter with striped veins. Expanse of wings: ♂ 15—19, ♀ 16—22 mm. Nicaragua, Costa Rica, Panama, Venezuela.

T. assimilis *Dyar* (165 c) has rather dark red-brown forewings with a traceable discal dot and a fine, *assimilis*, slightly undulated dark exterior line; marginal area a bit more purple. Hindwing blackish brown. ♂ unknown; ♀ 15—20 mm. East Mexico.

T. emilia *Dyar* resembles *rubicolor*, somewhat more intensely suffused with brown, the exterior line in- *emilia*, distinct. Hindwing yellowish straw-coloured, with a dark spot at the anal angle. Expanse of wings: ♂ 15—20 mm; ♀ unknown. Guatemala, Costa Rica, Panama, Colombia, Venezuela, French Guiana, Brazil (Amazons).

T. meritone *Dyar* (165 c) is larger than *emilia*, the forewing intensely suffused with dark, the veins not *meritone*, striped, with a rounded clouded discal area. Expanse of wings: ♂ 22—23 mm; ♀ unknown. Colombia.

T. insulla *Dyar* resembles the following *sulla*, but the dark exterior line is absent and replaced by a fine *insulla*, light yellow line which is indistinct in the ♂, distinct in the ♀. Expanse of wings: ♂ 20, ♀ 26 mm. Brazil (Amazons).

T. sulla *Schs.* (165 c). Forewing reddish brown basally, with darker veins; the exterior transverse line *sulla*, fine, dotted on the veins, the area behind it violettish grey; hindwing light yellow, with a small dark spot at the anal angle. Expanse of wings: ♂ 20—22 mm; ♀ unknown. Brazil.

T. ieco *Dyar* resembles *sulla*, but it is smaller, the forewing more intensely suffused with dark, red at *ieco*, the inner margin. Expanse of wings: ♂ 16—19 mm; ♀ unknown. It may be only a form of *sulla*. Brazil. Paraguay.

latescens. **T. latescens** Btlr. Forewing light yellowish brown, with traces of a discal dot, no dark dusting, with dark veins; exterior line fine and straight, the marginal area more violettish grey. Hindwing orange straw-coloured, more or less tinged with dark at the inner margin. Expanse of wings: ♂ 17—21 mm; ♀ unknown. Colombia, Peru, Brazil (Amazons).

massanaria. **T. massanaria** Dogn. resembles *latescens*, but it is somewhat smaller. ♀ more red-brown, the veins not darker. Hindwing dark red-brown. Expanse of wings: ♂ 14, ♀ 17 mm. Brazil (Santarem).

postica. **T. postica** Wkr. Forewing pointed triangular, scantily scaled, with prominent veins; exterior line indistinct, slightly bent, violettish grey, the ground-colour before it more or less red, violettish grey behind it. Hindwing orange with a large violettish grey spot at the produced anal angle. Expanse of wings: ♂ 16—22 mm; ♀ unknown. Venezuela, Guiana, Paraguay, Brazil (Amazons).

filifera. **T. filifera** Dyar (165 c) is larger than *postica*, the forewing more intensely dusted with violettish grey. It may be only a form of *postica*. Expanse of wings: ♂ 20—24 mm; ♀ unknown. Guiana, Bolivia, Brazil.

13. Genus: **Adoneta** Clem.

Spur present on the posterior tibia. Not all the veins present on the forewing. Small insects allied to the *Euclea*, recognizable by the slightly produced apex of the forewing. *Cyclopteryx* Pack. is a synonym to *Adoneta*.

spinuloides. **A. spinuloides** H.-S. (= *voluta* Clem., *ferrigera* Wkr., *ruptilinea* Wkr., *leucosigma* Pack., *nebulosus* Wetherby) (165 c). Forewing cinnamon brown with bent subbasal and subapical silvery lines inwardly bordered with grey, more distinctly in the ♂ than in the ♀, connected by a bent row of black dots; a small oblong black spot at the cell-end, prolonged by a shadow. Hindwing brown, fringe lighter. Expanse of wings: ♂ 15—18, ♀ 15—23 mm. The elliptical larva exhibits 2 rows of special tubercles, the subdorsal ones on the anterior and posterior segments are longer and of red colour; ground-colour green, dorsal area yellow, broadly filled up by an undulated violettish red band, strongly strangulated behind the middle. It lives on different trees in the forests and on shrubs. New Hampshire, New York, Maryland, North Carolina, Florida, Texas.

bicaudata. **A. bicaudata** Dyar has light yellow forewings, the margins tinged with brown, of a purer yellow in the ♂ than in the ♀; silvery lines and black dots as in *spinuloides*, but the blackish shadow at the discal dot is absent. Forewing light yellowish brown. Expanse of wings: ♂ 14—17, ♀ 17—18 mm. Larva oblong elliptical with parallel lateral margins, the last pair of horns very much prolonged; green, dorsal area and horns red; an undulated violettish red dorsal band forms 3 expansions each on the anterior and hindmost segments and is very narrow in the middle. On different trees in forests and on shrubs. New Jersey, Maryland, North Carolina.

pygmaea. **A. pygmaea** G. & R. (165 c). Forewing bright light brown without grey shading; silvery lines as in the two preceding species, but less distinct, the black dots traceable with a more or less distinct dark shadow through the marking; discal dot absent. Hindwing light brown. Expanse of wings: ♂ 12—14, ♀ 16 mm. Central Texas.

gemina. **A. gemina** Dyar resembles *pygmaea*, but the brown shadow in the markings is more interrupted, the ground-colour is a duller light brown, and the hindwing is blackish brown. Expanse of wings: ♂ 12—14, ♀ 15 mm. South Texas.

14. Genus: **Monoleuca** G. & R.

Separated from the preceding genus merely by the somewhat different shape of the wings, a more rectangular, not sickle-shaped apex, the distal margin uniformly curved.

Type: *M. semifascia* Wkr.

occidentalis. **M. occidentalis** B. & McD. (= *fieldi* B. & Benj.) shows lighter or darker brown forewings with darker shades indicating the position of the extinct subbasal and subapical lines, sometimes slightly scaled white. Forewing light brown, varying in intensity. Expanse of wings: ♂ 17—21 mm; ♀ unknown. South California (S. Diego).

disconcolorata. **M. disconcolorata** B. & Benj. differs from *occidentalis* in the glossy silky yellowish white or almost white hindwings. Expanse of wings: ♂ 21 mm; ♀ unknown. South California (S. Bernardino Mts.).

semifascia. **M. semifascia** Wkr. Forewing dark red-brown with a straight silvery line in the basal third from the inner margin into the cell; this line is thick and forms upwards two distal dents. Hindwing lighter brown. Expanse of wings: ♂ 14—20, ♀ 22—25 mm. The stout elliptical larva shows 2 rows of spined tubercles, the anterior pair of each row and the posterior pair of the subdorsal row prolonged into horns. Colour dull violettish brown.

with red stripes along the rows of thorns and undulate dark brown lines between them. It lives on many trees in forests and on shrubs. Virginia, North Carolina, Florida, Texas.

M. sulfurea Grt. (= *erectifascia* Dyar) (165 d) differs from *semifascia* in the straighter finer line. the *sulfurca*. feebler dents not being silvery but light yellow. Expanse of wings: ♂ 15—18 mm; ♀ unknown. Florida.

M. subdentosa Dyar (165 d) is very similar to *semifascia*, but the silver line is narrow, twice very *subdentosa*. strongly dentate, with reddish colouring before it. Expanse of wings: ♀ 24 mm; ♂ unknown, Florida.

M. angustilinea Dyar (165 d). Forewing monotonously red-brown, the silver line straight, of a sulphur *angustilinea*. tint, fine and of a somewhat oblique course, entering the cell before the origin of vein 2, and with faint reddish colouring before it. Expanse of wings: ♀ 23 mm; ♂ unknown. Florida.

M. obliqua H. Edw. Monotonously brown, the silvery line very oblique, almost from the base to the *obliqua*. apex. Hindwing much lighter than the forewing. Expanse of wings: ♂ 16 mm; ♀ unknown. Florida.

15. Genus: **Epiclea** Dyar.

Very similarly built as *Zaparasa*, but vein 10 of forewing stalked with 7 and 8; 9 absent. Hind tibiae without spurs. Only 1 species:

E. elaea Drc. (165 d). Forewing light reddish brown, monotonous; a rather narrow straight white line *elaea*. extends parallel with the distal margin from behind the middle of the inner margin to the cell-end. Hindwing light brownish wood-coloured, dusted somewhat blackish. Expanse of wings: ♂ 20 mm; ♀ unknown. Mexico; Panama. This description is based upon a specimen denoted as the "type" in the Coll. DRUCE. The specimen figured in the "Biologia" (pl. XXIII, fig. 14), now in the Berlin Museum, is *Euprosterna eleaeasa* Dyar.

16. Genus: **Miresa** Wkr.

Spurs of hind tibiae present; forewing with all the 12 veins. Palpi short, not reaching the frontal tuft. Basal thirds of ♂ antennae pectinate, then shortly serrated decreasing apically. The genus is also represented by numerous species in the Indo-Australian Region and occurs also in the Palaearctic Region.

Type: *M. albipuncta* H.-S.

M. clarissa Stoll (= *argentata* Wkr.) (165 d). Dark red-brown, of a variable tint; an undulate silvery *clarissa*. postmedian line and small silvery spots at the margin; thorax more or less mixed with yellow. Expanse of wings: ♂ 25—30, ♀ 35—40 mm. Mexico, Central America, Colombia, Venezuela, Guiana, Brazil.

M. argentea Drc. (165 d). Dark red-brown, mixed with yellow, especially on the thorax; 2 fine brown *argentea*. lines, convergent towards the costal margin, the interior one strong and irregularly angled, the exterior one undulate and curved. The ♀ with more indistinct lines, the exterior one strewn with silver. Hindwing blackish, fringe yellow. Expanse of wings: ♂ 26—28, ♀ 37 mm. From Mexico.

M. fuscoflava Dogn. (165 d). Disc of forewing light brownish, blackened towards the apex, the apex *fuscoflava*. itself and the inner-marginal part yellow, some black scales subbasally; subapical yellow dots and black ones behind them. Hindwing light brownish. Body rather light. tegulae yellowish. Expanse of wings: ♂ 31—34 mm; ♀ unknown. Ecuador, Colombia.

M. venosa Dyar (165 e) is a small species. Forewing violettish grey, lighter towards the margin, with *venosa*. 2 parallel dentate oblique postmedian lines. Hindwing light yellowish straw-coloured. Expanse of wings: ♂ 20—22 mm; ♀ unknown. San Salvador.

17. Genus: **Sisyrosea** Grt.

Antennae of ♂ bipectinate almost to the tips; palpi short, not reaching the vertex. Veins 2 and 3 of forewing arise separately; hind tibiae only with terminal spurs. Synonyms of the genus: *Isa* Pack., *Sosiosa* Ry., *Sicyrosea* Pack. Type: *S. inornata* G. & R.

S. diana Drc. Thorax and forewing dark rust-brown, passing over into black towards the margin. *diana*. Hindwing black, mostly scantily scaled in the disc. Wings rather narrow, apex produced. Expanse of wings: ♂ 19—23 mm. ♀ unknown.

S. textula H.-Schäff. (= *inornata* G. & R.). Forewing lustrous light brown, scaled in a somewhat wrinkl- *textula*. ed way; ♂ with a dark brown basal shadow and another submarginal one, reddish towards the inner margin. ♀ the same, but mostly lighter and with hardly any marking. Hindwing red-brown. Expanse of wings: ♂ 17 to 19, ♀ 18—23 mm. Larva very flat, the dorsal area strangulated, the subdorsal horns small, the lateral ones thin, fringe-like; green, a small red spot in the centre of the dorsal area. New York, Maryland, Virginia, North Carolina.

- schaefferana*. **S. schaefferana** Dyar (165 e). Light brown, monotonous, the wings wrinkled, from a light brownish wood-colour to reddish brown. Expanse of wings: ♂ 22—28, ♀ 26—30 mm. South Arizona.
- obscura*. **S. obscura** Dyar (165 e). Forewing dark purple brown, scantily strewn with black. Hindwing somewhat more reddish brown. Expanse of wings: ♂ 17—20 mm; ♀ unknown. French Guiana.
- brusha*. **S. brusha** Dyar (165 e). Forewing purple brown, spotted reddish in the inner-marginal half, little or not at all strewn dark; hindwing distinctly blackish. Expanse of wings: ♂ 20 mm; ♀ unknown. Mexico; French Guiana.

18. Genus: **Euprosterna** Dyar.

Antennae of ♂ slender, with short double pectinations; palpi with a short obtuse terminal joint, almost reaching the vertex. Neuration as in *Sisyrosea*. Hind tibiae with both pairs of spurs.

Type: *E. aroënsis* Schs.

- urba*. **E. urba** Drc. Forewing dark brown, with a green subbasal strigiform spot and a green subapical dot as well as traces of a dark distal band. Hindwing lighter brown. Expanse of wings: ♂ 18 mm; ♀ unknown. Costa Rica.
- pernambuconis*. **E. pernambuconis** Dyar (165 e). Brown, with 2 white lines convergent towards the costal margin, the exterior line approaching the margin towards the inner margin. Hindwing light blackish. Expanse of wings: ♂ 13—14 mm; ♀ unknown. Brazil (Pernambuco).
- cochlidionis*. **E. cochlidionis** Dyar (165 e). Forewing light ochreous, with 2 fine dark lines convergent towards the costal margin, the interior one twice almost rectangularly broken along the submedian fold. Expanse of wings: ♂ 15—17 mm. ♀ unknown. Mexico.
- lacipecta*. **E. lacipecta** Drc. Very dark brown, the forewings marked as in *cochlidionis*, but the lines are light, the interior one only curved, not twice angled, the exterior one touching the distal margin in the middle. Hindwing blackish. Expanse of wings: ♂ 17—19 mm; ♀ unknown. Mexico.
- elacasa*. **E. elacasa** Dyar (= *avellana* Dgn.) (165 f). Rather dark brown, with but one dark line bordered with light outside. Hindwing dark brown. Expanse of wings: ♂ 15—16 mm; ♀ unknown. Central America, Panama, Colombia, Guiana, Trinidad, Brazil.
- hosia*. **E. hosia** Dyar (165 f). Forewing dark brown, with a bronze reflection towards the anal angle; irregular black markings in the disc indicate traces of lines. Hindwing brownish black. Expanse of wings: ♂ 15—18 mm; ♀ unknown. Costa Rica (Carillo).
- aroënsis*. **E. aroënsis** Schs. (165 f). Forewing brown with a silky gloss, dark at the base, somewhat oblique, sharply defined; with a discal dot; indistinct transverse wrinkles in the distal part. Hindwing light brownish. Expanse of wings: ♂ 14—18, ♀ 19 mm. Panama, Venezuela, Trinidad.
- cora*. **E. cora** Schs. (165 f) is smaller than *cochlidionis*, browner, the markings similar, but interrupted and indistinct; the exterior line extends towards the distal margin more like that in *lacipecta* and cuts off a grey apical part; interior line dark, angled, indistinctly bordered with light; hindwing from yellowish straw-coloured to dark grey. Expanse of wings: ♂ 12—17 mm; ♀ unknown. Mexico (Sinaloa).
- notula*. **E. notula** Dgn. (165 f). Rather light ochreous, scantily strewn with black scales, with an indistinct broad brown submarginal band enclosing 2 small black spots towards the apex. Hindwing light blackish. Expanse of wings: ♂ 17 mm; ♀ unknown. Peru (Yahuarmayo).
- sapucaya*. **E. sapucaya** Dyar (165 f). Dark pinkish brown, lighter and somewhat more yellowish along the inner margin, pale lilac towards the distal margin; a dark-shaded band extends in a curve from near the base of the inner margin gradually vanishing to the centre of the wing. Hindwing pinkish brown with a dark spot at the anal angle. Expanse of wings: ♂ 15 mm; ♀ unknown. Paraguay.
- vagabunda*. **E. vagabunda** Dyar (165 f). Pinkish brown, narrowly yellow at the margin; an indistinct dark spot in the centre of the wing represents the angle of the extinct interior line. Expanse of wings: ♀ 16—20 mm; ♂ unknown. Mexico.

19. Genus: **Platyprosterna** Dyar.

Separated from the preceding genus by stronger antennae with broader double pectinations. Only 3 species:

Type: *P. elaeetta* Dyar.

- elaeetta*. **P. elaeetta** Dyar (165 f). Forewing brown in the basal half, lilac in the distal half, the two halves separated by an oblique median line bordered with dark inside, with light outside; no submarginal line. Hindwing light brown. Expanse of wings: ♂ 20—23 mm; ♀ unknown. Brazil.
- antiqua*. **P. antiqua** Dyar (165 e). Forewing brownish ochreous in the basal half, light yellowish brown in the distal half, divided as in *elaeetta* outside with a fine dark subterminal line extending analwards to the margin. Hindwing whitish ochreous. Expanse of wings: ♂ 18 mm; ♀ unknown. Brazil.

P. ceres *Drc.* (165 e). Greyish brown with a broad blackish submarginal shadow which is incurved *ceres*. outside in the middle; a whitish inner-marginal area extends almost to the median vein, and a light oblique strigiform spot extends from the base of the inner margin upwards outside. Hindwing dark greyish brown, fringe light. Expanse of wings: ♂ 20—24, ♀ 24—26 mm. Mexico, Guatemala; S. Salvador.

20. Genus: **Natada** *Wkr.*

Antennae of ♂ bipectinate almost to the tips, the obliquely upturned truncate palpi project beyond the frons. Veins 2 and 3 of forewing arise separately, vein 7 arises from vein 6 remote from the cell. The genus contains a great number of mostly larger species of a robust build. *Bombycocera* *Fldr.* and *Rhinaxima* *Bar* are synonyms. As the species are often difficult to distinguish, we supply again an analytical table.

Type: *N. rufescens* *Wkr.*

Synopsis of Species.

1. Forewing with an exterior straight line and an interior oblique line, both equably distinct and similar 2
Forewing not marked that way 11
2. Lines dark on a light ground 3
Lines light on a dark ground 8
3. ♂ antennae with long pectinations *perpectinata* *Dyar.*
♂ antennae with moderately long or short pectinations 4
4. The lines of the forewing meet at the costal margin ♀-*subpectinata* *Dyar.*
Lines separated at the costal margin 5
5. A large species, forewing yellowish straw-coloured *cochuba* *Schs.*
Smaller, forewing brown 6
6. Antennae dark brown *nucea* *Dogn.*
Antennae yellow 7
7. A larger species, wings mostly darker *daona* *Drc.*
Smaller, wings mostly dusted lighter *nasoni* *Grt.*
8. Larger, hindwing greyish brown 9
Smaller, hindwing blackish 10
9. A very large species, the light lines shaded *mycalia* *Stoll.*
Somewhat smaller, the light lines fine, bordered with dark *fusca* *Drc.*
10. The light lines intensely bordered with brown, ♂ antennae apically serrate ♂-*subpectinata* *Dyar.*
Light lines without dark borders, ♂ antennae pectinated to the tips *fuscodivisa* *Dogn.*
11. Forewing with a straight dark distal line, the interior one absent 12
Forewing without any distinct coherent lines 17
12. Forewing dark brown as far as the exterior line, the margin contrastingly lighter *simois* *Stoll.*
Forewing without a contrastingly lighter marginal area 13
13. Very small (15—18 mm), exterior line near the margin *caria* *Drc.*
Larger (20—38 mm) 14
14. Exterior line bordered with light outside 15
Exterior line fine, without a light border 16
15. Smaller (20—30 mm) *pucara* *Dogn.*
Larger (37 mm) *increscens* *Dyar.*
16. Smaller, hindwing lighter than forewing *miradora* *Dyar.*
Larger, hindwing darker than forewing *arpi* *Dyar.*
17. Very large and robust (45—48 mm), light, abdomen reddish above *sufficiens* *Dyar.*
Smaller (32—37 mm), thorax and forewing of a fiery red tint *incandescens* *Dyar.*
Medium-sized, without red colour, wings wrinkled, glossy 18
18. Small (17 mm), light straw-coloured, a small discal dot *molicula* *Dogn.*
Larger, differently tinged, brown with a silky gloss 19
19. Forewing with more or less distinct, faded exterior lines and oblique interior lines, the latter forming a demi-band at the inner margin 20
Without this marking 24
20. Forewing with a silky gloss, only little wrinkled 21
Forewing strongly wrinkled, with a silky gloss 22
21. Exterior line bent, touching the distal margin; hindwing light brown *nindla* *Dyar.*
Exterior line fine, indistinct beneath, hindwing blackish *barranca* *Schs.*

22. Exterior line of forewing only traceable 23
 This line absent, a shaded demi-band at the inner margin *quadrata* Wkr.
 23. Small, with narrow wings, of a reddish tint *deba* Dyar.
 With broader wings, dark brown without a reddish tint *styse* Dyar.
 24. Distal margin of forewing angled, upper surface finely wrinkled 26
 25. Larger, darker, wrinkles of forewing more separated and not numerous *ulaula* Dyar.
 Smaller, lighter, wrinkles of forewing nearer together and more numerous *michorta* Dyar.
 26. Wings without spots *lucens* Wkr.
 Wings with but one discal dot *sardites* Drc.
 Wings with a discal dot and a dot on the discal fold *debella* Dyar.
 Wings only with a spot on the discal fold *dognini* Dyar.

perpectinata.

N. perpectinata Dyar (165 g). Bright reddish brown, the basal area slightly darkened; the lines dark, the exterior one rather *indistinct*, the interior one bordered with light outside. Hindwing rather light brown with a grey tint. Expanse of wings: ♂ 24 mm; ♀ unknown. Brazil.

subpectinata.

N. subpectinata Dyar (= *urichia* Schs.). In the ♂ the lines exhibit strong white borders, so that they appear light on a dark ground, in the ♀ the ground-colour is lighter brown and the lines appear therefore darker. Expanse of wings: ♂ 17—20, ♀ 20—23 mm. The larva was found by F. W. URICH on cocoa-nut palms, but he did not supply a description. Guiana; Trinidad.

nucea.

N. nucea Dgn. (165 g). Dark brown, the lines dark, without white borders, separated at the costal margin. Antennae dark brown. Expanse of wings: ♂ 20 mm; ♀ unknown. French Guiana.

daona.

N. daona Drc. (165 g). Lighter or darker brown, the lines distinct, bordered with light outside, separated at the costal margin. Hindwing generally blackish. Expanse of wings: ♂ 21—25, ♀ 30—33 mm. Mexico, Guatemala. It is very similar to *nasoni*.

nasoni.

N. nasoni Grt. (= *rude* H. Edw.). Forewing whitish brown, strewn darker with distinct dark lines which are rather broad, the interior one slightly bent. Hindwing light blackish. Expanse of wings: ♂ 20—22, ♀ 23—24 mm. Larva rather stout, quadrangular, green, marked with undulating yellow lines and a straight yellow subdorsal line; horns very short, mostly red, the two posterior ones projecting as short distantly separated tails. It lives on low oak-bushes. New York, Virginia, North Carolina.

fuscodivisa.

N. fuscodivisa Dgn. (165 g) has dark bronze brown forewings with narrow light lines, inwardly bordered with more distinct bronze shading; they meet at the costal margin. Hindwing black. Expanse of wings: ♂ 25 mm; ♀ unknown. French Guiana; Surinam.

fusca.

N. fusca Drc. (= *salta* Drc.). From very dark to light reddish brown, the light lines meeting almost or entirely at the costal margin, the exterior one shaded with reddish inside, the interior one with a blackish border which is often as distinct as the line itself. Hindwing from bronze brown to blackish. Expanse of wings: ♂ 25—35, ♀ 40—42 mm. Mexico, Central America, Panama, Colombia, Venezuela.

mycalia.

N. mycalia Stoll (165 g). Forewing dark brown, more grey at the margin, the broad lines light loam-coloured, somewhat faded; the veins bordered with light outside. Hindwing lighter brown, the veins likewise somewhat light-striped outside. Expanse of wings: ♀ 46 mm, ♂ unknown. A. HEMPEL sent cocoons of this species, but wrote nothing about the larva. The larva figured by STOLL does not belong to this species. Guiana, Brazil.

simois.

N. simois Stoll (= *abscissa* Wkr., *senilis* Fldr.) (165 g) has dark brown forewings with a violet tint as far as the dark exterior line, yellowish straw-coloured behind it, more or less intensely shaded with lilac. Hindwing blackish brown. Expanse of wings: ♂ 28—35 mm; ♀ unknown. Guiana, Bolivia, Brazil (Amazons).

caria.

N. caria Drc. is a small species with mouse-coloured wings, a dark discal dot and a straight brown shaded line close at the margin. Hindwing coloured the same. Expanse of wings: ♂ 15—16, ♀ 17—20 mm. Panama, Guatemala.

pucara.

N. pucara Dgn. (= *quadrata* Berg nec Wkr., *bergii* Dyar) (165 h). Forewing from dark violettish brown to light greyish brown, thorax and abdomen above more or less tinged with dark fiery red; exterior line near the margin, bordered somewhat light outside, and an oblique line from the base of the inner margin to the cell-end; here there is a small dark discal dot. Hindwing variable, lighter or darker. Expanse of wings: ♂ 25 to 30, ♀ 37 mm. Colombia, Guiana, Bolivia, Peru, Brazil, Argentina.

increscens.

N. increscens Dyar (165 h) is similar to *pucara*, but much larger, a large dark form. Expanse of wings: ♂ 38—40 mm; ♀ unknown. Guinea.

miradora.

N. miradora Dyar (165 h) resembles a small dark *pucara*, but the exterior line is interrupted beneath by a large round bronze shadow on the anal angle; basal area darkened. Hindwing brown. Expanse of wings: ♂ 25 mm, ♀ unknown. Mexico.

N. arpi Dyar. Larger than *miradora*, with the same markings, the forewing light greyish brown, the *arpi*. hindwing dark mouse-coloured greyish brown. Expanse of wings: ♂ 37 mm, ♀ unknown. Brazil.

N. sufficiens Dyar (165 h). Large and robust; forewing light straw-coloured, slightly shaded with violetish grey, the lines scarcely traceable; a dark discal dot at the cell-end. Hindwing light yellowish with a feeble pinkish brown tint. Expanse of wings: ♂ 43–48 mm; ♀ unknown. French Guiana.

N. incandescens Dyar (165 h) has a fiery red thorax and dorsum of the abdomen; wings reddish brown, *incandescens*. forewing with a slight bronze gloss, tinged with violet in the disc, crossed by three vertical broad badly defined dark bands. Expanse of wings: ♂ 28–37 mm; ♀ unknown. Colombia, French Guiana, Brazil (Amazons).

N. molicula Dgn. (165 h). Small, light straw-coloured, forewing winkled, a discal dot may be present *molicula*. or absent. Expanse of wings: 17–20 mm; ♀ unknown. Argentina.

N. nindla Dyar (165 i). Thorax and abdomen with yellow tufts; forewing purple brown, lighter V-shaped *nindla*. between the line; the exterior line extends, cutting off the apex, to the distal margin above the anal angle, the interior oblique line is shaded and only indistinctly visible as far as the costal margin. Forewing yellowish brown. Expanse of wings: ♂ 25–28 mm; ♀ unknown. Costa Rica; Panama.

N. barranca Schs. is more rusty brown, the lines feebly indicated by streaks or small spots, the basal *barranca*. area darkened. Hindwing blackish brown. Expanse of wings: ♂ 23–24 mm; ♀ unknown. Guatemala.

N. deba Dyar (165 i) has dark brown wings with a slight rust-brown tint, with a blackish submarginal *deba*. line which, however, is only traceable in its upper half, and an oblique line in the middle, of which only the lower half is present, both shaded, almost parallel; a dark discal dot. Hindwing reddish brown, more or less dusted blackish. Expanse of wings: ♂ 20–24 mm; ♀ unknown. French Guiana.

N. styx Dyar (165 i). Like *deba*, but darker brown, the lines extinct, separating below. Hindwing *styx*. blackish. Expanse of wings: ♂ 28 mm; ♀ unknown. Peru.

N. quadrata Wkr. Brownish straw-coloured, wrinkled, with a silky gloss, a dark faded demi-band at *quadrata*. the inner margin. Expanse of wings: ♂ 25 mm; ♀ unknown. Venezuela.

N. michorta Dyar (165 i) has dark violet forewings with a silky bronze lustre, a somewhat convex distal *michorta*. margin, the hindwing somewhat angular in the middle, with traces of several dark transverse bands. Hindwing light reddish brown. Expanse of wings: ♂ 25–30 mm; ♀ unknown. Costa Rica, Guatemala.

N. ulaula Dyar (165 i) is larger than *michorta* and darker, the indicated transverse lines more separated *ulaula*. and less numerous. Expanse of wings: ♂ 30 mm; ♀ unknown. Colombia.

N. lucens Wkr. The somewhat wrinkled forewing pinkish brown with a silken gloss, with a rounded *lucens*. distal margin. Hindwing pinkish brown, sometimes shaded with blackish, the abdomen above more or less tinged reddish. Forewing either with no markings (*lucens*), or only with a discal dot: — **sardites** Drc. (= *nigri-sardites*. puncta B. & McD.), or with a discal dot and another dot on the discal fold: — **debella** Dyar, or only with a *debella*. dot on the discal fold: **dognini** Dyar (165 i). Expanse of wings: ♂ 20–30, ♀ 30–35 mm. Arizona, Mexico, *dognini*. Central America, Colombia, Venezuela, Guiana, Brazil.

21. Genus: **Cnidocampa** Dyar.

Distinguished by plain, somewhat flattened antennae and palpi which are thrice as long as the head, erect, with a pointed terminal joint. Only 1 species.

C. flavescens Wkr. Thorax and base of forewing yellow, the distal part pinkish brown, enclosing two *flavescens*. oblique dark lines nearing each other before the apex at the costal margin; a brownish discal dot at the cell-end. Hindwing light yellowish brown. Expanse of wings: ♂ 27, ♀ 30 mm. The oblong larva is slightly strangulated in the middle, with two rows of rather long thorny horns, the subdorsal ones on the middle segments shorter; green with a large violetish red dorsal spot, broad in front, narrow in the middle, then broad again, and divided into separate spots at the anal end. On various fruit-trees. Evidently imported from Japan or North China to the vicinity of Boston, Massachusetts.

22. Genus: **Epiperola** Dyar.

Antennae of ♂ pectinated almost to the tips; veins 2 and 3 of forewing stalked, the hind tibiae without the middle spurs. *Palaeophobetron* Dyar is synonymous.

Type: *E. drucei* Schs.

E. grandiosa Dgn. (165 i) is a large species with triangular wings and a pointed apex. Forewing choco- *grandiosa*. late brown, warming into yellowish brown towards the costal margin, with a whitish stripe along the submedian fold as far as the margin, somewhat greyer below it and at the margin; a long blackish patch in the

cell. Hindwing brownish black. Metathorax and abdomen orange brown. Expanse of wings: ♂ 39 mm; ♀ unknown. French Guiana.

- drucei*. **E. drucei** Schs. (165 k). Forewing brownish straw-coloured, of a variable tint; a brown slightly bent line from the middle of the inner margin to the apex. Hindwing lighter. Expanse of wings: 25—30, ♀ 32 to 34 mm. Mexico.
- dertosa*. **E. dertosa** Drc. (165 k). Ground-colour of forewing light yellowish, dusted with blackish brown except on the marginal part; a blackish inwardly white-edged line from the middle of the inner margin to the apex, the anal part behind the line scaled orange; a short black, above white streak at the base, a black double dot at the cell-end. Hindwing broadly dusted with blackish. Expanse of wings: ♂ 22—23 mm; ♀ unknown. Colombia.
- paida*. **E. paida** Dyar (= *osseata* Schs.) (165 k) is light straw-coloured, scantily strewn with black, the forewing with a bent white line from the middle of the inner margin to the distal third of the costal margin, edged with dark inside and broadly with light ochreous outside; a small strangulated discal spot at the cell-end. Hindwing more purely light yellowish. Expanse of wings: ♂ 14—15 mm; ♀ unknown. Guatemala, Panama.
- peluda*. **E. peluda** Dgn. (165 k). Forewing stone-grey with a bent white line in the distal third, strewn with black, with small black velvety spots and a faint discal dot. Hindwing light blackish with small marginal spots. Expanse of wings: ♂ 13—18, ♀ 20—23 mm. Costa Rica, Colombia, French Guiana, Brazil (Amazons).
- antelia*. **E. antelia** Drc. resembles *peluda*, but the white line is more incurved below, the area before the line dusted blackish, and behind it at the anal angle there is an extensive area of reddish scales. Hindwing blackish, darker than in *peluda*. Expanse of wings: ♂ 16—17 mm; ♀ unknown. Peru; Bolivia.
- albimarginata*. **E. albimarginata** Kaye (= *argenteolinea* Gaede) is smaller than *antelia*, with darker hindwings. Expanse of wings: ♂ 13—15 mm; ♀ unknown. Panama, Trinidad, French Guiana, Brazil (Amazons).
- archaea*. **E. archaea** Dgn. (165 k). Forewing dusty blackish brown, the ground-colour before the whitish, very undulate line is deeper black. Hindwing dingy, light, more or less dusted blackish. Expanse of wings: ♂ 16 to 19 mm; ♀ unknown. Colombia.
- dyari*. **E. dyari** Dgn. (165 k). Blackish with a slight copper reflection, the line white, incurved below, deeper black before it. Hindwing quite black. Expanse of wings: ♂ 23 mm; ♀ unknown.
- flexilinea*. **E. flexilinea** Dgn. resembles *dyari*, but it is somewhat smaller and probably not different from *dyari*. Expanse of wings: ♂ 18 mm; ♀ unknown. Colombia.
- vafera*. **E. vafera** Drc. (= *gaya* Schs.) (165 k). Forewing blackish, finely and scantily strewn with white, with a white line from the middle of the inner margin to the apex, with a slight doubling before it; base of fringe with a whitish line. Hindwing just as dark with a similar line at the fringe. Expanse of wings: ♂ 20—25 mm; ♀ unknown. Mexico, Guatemala, Panama, Venezuela, French Guiana, Peru, Brazil (Amazons).
- vafinsa*. **E. vafinsa** Dgn. is similar to *vafera*, but dark reddish brown, not blackish and not strewn with white; the line and the margin light, the former not double. Hindwing light black. Expanse of wings: ♂ 24—27 mm; ♀ unknown. Colombia.
- vaferella*. **E. vaferella** Dyar (166 a) is likewise similar to *vafera*, but smaller, not strewn with white, the line single, slightly bent, likewise a white border-line at the base of the fringe. Expanse of wings: ♂ 17—20 mm; ♀ unknown. Costa Rica, Panama, Brazil (Amazons).
- conformis*. **E. conformis** Dyar (166 a) differs from *vaferella* in the distinctly triangular and less broad shape of the wings; the line is light, rather broadly shaded, the white border-line is absent. Hindwing light at the base, darkened outside, contrasting with the forewing. Expanse of wings: ♂ 23 mm; ♀ unknown. Mexico (Colima).
- monochroma*. **E. monochroma** Dyar is quite unicoloured orange or orange brown, without markings; wings rather narrow, the abdomen relatively long. Expanse of wings: ♂ 28—30 mm; ♀ unknown. Panama.
- lagoaphila*. **E. lagoaphila** Dyar (166 a) has light yellowish forewings dusted with dark brown and reddish, the latter colour especially in the basal part of the inner margin; distal margin somewhat widened analwards and here subterminally with 2 black dots on veins 3 and 4. Hindwing light; abdomen long. Expanse of wings: ♂ 22 to 25 mm; ♀ unknown. French Guiana.
- perornata*. **E. perornata** Dyar (166 a). Forewing olive yellow at the apex, the rest of the wing dusted with violetish grey, a white fine line is bordered with black and twice undulated, with reddish colouring behind it analwards; one dentate black spot each at the cell-end and basally; a round violet spot bordered with black above is behind the exterior line before the anal angle. Hindwing blackish, fringe speckled light. Shape of ♂ wings oblong-triangular, that of the ♀ broader and obtuser. Expanse of wings: ♂ 25, ♀ 25 mm. Costa Rica, French Guiana. The type described as a ♂ is in fact a ♀.
- sombra*. **E. sombra** Dyar (166 a) has the same shape of wings as *monochroma*, but it is smaller and less strongly built; quite blackish, the forewing with a light longitudinal stripe through the middle, widening outside,

so that it occupies almost the whole distal margin. Hindwing broadly semidiaphanous in the disc. Expanse of wings: ♂ 22 mm; ♀ unknown. French Guiana.

E. includens Dgn. (166 a). Blackish grey with a broad, somewhat spotted, uniformly bent black line *includens*, extending parallel with the inner and distal margins, a black stripe along the median vein, the area between this stripe and the line dull yellowish. Hindwing blackish. Expanse of wings: ♂ 22 mm; ♀ unknown. French Guiana.

E. arcuata Drc. (166 a). The ♂ is long-winged with small hindwings. Forewing violettish grey, strewn *arcuata*, with black, with a short silvery white streak at the submedian fold, behind which a reddish spot follows before the anal angle; exterior line light brown, blackish spots before it, a dark discal spot at the cell-end. The wings of the ♀ are of a broader and more rounded shape, the colouring is light wood-brown, the markings more prominent though not more distinct than in the ♂. Hindwing blackish, not so uniformly dark as in the ♂. Expanse of wings: ♂ 24, ♀ 25 mm. Mexico.

E. radiata Gaede resembles *Perola solaria* Dogn., but it is smaller, with a white streak on the base of *radiata*, the median vein and in the middle of vein 1; veins 2—5 and 7—8 are white inwardly of the line; no yellowish brightening. Expanse of wings: ♂ 20 mm; ♀ unknown. Bolivia (Rio Songo).

23. Genus: **Perola** Wkr.

As in *Epiperola*, veins 2 and 3 of forewing stalked, distinguished by the presence of both pairs of spurs on the hind tibiae. Synonyms of this genus are: *Amydona* Wkr., *Camila* Wkr., *Romosa* Wkr., *Candyba* Wkr., *Asbolia* Mschlr., *Pseudasbolia* Ky. The genus contains a great number of species.

Type: *P. murina* Wkr.

P. murina Wkr. (= *aequicolor* Gaede) (166 b) is unicoloured dark mouse-coloured, the forewing somewhat *murina*, lustrous, indistinctly irrorated darker. Expanse of wings: ♂ 40—44 mm; ♀ unknown. Brazil.

P. repetita Drc. (166 b) is somewhat smaller than *murina*, blackish mouse-coloured, the forewing finely *repetita*, and uniformly strewn with white scales. Expanse of wings: ♂ 24—36, ♀ 37 mm. Antennae the same in both sexes. Mexico, Central America, Venezuela, French Guiana, Bolivia, Peru.

P. cuneata Strd. is larger than the following *brumalis*, the white line along the median vein extends *cuneata*, to the margin, the distal line above it is strongly bent and encloses at the apex a large brown comma-shaped spot. Expanse of wings: ♀ 58 mm; ♂ unknown. Ecuador.

P. brumalis Schs. (166 b). Dark greyish brown, a white line along the median vein from the base bends *brumalis*, upwards at the cell-end, extends to the costal margin and bifurcates in the upper half; from the apex a white submarginal line extends at first along the margin, then to the middle of the inner margin; the costal-marginal area is darker mouse-coloured, the distal area greyish brown; the median line is edged with reddish bronze. Expanse of wings: ♂ 23—35, ♀ 35—43 mm. Brazil.

P. chica Jones differs from *brumalis* merely in its very light yellowish ochreous colouring and may be *chica*, only a differently coloured form of *brumalis*. Expanse of wings: ♂ 25—30 mm; ♀ unknown. Paraguay, Brazil.

P. cicur Schs. (166 b) is still lighter than *chica*, the white lines and the more variegated ground-colour *cicur*, quite indistinct, the reddish ochreous ground exhibits only the brown borders of the light lines. Expanse of wings: ♂ 30 mm; ♀ unknown. Brazil (Rio de Janeiro).

P. burchelli Dyar. The white line along the median vein bends up to the apex and is not forked, the *burchelli*, costal area is red-brown, the inner-marginal area excepting the base blackish grey. Expanse of wings: ♂ 31 mm; ♀ unknown. Brazil (Goyaz; Lassance, Minas Geraes, in November 1919, Coll. Cornell University).

P. prosper Dyar (166 b). Forewing white, suffused with olive brown, leaving free a broad white sub-marginal band with irregular margins; strewn with white around the cell and at the margin; a dark dot in the base of the cell, a large discal spot at the cell-end. Hindwing whitish. Expanse of wings: ♂ 24—25 mm; ♀ unknown. Brazil (Lassance).

P. bistrigata Hmps. (= *lucia* Schs.). Glossy purple brown with an undulating exterior line; a long black *bistrigata*, streak and a dot in the cell, a small irregular spot below it. Expanse of wings: ♂ 22 mm; ♀ unknown. Santa Lucia.

P. sucia Schs. (= *inscripta* Gaede) (166 b). Forewing lustrous flesh-coloured with irregularly dentate *sucia*, dark lines and 2 small dots in the middle of the distal margin. Expanse of wings: ♂ 28 mm; ♀ unknown. Brazil.

P. jorgenseni Schs. (166 c) is smaller than *sucia*, darker flesh-coloured, both the dark exterior lines fine *jorgenseni*, and more regularly dentate. Expanse of wings: ♂ 20—22 mm; ♀ unknown. Argentina.

- cilipes*. **P. cilipes** Wkr. Mouse-coloured, 2 small white spots on the thorax in front; forewing with 2 round dark spots above the anal angle and a streak below the cell, touching 2 small bent preapical spots. Expanse of wings: ♂ 30 mm; ♀ unknown. Habitat unknown.
- punctata*. **P. punctata** Wkr. (= *aspera* Dgn.) (166 c). Forewing light yellowish with a silky gloss, with a slight flesh-coloured tint; lines very indistinct, the marginal dots somewhat faded, 2 dots before the apex at the costal margin. Expanse of wings: ♂ 20–25 mm; ♀ unknown. Surinam; Brazil.
- subpunctella*. **P. subpunctella** Dyar (166 c) is probably only a smaller race of the following *subpunctata*, for it is merely a little larger. Expanse of wings: ♂ 20–22 mm; ♀ unknown. Paraguay, Brazil.
- subpunctata*. **P. subpunctata** Wkr. (= *micans* Mschl., *sericea* Btlr., *dora* Drc., *guaica* Kaye) (166 c). Forewing yellowish with a silky gloss, of a slight flesh-coloured tint, strewn with black scales, which being accumulated in the centre of the margin form one or two dots, occasionally also a dot near the base of the cell and traces of a distal line. Expanse of wings: ♂ 17–30, ♀ 35 mm. Panama, Venezuela, Guiana, Brazil.
- parallela*. **P. parallela** Dyar (166 c) is of a rather slender build, with narrow and long wings, brownish ochreous, strewn with brown scales, which being accumulated indicate 2 rather indistinct and spotted almost parallel lines; a submarginal row of spots is only distinctly prominent at the veins 2 and 3. Expanse of wings: ♂ 25 mm; ♀ unknown. Brazil.
- brevicornis*. **P. brevicornis** Dyar (166 c). Forewing pointed triangular, reddish violet in the costal-marginal third, light metallic yellow below it, strewn with dark, with an irregularly dentate fine exterior line; two spots at the margin at veins 3 and 4 are connected and form 2 longitudinal streaks. Expanse of wings: ♂ 37 mm; ♀ unknown. Costa Rica.
- nitidissima*. **P. nitidissima** Dgn. (166 c). Like *brevicornis*, but the shape of the wings more quadrangular, not pointed, with a brass lustre, the costal-marginal shadow not contrasting; exterior line undulate; a dark stripe below vein 2 proceeds from the cell. Expanse of wings: ♂ 33–35 mm; ♀ unknown. Peru (Yahuarmayo).
- sinaloensis*. **P. sinaloensis** Schs. (166 d). Dark greyish brown, the forewing with a bent exterior median line, bordered with light outside; the distal area light brownish mouse-coloured. Hindwing dark. Expanse of wings: ♂ 20–23, ♀ 24–26 mm. Antennae of ♀ serrate. Mexico (Sinaloa).
- solaria*. **P. solaria** Dgn. (166 d) is light yellowish, the disc with a slight metallic gloss, strewn with dark, with light veins; the slightly undulated dark fine exterior line is bordered with light towards the margin; a dark spot in the base of the cell and a small yellow spot above vein 1. Expanse of wings: ♂ 23–26, ♀ 28 mm. Peru.
- umber*. **P. umber** Dyar (166 d) is rather dark brown with a slightly bent broad dark line from the costal margin before the apex to the basal third of the inner margin; inner-marginal area dark with a line on the submedian vein; the marginal area is light with dark veins. Expanse of wings: ♂ 23–27, ♀ 30 mm. Antennae the same in both sexes. French Guiana.
- clara*. **P. clara** Dyar (166 d) is dark ochreous with a single bent uniformly brown exterior line. Expanse of wings: ♂ 22–25 mm; ♀ unknown. Mexico.
- rubens*. **P. rubens** Schs. (166 d). Dark reddish ochreous, costal area tinged with pink, with a brown undulate exterior line and fine dark veins. Hindwing of ♂ whitish, fringe dark, of ♀ bronze brown. Expanse of wings: ♂ 23–26, ♀ 27 mm. Brazil.
- danetta*. **P. danetta** Dyar resembles *rubens*, but it has a less concave and less pink-tinged costal margin. Hindwing light ochreous, fringe light. The ♀ shows a broad shaded exterior line. Expanse of wings: ♂ 25, ♀ 38 mm. Paraguay.
- producta*. **P. producta** Dyar (166 d) has narrow, pointed forewings; light ochreous, marked red-brown, with an intensely shaded costal-marginal part; the exterior line extends from the apex to the base, a less distinct submarginal line parallel to it. Hindwing dark orange. Expanse of wings: ♂ 40 mm; ♀ unknown. Costa Rica.
- villosipes*. **P. villosipes** Wkr. Wings shaped as in *producta*, but larger, with an irregular exterior line which is dentiformly bent inward opposite to the cell; costal and inner margins dusted with reddish pink. Hindwing light ochreous with a reddish pink inner margin. Expanse of wings: ♂ 39–47, ♀ 50–63 mm. Costa Rica, Panama, Colombia, Venezuela, Guiana.
- actiosa*. **P. actiosa** Dyar (166 d). Wings broad, the apex not produced, but pointed; dark rusty brown, with dark veins and a line in the cell; two bent brown bands in the distal part, the exterior one unites with a marginal line above the middle of the distal margin, both extending to the base. Hindwing darker brown, less reddish. Expanse of wings: ♂ 30–33 mm; ♀ unknown. Colombia.
- druceoides*. **P. druceoides** Dgn. is lighter than *actiosa*, more yellowish, the two bands less approaching each other, the exterior one finer. Hindwing dark ochreous. Expanse of wings: ♂ 30–32 mm; ♀ unknown. Ecuador.
- laopepe*. **P. laopepe** Dyar (166 e) is larger than *druceoides*, the exterior line indistinct, and double towards the inner margin, the light area between the two lines traversed by a subcostal shadow, so that it looks as if the

wing were alternately traversed by light and dark lines. Expanse of wings: ♂ 33—38 mm; ♀ unknown. Colombia.

P. monomania Dyar (166 e) has yellowish ochreous wings intensely strewn with rusty brown, an irregular line extends from below the cell to the dark-striped subapical veins; the exterior line extends from before the apex to the base and is undulately dentate. Hindwing brownish orange. Expanse of wings: ♀ 43 mm; ♂ unknown. Mexico.

P. benedocta Dyar (166 e) is ochreous with dark-striped veins of the basal area, the sharply dentate exterior line extends near the margin, followed behind by a faint, more curved submarginal line. Expanse of wings: ♂ 35 mm; ♀ unknown. Argentina.

P. paraguaicula Dyar resembles *benedocta*, but it is smaller and darker, more reddish on both wings; the exterior line is more remote from the margin and bends more back towards the inner margin, forming an inward dent opposite the cell; the subterminal line is more distinct and dentate. Expanse of wings: ♂ 30 mm; ♀ unknown. Paraguay.

P. affinis Dyar (166 e) is larger than *paraguaicula*, lighter and more with a silky gloss, with a large whitish spot at the inner margin below the cell; the exterior line bends in towards the cell with a dent, its other course being regular; submarginal line indistinct. Hindwing reddish ochreous, darker than the forewing. Expanse of wings: ♂ 40 mm; ♀ unknown. French Guiana.

P. petropolis Dyar (166 e) resembles *affinis*, the broad light glossy silken marginal area is confluent with the light basal inner-marginal area; exterior line remote from the margin, dentate, the veins inward of it striped brown. Expanse of wings: ♂ 34—40 mm; ♀ unknown. Brazil.

P. regina Dyar (166 e) is larger and lighter than *petropolis*, with greater contrasts, especially the light glossy silken inner-marginal spot is extensive and very distinct. Expanse of wings: ♂ 42 mm; ♀ unknown. Ecuador, Peru.

P. sericea Mschlr. (166 f) shows the light marginal area widened and extending to the cell, the submarginal line more or less interrupted, often reduced to small spots; the basal area is narrow, dusted with brown in the ♂, clear in the ♀, with striped veins. Expanse of wings: ♂ 35—45, ♀ 37—53 mm. Mexico, Central America, Panama, Guiana.

P. degenerans Dyar looks like a small *sericea*, but without their contrasts; distal line spotted, but connected by brown shading; marginal area not lighter. Expanse of wings: ♀ 40 mm; ♂ unknown. San Salvador.

P. sibillanta Dyar (166 f) is dark rusty brown, lighter at the distal and inner margins, the submarginal line obliterated, shaded, the veins within it strongly ruled with lines. Expanse of wings: ♂ 35 mm; ♀ unknown. Brazil.

P. platona Schs. (166 f) is much darker rusty brown than *sibillanta*, the marginal area also uniformly darkened. Hindwing dark red-brown. Expanse of wings: ♂ 36—37 mm; ♀ unknown. Venezuela.

P. invaria Wkr. Dark rusty brown, the wings of a narrower shape than in *platona*, somewhat lighter than *platona*, the ground-colour somewhat more yellowish, the exterior line distinctly prominent, spotted, the veins ruled with dark lines as far as the margin; hindwing more rusty brown. Expanse of wings: ♂ 35 mm; ♀ unknown. Honduras.

P. penumbra Dyar (166 f) is distinguished from *invaria* by its quite chocolate brown colouring, dark, the hindwing suffused with blackish, not reddish. Expanse of wings: ♂ 35—38 mm; ♀ unknown. San Salvador.

24. Genus: **Hepialopsis** Dyar.

Palpi projecting beyond the vertex; veins 2 and 3 of forewing separated. Hind tibiae without middle spurs. Only a single species:

H. agemytha Drc. (166 f) is dark brown with a few irregular, angular silvery markings, an undulated one at the base, 2 submarginal ones, the upper one of which is nearer to the margin than the lower one, and a round discal spot. Hindwing somewhat lighter brown. Expanse of wings: ♂ 22 mm; ♀ unknown. Mexico (Guerrero).

25. Genus: **Narosopsis** Dyar.

The palpi do not reach the vertex, but project beyond the frons, obliquely erect, truncate. Vein 7 of forewing arises from the cell near the origin of 6. Hind tibiae with both the pairs of spurs. Only one species:

N. leucospila Dyar (= *vynia* Schs.) (166 f). White or yellowish white with a light yellowish brown subterminal band which is broadest towards the costal margin; a small black spot near the base, one in the cell and a subapical one in the dark band. Expanse of wings: ♂ 13—15 mm; ♀ unknown. Guatemala, Costa Rica.

26. Genus: **Cryptophobetron** Dyar.

Very closely allied to *Narosopsis*, but vein 6 of hindwing coincides with 7. Likewise only 1 species:

oropeso. **C. oropeso** Barnes (166 g) is a small species looking like an *Alarodia*, excepting the grey colouring. Dark grey, the sexes similar; a postmedian oblique white macular band, triangularly widening inward in the disc. Expanse of wings: ♂ 13—16, ♀ 18 mm. Arizona (Baboquivari Mts., Wenden, Yuma County).

27. Genus: **Heuretes** G. & R.

The ♂ being still unknown, the position is uncertain for the present; antennae of ♀ uncommonly short, ciliated, marked black before the tips. Only 1 species:

picticornis. **H. picticornis** G. & R. Forewing pointed at the apex, monotonously straw-coloured, hindwing whitish. Expanse of wings: ♀ 16 mm. Larva unknown, but the cocoon is of a hard brown tissue, white outside, spun to a leaf. St. Thomas, Virgin Is. Since the only original type, the species has no more been found.

28. Genus: **Leucophobetron** Dyar.

This genus likewise containing but one species differs from *Cryptophobetron* in the presence of vein 6 on the hindwing. The head is small and hidden, the palpi do not project beyond the frontal tuft. ♂ hindwing rounded as in the ♀.

argentiflua. **L. argentiflua** Geyer. White, with a grey spot at the anal angle, the ♂ with another small red spot above it. Under surface white. Expanse of wings: ♂ 20—26, ♀ 24—27 mm. Larva unknown, but DEWITZ describes the cocoon to be of a normal structure.

29. Genus: **Alarodia** Mschlr.

Separated from the preceding genus merely by the stronger head. Synonyms of the genera are: *Phyrne* Grt. nec H.-Schäff., *Calybia* Ky., *Eupoeya* Pack.

Type: *A. nana* Mschlr.

minuscule. **A. minuscule** Dyar (166 g). The ♂ is white without any markings, the forewing beneath smoky, darkest along the costal margin. Expanse of wings: ♂ 11 mm; ♀ unknown. Cuba (Matanzas).

slossoniae. **A. slossoniae** Pack. (166 g). White, the ♀ with a small reddish spot above the anal angle and sometimes another one at vein 6; beneath smoky along the costal margin. Expanse of wings: ♂ 15—17, ♀ 20—23 mm. Larva flat, green, with a series of fleshy horns along the sides, somewhat hollowed out on the dorsum, with more or less distinct crescentiform red spots; on Mangroves. From the Coast of Florida.

pygmaea. **A. pygmaea** Grt. (= *fumosa* Grt.) (166 g). The ♂ is white with a zigzag-shaped red-brown line from the centre of the inner margin to vein 3, and two dots each at the veins 6 and 7; smoky beneath, darkest along the costal margin. The ♀ shows a broad oblique faded, light smoky brownish subterminal band. Expanse of wings: ♂ 12—14, ♀ 20 mm. Cuba (Baracoa).

immaculata. **A. immaculata** Grt. (= *nivalis* Pack., *maculata* Schs.). White, the ♂ with 4—6 short red-brown submarginal streaks from veins 2—5 or 7; the ♀ is without any marking. Under surface without or with but very few dark scales at the costal margin. Expanse of wings: ♂ 12—14, ♀ 14—15 mm. Cuba (Santiago).

nana. **A. nana** Mschlr. (= *jamaicensis* Schs.). Forewing white with a grey shadow along the inner margin, the ♂ with a submarginal row of black splashes from veins 2—5. Hindwing dark smoky grey. Both wings beneath smoky, strongest along the margins. Expanse of wings: ♂ 14, ♀ 17 mm. Jamaica.

30. Genus: **Euphobetron** Dyar.

Like *Narosopsis*, but the erect palpi almost reach the vertex.

Type: *E. cupreitincta* Dyar.

moorei. **E. moorei** Ky. (= *rufotessellata* Moore, *schausi* Dogn.) (166 g). Forewing yellowish with brown lines and spots and 6 transverse spotted bands as far as the cell-end, the subbasal one being darkest; a darker spot at the cell-end itself, and obliquely placed small spots between the veins 2 and 4; light colouring follows behind the undulated submarginal line, the brown marginal area is once more crossed by a light subterminal line. Hindwing scarlet. Expanse of wings: ♂ 20, ♀ 25 mm. Larva brown, with irregular horns laterally, resembling a faded leaf. Venezuela, French Guiana, Brazil.

E. aquapennis Dyar (166 g) resembles *cypris*, but it is somewhat larger, with more oblong wings. The *aquapennis*. median area is broadly lighter behind the cell, the discal dot extinct. Expanse of wings: ♂ 26 mm; ♀ unknown. British Guiana.

E. hydropteris sp. n. (166 g) resembles *aquapennis*, but it is much larger. Expanse of wings: ♂ 33 to *hydropteris*. 35 mm; ♀ unknown. From Costa Rica (Sixola River, in March; Tuis, in May), Schaus & Barnes. Types in the U. S. National Museum.

E. cypris Grt. (166 g). Forewing tinged with lilac at the base, a large spot from the centre of the cell *cypris*. almost the margin is lighter, shaded brown in its inner-marginal half, bordered by an undulating white line; a brown band in the distal third of the costal-marginal part is as broad as the narrow marginal area, which is dark brown dusted with red; discal dot rather distinct. Hindwing scarlet; Expanse of wings: ♂ 25, ♀ 33 to 37 mm. The larva was bred by JORGENSEN, but not described. Paraguay.

E. albiplaga Her. & Hopp differs from the following *natadoidea* in a purely white spot on the hindwing *albiplaga*. covering the exterior half of the cell and the basal halves of the veins 1—4; the red area above the middle of the inner margin is small and narrow. The light dentate subterminal line shows a dent before the apex. Expanse of wings: ♀ 30 mm; ♂ unknown. Brazil (Tonantins, Amazons).

E. natadoidea Dyar (166 h) is dark rusty brown with two dark purple grey spots, one at the base, cut *natadoidea*. by an oblique lighter line, and a subapical one traversed by a line in the reverse direction, so that both terminate near together at the costal margin. Hindwing bronze black, fringe light. Expanse of wings: ♂ 24 mm; ♀ unknown. Brazil (Paranapanema, São Paulo).

E. pullum Her. & Hopp. Forewing almost monotonously blackish brown, finely strewn with bluish *pullum*. white, and with a small round dark discal spot; a distinctly defined area in the distal half of the inner margin and at the anal angle is of a brighter brown; a small white blotch behind the lower cell-angle. Hindwing dark brown, fringe light. Expanse of wings: ♂ 27, ♀ 32 mm. Peru, Ecuador. The ♂ type may belong to the genus *Isochaetes*; the ♀♀ may be wrongly ranged here, I did not examine any good specimens.

E. cupreitincta Dyar (166 h) is blackish brown, with a slight bronze reflection, the forewing with in- *cupreitincta*. distinct black undulating lines; subterminal line uniformly dentate, parallel to the margin; a large light yellowish spot behind the cell down to vein 2, an extensive copper-red area, rarely blackish, is in the middle of the inner margin. Hindwing rather dark, dusty blackish. Expanse of wings: ♂ 18—22, ♀ 25—30 mm. Guatemala, Costa Rica, Colombia, Venezuela, Guiana, Brazil (Amazons).

31. Genus: *Isochaetes* Dyar.

Palpi projecting beyond the vertex, the last joint half the length of the long 2nd joint. Forewing with separately arising veins 2 and 3. Hind tibiae with both the pairs of spurs.

Type: *I. beutenmuelleri* H. Edw.

I. beutenmuelleri H. Edw. (166 h). ♂ light tan-coloured, marbled with brown, with a round postcellular *beutenmuelleri*. spot, very conspicuously bordered with violettish grey. Hindwing shaded brown, fringe light. ♀ intensely dusted with violettish grey, similarly marked, with a light spot at the costal margin. Hindwing blackish, fringe light. Expanse of wings: ♂ 12—16, ♀ 17—19 mm. Larva purely grass green, with a series of long, feather-like, glassy horns on each side; it lives on the higher branches of oaks. New York, Maryland, North Carolina, Florida.

I. rufescens Schs. (= *mexicanum* Her. & Hopp) (166 h). ♂ light tan-coloured as in *beutenmuelleri*, the *rufescens*. wings more pointed, more irrorated with brown, the bent light area at the cell-end with an interior dark line, but not a round spot. Expanse of wings: ♂ 17 mm; ♀ unknown. Mexico, Guatemala.

I. marina Dyar (= *cupreitincta* Her. & Hopp nec Dyar) (166 h). Forewing of ♂ dark reddish brown *marina*. strewn with bluish scales, the marking more distinct than in the ♀; the centre of the wing is traversed by an indistinctly defined yellowish band, a dentate dark shadow before it and a dentate dark line behind it; a light elliptical postcellular area is filled with brown, a double light spot is between veins 3, 4 and 4, 5. the same in the ♀; irregular light spots at the margin. Hindwing blackish brown. The ♀ is intensely dusted with dark violettish grey and strewn with blue scales, a dark streak at the cell-end and an exterior brown line, excurved around the cell-end and enclosing a light curved area behind the cell; the wing on the whole dark with obliterated markings. Expanse of wings: ♂ 21, ♀ 22—24 mm. French Guiana, Brazil.

I. ashtabel Dyar (166 h) has dark purple brown forewings, with red-brown spots in the basal area, a *ashtabel*. black acutely angled zigzag line in the middle, bordered with red-brown outside and forming a deep indentation below the median vein; a dark exterior line excurved around the cell-end encloses a curved light area at the cell-end, oval in the upper half, darkened except two whitish spots below. Hindwing bronze black. Expanse of wings: ♂ 18, ♀ 26 mm. British Guiana. Paraguay.

hahneli. **I. hahneli** Her. & Hopp resembles *ashtabel*, but the angled line is only flatly indented in the submedian area. Expanse of wings: ♂ 20 mm; ♀ unknown. Brazil (Amazons). A smaller specimen, not very well preserved, is before me from Santarem (Amazons).

32. Genus: **Phobetron** Hbn.

Palpi much shorter, not reaching the frontal tuft, head small and hidden, in which the genus differs from the allied *Alarodia*. Both sexes very dissimilar, the ♂ with triangular hindwings. Synonyms are: *Ecnomidea* Westw., *Spirocera* H.-S., *Euryda* H.-S., *Nemeta* Wkr.

Type: *Ph. pitheciun* Abb. & Sm.

hipparchia. **Ph. hipparchia** Cr. (= *coras* Stoll, *variolaris* H.-Schäff., *bifacies* Wkr., *basifusca* Wkr.) (166 h). ♂ small, with narrow forewings and a hyaline area in the disc, the markings of the ♀ covered with blackish; hindwing triangular, black, hyaline in the disc. ♀: the reddish ochreous ground marked with violettish grey lines, encircling roundish spots in the cell, 2 below it and 4 behind it, separated by the veins, and at the apex. Hindwing red, dusted blackish in the disc. Expanse of wings: ♂ 23–30, ♀ 18–36 mm. The larva resembles a dry leaf, with subdorsal rows of fleshy, hairy horns of variable length. On different forest-trees. Mexico, Panama, Ecuador, Colombia, Venezuela, Guiana, Brazil, Argentina.

pitheciun. **Ph. pitheciun** Abb. & Sm. (= *abbotana* Hbn., *nigricans* Pack., *hyalinus* Walsh, *tetradactylus* Walsh, *nondescriptus* Wetherby) (166 h). ♂ with narrow and pointed forewings, the basal part with the markings of the ♀, but extensively hyaline in the disc, so that only a dark discal dot and dark scales in the basal part and at the margins remain. The triangular hindwing is black at the costal and inner margins, hyaline in the disc. The ♀ has a dull yellowish ground-colour with blackish brown markings bordering on the lighter spots: a confluent spot in the cell and two below it, dusted blackish behind it, so that the light ground is divided by finger-shaped stripes between the veins. Apex dark with light dusting, marginal line light. Hindwing dusted blackish on the red-brown ground with a light marginal line. Expanse of wings: ♂ 15–20, ♀ 17–25 mm. The larva, like that of *hipparchia*, resembles a faded leaf and lives on various trees in forests and shrubs. Massachusetts, Connecticut, New York, Ohio, Virginia, Florida.

dyari. **Ph. dyari** B. & Benj. The ♀ has the same forewings as *pitheciun*, but red hindwings, the ♂ is still unknown. Expanse of wings: 20 mm. Texas.

33. Genus: **Vipsorola** Dyar.

Like *Euphobetron*, but vein 7 of the forewing is stalked with 8 and 9. Only 1 species:

semivitre. **V. semivitre** Schs. (166 i). Body robust, black; forewing pointed, hindwing quadrangularly cut off at the distal margin. Disc of forewing extensively covered with very scanty scales, the margins more densely blackish. Hindwing except the margins quite hyaline, the black inner-marginal area broadly black. Expanse of wings: ♂ 17 mm. The still unknown ♀ probably looks very different. Guatemala.

34. Genus: **Ulamia** Mschlr.

The ♂ antennae are distinguished by broad, lamellate unilateral pectinations. The veins differ little from those of the allied genera. Only 2 species:

Type: *U. dolabrata* Stoll.

dolabrata. **U. dolabrata** Stoll (= *whitelyi* Drc.) (166 h). A large, robust species, the wings lustrous and wrinkled, brownish yellow, the forewing shaded dark brown from the base to beyond the middle. Hindwing of ♂ tinged pinkish brown only along the inner margin, entirely pinkish brown in the ♀. Expanse of wings: ♂ 35–42, ♀ 53 mm. Venezuela, Guiana, Peru, Bolivia.

sericea. **U. sericea** Schs. (166 i) differs from *dolabrata* in its dark shading in the disc and subterminally. It may not be specifically separated from *dolabrata*. Expanse of wings: ♂ 33–47 mm; ♀ unknown. Peru and Bolivia.

35. Genus: **Tanadema** Dyar.

Distinguished from *Ulamia* by the staff-like single, not double pectinations of the ♂ antennae.

Type: *T. mas* Dyar.

incongrua. **T. incongrua** Dyar (166 i). Basal area of ♂ forewing dark reddish brown, purple brown at the apex, separated from the main colouring by an oblique lilac line. Hindwing blackish. ♀ not yet known. Expanse of wings of the ♂: 18–23 mm. Guiana, Brazil (Amazons).

T. nora *sp. n.* (166 i). Rather light rosy tan-coloured with quite indistinct markings. Hindwing dark reddish brown. Expanse of wings: ♂ 16 mm; ♀ unknown. West Colombia (at the junction of the Rio Tamana and Rio San Juan, 405 ft., February 1909). Types: 2 ♂♂ in the Coll. DOGNIN, U. S. Nat. Museum.

T. peruviana *Her. & Hopp* resembles *mas* *Dyar*, but with quite obliterated markings on the forewing. Expanse of wings: ♂ 16 mm; ♀ unknown. South-Eastern Peru; Brazil (Amazons).

T. marginepunctata *Her. & Hopp* has wood-brown forewings and slightly darker hindwings; forewing with distinct undulating lines and a series of small black marginal dots. Expanse of wings: ♂ 17 mm; ♀ unknown. Colombia.

T. neutra *Dyar* (166 i) is a rather large species, tan-coloured with distinct undulatingly dentate lines. Expanse of wings: ♂ 14—17, ♀ 20 mm. Guatemala, Costa Rica.

T. rubra *Her. & Hopp*. Forewing dark ochreous with distinct dark lines, the hindwing and the under surface carmine. Expanse of wings: ♂ 18 mm; ♀ unknown. Brazil (Rio Madeira).

T. mas *Dyar* (166 i) has violettish red forewings with very distinct dentate lines. Hindwing somewhat browner. Expanse of wings: ♂ 16—17, ♀ 19—20 mm. French and British Guiana.

T. foemina *Dyar* (166 i) is somewhat smaller than *mas* and of a more rosy tinge, perhaps not specifically different. The expanse of wings stated in the original description (10 mm) is a mistake; it is 14—15 mm in the ♀; the ♂ is unknown. French Guiana.

36. Genus: **Dichromapteryx** *Dyar*.

Like the preceding ones, but with unilaterally dentate antennae of the ♂.

Type: *D. dimidiata* *Dyar*.

D. dimidiata *Dyar* (166 k). Forewing dark brown at the base, bordered by an oblique line from the centre of the costal margin to the anal angle, the space behind it lilac whitish, shaded with brownish towards the apex; small double discal dots at the cell-end. Hindwing dark greyish brown. Expanse of wings: ♂ 21—24, ♀ 30 mm. French Guiana.

D. ultima *Dyar* (166 k) has a dark chocolate brown basal half of the forewing, then a straight whitish line, behind it purple brown, rather dark, dusted with the basal colour at the apex. Expanse of wings: ♂ 18 to 20 mm; ♀ unknown. The habitat of the type is not mentioned, but a specimen from Sao Paulo de Olivença (Amazons) agrees well with it.

D. obscura *Dyar* (166 k). Basal area dark brown, apical part lighter, the two colours separated by an oblique light line. Expanse of wings: ♂ 17—20 mm; ♀ unknown. Guiana.

D. didyma *Dyar*. Like *ultima*, but with more violettish brown wings. Expanse of wings: ♂ 18—20 mm; ♀ unknown. Guatemala, Costa Rica.

37. Genus: **Pseudovipsania** *Dyar*.

Antennae of ♂ plain, somewhat flattened; palpi thrice as long as the head, erect in the ♂, straightly porrect in the ♀, with an obtuse terminal joint. The ♂ is without the middle spurs on the hind tibiae.

Type: *P. frigida* *Schs.*

P. frigida *Schs.* (166 k) has dull lilac forewings with an undulating olive brown line from near the apex to the base at the submedian vein, the line more or less bordered with yellow. Hindwing dark lilac brown, with a pink basal tinge. Expanse of wings: ♂ 28—29 mm; ♀ not known. Mexico.

P. invera *Dyar* (166 k). The ♂ has 2 spurs on the hind tibiae, the ♀ 4. Forewing of ♂ narrow and pointed, broad and rounded in the ♀. Wings rather scantily scaled, yellowish flesh-coloured, strewn with black, pinkish brown at the base, shaded dark along the costal margin; the fine submarginal line is distinct, another one inwardly of it is traceable. Hindwing yellowish, pinkish red at the inner margin in the ♂, entirely pinkish red in the ♀. The total impression is that of a *Megalopygida*, such as *Podadia xinga* *Dogn.* or *omayena*, but the neuration of the hindwing proves it to be certainly a *Limacodida*. Expanse of wings: ♂ 25—27, ♀ 32—34 mm. French Guiana.

38. Genus: **Vipsania** *Drc.*

Separated from the preceding genus by the presence of both pairs of spurs on the hind tibiae also in the ♂.

Type: *V. anticlea* *Drc.*

V. bicolor *Her. & Hopp*. Margin of forewing from before the apex to the anal angle bright yellowish, the rest of the wing brown. Hindwing yellowish brown. Expanse of wings: ♂ 25 mm; ♀ unknown. Ecuador.

- anticlea*. **V. anticlea** Drc. (166 k). Forewing dark red-brown with striped veins; an oblique line and a subterminal bent line meet at the costal margin before the apex, the interior line is connected with the base by a dark streak on the submedian fold. Hindwing blackish except the costal margin and fringe. Expanse of wings: ♀ 22—26 mm; ♂ not yet known. Mexico, Guatemala.
- schevi*. **V. schevi** Schs. (166 k) is similar to *anticlea*, somewhat smaller and lighter, more yellowish, especially on the prothorax, the ♂ lighter than the ♀. Hindwing yellowish, reddish pink along the inner margin, and with dark veins. Expanse of wings: ♂ 16—18 mm; ♀ 23 mm. Mexico. Perhaps not to be separated specifically from *anticlea*.
- cacagamelia*. **V. cacagamelia** Dyar is larger than the ♂ of *schevi*, but similar; ground-colour of forewing lighter, not passing into yellowish at the costal margin. Expanse of wings: ♂ 22—25 mm; ♀ not known. Mexico. It may be the ♂ of *rosabella*.
- rosabella*. **V. rosabella** Dyar (167 a). Thorax and forewing yellow, the veins only partly striped dark, the lines fine, light brown, filled with rosy between them. Hindwing yellow, the larger basal half dusted with pink. Abdomen rosy red. Expanse of wings: ♀ 26—29 mm; ♂ unknown. Mexico; Guatemala.
- unicolor*. **V. unicolor** Dyar (167 a). The long porrect palpi are black, with red-brown scales outside and on the terminal joint. Wings black, forewing lustrous and wrinkled; both wings with a fine whitish line at the base of the fringe. Expanse of wings: ♀ 34—36 mm; ♂ unknown. Venezuela, Brazil (Santarem).
- schultzei*. **V. schultzei** Her. & Hopp resembles the following *melanois*, but the forewing is more brownish, the inner margin and fringe pink, the legs rusty brown. Expanse of wings: ♂ 23 mm; ♀ unknown. It may be the ♂ of *unicolor*. Colombia.
- melanois*. **V. melanois** Dyar (167 a). Black, semidiaphanous in the disc of both wings. Collar and anal tuft more or less yellow and pink, anterior hips yellow. Expanse of wings: ♂ 22—26 mm; ♀ unknown. Costa Rica, Panama.

39. Genus: **Microphobetron** Dyar.

Antennae of ♂ plain, somewhat flattened; palpi of normal length, erect in both sexes, slender, smoothly scaled, with a small terminal joint. Wings long and narrow, pointed.

Type: *M. rebella* Dyar.

- rebella*. **M. rebella** Dyar (167 a). A small species with rather long wings. Black, with a faint copper reflection on the forewing. Expanse of wings: ♂ 11 mm; ♀ not known. Costa Rica.
- aenea*. **M. aenea** Her. & Hopp. Forewing bright copper bronze, darker in the cell and in the basal inner-marginal area. Hindwing yellowish white, scantily strewn with black. Expanse of wings: ♂ 17 mm; ♀ unknown. Brazil.

40. Genus: **Claphidia** Dyar.

Separated from the preceding genus by stouter palpi with a distinct terminal joint. Shape of wings triangular; vein 10 arises from the cell, very near to the stalk of 7—9.

Type: *C. microstigma* Dyar.

- microstigma*. **C. microstigma** Dyar (167 a). Basal area of forewing black, with an irregularly roundish border, more yellowish towards the inner margin, strewn with black; distal part grey, densely strewn with black in the shape of indistinct undulating lines; a round white spot in the dark basal area on the submedian fold. Hindwing dusted black with darker veins. Expanse of wings: ♂ 23 mm; ♀ unknown. Bolivia (Buena Vista).
- tersula*. **C. tersula** Drc., according to the description, resembles *microstigma* and may not be specifically different, but considerably larger. Expanse of wings: ♂ 30 mm; ♀ not known. From Peru.

41. Genus: **Venadicodia** Dyar.

Separated from *Claphidia* by the different shape of the wings; forewing not triangular, but the costal and inner margins almost parallel; veins 7—10 on the wing are stalked.

Type: *V. albipuncta* Schs.

- albipuncta*. **V. albipuncta** Schs. (167 a). Forewing brownish grey with a small dark spot at the apex, basal area dark from the costal margin to the submedian vein with a round white dot in it. Hindwing blackish brown. Expanse of wings: ♂ 14—15 mm; ♀ unknown. Mexico (Venadio, Sinaloa).
- ruthaea*. **V. ruthaea** Dyar (167 b). Forewing brownish with a dark brown basal area, bordered by a darker oblique line from before the centre of the costal margin to the inner margin behind the middle, with somewhat whitish scales in the irregular exterior border; distal area light brown with a small brown apical spot which is narrowly continued along the margin. Hindwing blackish brown. Expanse of wings: ♂ 18 mm; ♀ unknown. Habitat not mentioned.

V. denderia Dyar (167 b) is of a stronger build; the basal area of the forewing bordered by an oblique line from the middle of the costal margin to the anal angle, purple brown, marbled lighter, yellowish brown at the apex with a clouded preapical spot. Hindwing blackish. Expanse of wings: ♂ 22—23 mm; ♀ unknown. Costa Rica.

42. Genus: **Vipsophobetron** Dyar.

Separated from *Microphobetron* by the normal triangular shape of the wings. Only 2 small species:

Type: *V. marona* Dyar.

V. marisa Drc. has blackish forewings, the middle area lighter, shaded with reddish violet at the base and distal margin, bordered by thick, somewhat indistinct lines; subterminal line monotonous, basal area spotted. Hindwing blackish. Expanse of wings: ♂ 12—13 mm; ♀ unknown. Panama, Colombia.

V. marona Dyar (167 b) resembles *marisa*, but the whole wing is dusted with dark reddish violet, so that the markings are but faintly visible. Expanse of wings: ♂ 12 mm, ♀ 19 mm. French Guiana.

43. Genus: **Semyra** Wkr.

♂ antennae bipectinate almost to the tips; palpi projecting beyond the vertex, the last joint not quite half the length of the middle joint. Hind tibiae with both pairs of spurs.

Type: *S. coarctata* Wkr.

S. zinie Dyar (167 b). Forewing with a dark basal area bordered by a fine light line which bends at the inner margin to the base; towards the apex 3 angular dark spots border on a light reddish violet quadrangle; marginal area light brown; a distinct silver marking at the base, coherent and lobate. Hindwing light brown. Expanse of wings: ♀ 24 mm; ♂ not known. Paraguay (Sapucay).

S. cardia Schs. (167 b). Forewing pinkish brown, with blackish longitudinal stripes, and red stripes behind the subbasal line and cell; the zigzag-shaped subbasal line is silvery, the light subterminal line fine, irregularly undulated. Hindwing straw-coloured. Expanse of wings: ♂ 20—23 mm; ♀ unknown. Brazil (Castro, Paraná).

S. eucharista Dyar (167 b). Forewing red-brown with a blackish stripe in the cell and a submedian one extending to a light median line which forms inwardly an angle on the submedian vein; the subbasal silvery line is fine and punctiform, some red colouring behind it; a short white line in the brown apical part, a wedge-shaped brown marking below it is divided into 2 or 3 small finger-shaped spots. Hindwing reddish, fringe brown. Expanse of wings: ♀ 24 mm; ♂ unknown. Brazil.

S. erna Dyar has the same markings as *eucharista*, but darkened, the silver marking more distinct. Hindwing brown, sometimes lighter in the disc. Expanse of wings: ♂ 17—19 mm; ♀ unknown. Paraguay.

S. ornata Dgn. (167 c) has the same scheme of markings as *eucharista*, but the median line is dark brown, not dentate on the submedian line, more extensive apical markings, the subbasal silver distinctly divided into single spots. Expanse of wings: ♀ 27 mm; ♂ not known. Brazil (Rio Maués, Amazonas).

S. phrygia Dyar (167 c) is dark brown, without a light median line, the silver mark long and narrow, undulate, some red behind it; the dark subterminal area is divided into spots by light colouring entering finger-shaped; a wedge-shaped discal spot at the cell-end. Hindwing greyish brown, light in the disc. Expanse of wings: ♂ 23 mm; ♀ unknown. Brazil (São Paulo).

S. paula Dyar is similar to *phrygia*, but smaller, of a brighter colouring, with a narrower cellular spot. Expanse of wings: ♂ 18 mm; ♀ unknown. Peru.

S. frances Dyar (167 c); like *paula*, but still smaller, the markings more indistinct, less defined. Expanse of wings: ♀ 17—18 mm; ♂ unknown. Argentina.

S. gibbosa Sepp. Basal half of forewing dark brown with 2 red stripes, outwardly bordered by a fine white line; distal half of the wing light brown with a long dark brown streak from the apex and one from the anal angle. Expanse of wings: ♀ (?) 28 mm; ♂ unknown. The larva has the shape of a small triangular box, dorsally green, laterally light bluish green. Surinam. The species is only known from SEPP's figure which HERING and HOPP (Iris XLI, p. 173, 1927) declare to represent a *Semyra*.

S. coarctata Wkr. (167 c). Brown or greyish brown, the basal half darker, the distal half light, the two colours separated by a light, somewhat curved line; a light lilac spot at the apex is surrounded by quadrangular dark spots, and from here a series of small dots extend more or less distinctly downward. Hindwing from dark brown to blackish brown. Expanse of wings: ♂ 20—22, ♀ 25—27 mm. The northernmore form: — **finita** Wkr. (= *möschleri* Schs.) is lighter and more contrasting than the southern *coarctata*, the submarginal dots are more distinct and extensive, with some red colour behind the basal silver. There are apparently no specific differences. Mexico, Central America, Panama (*finita*); Guiana, Grenada, Paraguay, Brazil (*coarctata*).

- irena*. **S. irena** Dyar (167 c) is much larger than *coarctata*, the lighter parts wood-brown, the apical quadrangular subterminal spots distinctly separated, without a prolongation downward. Expanse of wings: ♂ 29—32, ♀ 36—37 mm. Panama, Guiana, Peru.
- bella*. **S. bella** H.-Schäff. (= *gladys* Dyar) (167 c) shows an indistinct light partition-line between the basal and distal halves, the subbasal silver as narrow as a thin thread, often quite extinct, a large red spot behind it; a lilac apical spot is encircled by 3 dark spots, cut by a dentate silvery line, a roundish clouded spot before the anal angle. Expanse of wings: ♂ 26 mm; ♀ not known. Panama, Colombia, Trinidad.
- distincta*. **S. distincta** Mschlr. is darker than *bella*, the subbasal red colour replaced by dark brown. Expanse of wings: ♂ 25—27, ♀ 30—34 mm. Central America, Guiana, Bolivia.
- lucilla*. **S. lucilla** Dyar (167 d) has the same markings as *bella*, but the whole wing is dark purple brown, the spots distinct, but not contrasting. Hindwing brownish black. Expanse of wings: ♂ 25 mm; ♀ unknown. Venezuela.
- mariae*. **S. mariae** Dyar (= *veterna* Dgn.) (167 d) likewise resembles *bella*, but it is entirely blackish brown, only the subapical lilac spot is traceable, sometimes also the subbasal red visible. Expanse of wings: ♂ 20 to 26 mm; ♀ unknown. Guiana, Brazil (Amazons).

44. Genus: **Prolimacodes** Schs.

Characterized by biserrate antennae of the ♂. Rather large species of a compact structure, otherwise not differing much from the allies.

Type: *P. triangulifera* Schs.

- polygona*. **P. polygona** Her. & Hopp has a dark blackish brown costal-marginal area extended downward into 3 somewhat quadrangular lobes which are separated from the light brown inner-marginal and distal-marginal areas by a silvery white line. Only the ♀ is known. Expanse of wings: 25 mm. Mexico (Cordoba).
- triangulifera*. **P. triangulifera** Schs. (167 d) shows the dark brown costal-marginal area brightened towards the costa, of an oblong, below rounded shape, outwardly somewhat concave, likewise separated from the other light brown part of the wing by a silvery white line. Expanse of wings: ♂ 28—32, ♀ 35—40 mm. Mexico, Guatemala, Costa Rica, Panama.
- lilalia*. **P. lilalia** sp. n. (167 d) like *triangulifera* shows rather long wings, the dark costal spot uniformly dark, not lighter above, convex outside, bordered by a silvery line. Inner-marginal area light brown, slightly strewn with silvery scales towards the base. Hindwing triangular, distal margin straight. Expanse of wings: ♂ 32 mm; ♀ not known. 1 ♂ from French Guiana (St. Jean, Maroni R.), March 1904 (W. SCHAUS); type in the U. S. National Museum at Washington.
- dividua*. **P. dividua** Dyar (167 d) has a more quadrangular dark costal-marginal spot, the edges undulately denticulate; interior area light brown, the basal angle occupied by a large silvery area which is strewn with brown along the inner margin. Expanse of wings: ♂ 26—28 mm; ♀ unknown. Mexico (Cuernavaca).
- trigona*. **P. trigona** H. Edw. (167 d). Costal-marginal area light brown, gradually passing over to the lighter inner-marginal area, or also separated by an indistinct darker line: — **telligii** Barnes (= *filifera* Dyar); a large silvery spot at the base vanishing more or less along the indistinct partition-line of the two colours. Expanse of wings: ♂ 28—30, ♀ 32 mm. Arizona.
- undifera*. **P. undifera** Wkr. (= *apsorrhia* Dyar, *scaphoides* Her. & Hopp) (167 e). Costal-marginal area dark brown, uniformly bent below, only basally with a deep incision, inner-marginal area light brown, scantily strewn with black; the silvery scales bordering on the costal-marginal spot below, are accumulated at the basal end forming a somewhat diffuse silvery spot. Expanse of wings: ♂ 30—34, ♀ 32—38 mm. Mexico, Honduras, San Salvador, Guatemala, Costa Rica, Colombia.
- badia*. **P. badia** Hbn. (= *scapha* Harr.) (167 e) resembles *undifera*, but it is smaller; the form: — **argenti-**
argentimac-
cula. **macula** B. & McD. shows the silver scaling at the basal angle of the costal-marginal spot enlarged and more intense. Expanse of wings: ♂ 22—25, ♀ 25—31 mm. The larva has the shape of a triangular small box with impressions as in the shell of a tortoise, green, more or less spotted brown or not at all, pointed at the anal end. On various trees in forests. Massachusetts, New York, and to the south as far as Florida.

Alphabetical List

of the original descriptions of the American forms of *Limacodidae*.

* signifies that the form is also illustrated at the place quoted.

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18. Family: Epiplemidae.

The uncertainty concerning the position of this group makes it also very difficult to insert its elaboration in the various volumes of the "Macrolepidoptera". While older authors combined it with the *Uraniidae*, other species ranged here could be ascertained to be allied with the *Geometridae*. Later on, when these combined species proved to be no *Epiplemidae* at all and to have been classified with them only by mistake, one fell back to emphasizing these relations to the *Uraniidae*. In general, the systematizers who confined themselves to examining one criterion have arrived at very different results. KIRBY's Catalogue, while inserting the *Uraniidae* — perhaps not wrongly — between the *Coccytiidae* and *Agaristidae* both being groups with certain relations to the large Noctuid family, does not mention the *Epiplemidae* at all in the volume containing all the Macroheterocera except the *Geometrids* and *Noctuids*; thus, it seems, KIRBY has found the *Epiplemidae* to be in no way connected with any of the families enumerated in his Catalogue, nor with the *Uraniidae*. HAMPSON derives the *Uraniidae*, *Heterogynidae*, *Cossidae* etc. from the *Zygaenidae*, and from the *Uraniidae* on the one hand the *Notodontidae*, on the other hand the *Geometridae* (and as third the *Ceratocampidae* as the forerunners of the Saturnid group); in this case, the *Uraniidae* sens. ang. would probably form the transition to the *Notodontidae*, and the *Epiplemidae* to the *Geometridae*. In his enumeration the *Uraniidae* follow upon the *Sematuridae* which he separates from them. Considering such uncertainty it is of no great importance where the *Epiplemidae* have been placed; it is at any rate not our task to establish new systems, we are merely guided here by perspicuity; the general characters of the *Epiplemidae* may be read over again in Vol. II, p. 277, Vol. X, p. 93 and 577, and Vol. XIV, p. 390.

Proboscis and frenulum present. Vein 5 in both wings arises from the middle of the cross-vein or above it. Veins 6 + 7 of the forewing are usually stalked, 7 being at any rate widely separated from vein 8. Vein 8 of hindwing from its beginning arises freely from the base. Concerning single peculiarities and habits, we refer our readers to all the necessary details mentioned in Vol. X (p. 577) and Vol. XIV (p. 387), where we have also mentioned the hair-case on the hindwing of *Er. birostrata* Gn. from South America.

As in the Old World, there are also in America but few species occurring in the temperate zone. In the tropical regions, Peru seems to be relatively rich in species. As in the Indo-Australian Fauna, the genus *Epiplema* contains an excessive number of species compared with the other genera. The species have been known for a very long time, WALKER having already described a considerable number of them, though of course many synonyma may be among them. By far the most of the species have been described by WARREN as in the Indo-Australian Fauna, too. Owing to the kindness of Dr. JORDAN who placed illustrations of them at our disposal, we are now able to present a great part of WARREN's types. Without this assistance it would be futile to treat this family. Both the author and the readers of this work are therefore greatly indebted to Dr. JORDAN. The work has also been aided by the kind information of Mr. W. H. TAMS of the British Museum. Most of the genera contain only American species; in the few species represented also in other faunae, this fact has been mentioned. In the present volume, as well as in the African and Indo-Australian Faunae, the *Epiplemidae* are separated from the *Uraniidae*, in accordance with modern views. By reason of the tympanal organs on the abdomen being the same in both the groups, SICK now states (in the Verhandl. Deutsch. Zool. Ges., Vol. 37) that both are to be united again as formerly. We cannot argue here whether it is appropriate to take such a decision merely from this one organ.

1. Genus: **Decetia** Wkr.

This genus, like the whole family of *Epiplemidae*, is difficult to define, and some palaearctic species have been branched off as a separate genus (*Mimozethes* Warr.) and enumerated as *Drepanidae* (cf. Vol. II, p. 196). In the supplementary to Vol. II *Mimozethes* has been placed to the *Epiplemidae* (p. 172). The genus being represented by 17 forms in the Indian Region was more largely dealt with in Vol. X, p. 580, where a number of species are figured on pl. 58 e. The resemblance of the habitus to that of some *Drepanidae* is evident. — Palpi short. Antennae of ♂ with one row of pectinations. Forewing broad with a pointed apex, shortly

excavated below it. Vein 5 above the middle of the cross-vein. 6 + 7 and 8 + 9 stalked, 11 terminating into 12. Type = *numicusaria* Wkr. from India (Vol. X, pl. 58 e).

accipiteraria. **O. accipiteraria** Wkr. Reddish yellow, dusted brown. Forewing with 2 hardly recognizable interior lines. A broad violettish brown line from the apex, distinct outside, faded inside. A few black submarginal dots. The apical line of the forewing will probably be continued on the hindwing. 36 mm. Venezuela.

D. minimaria Wkr. was placed here by DALLA TORRE, but it is presumably no *Decetia* and no *Epiple-mida* at all.

2. Genus: **Aorista** Warr.

This genus was established by WARREN for a single species described by DOGNIN from Loja, exhibiting a strange resemblance to the *Urapteroides* which are reckoned to the *Microniinae* and otherwise unknown in the American Fauna. On comparing the American *Aorista* with *Urapteroides urapterina* figured in Vol. X on pl. 72 a, we find it to look almost exactly like a smaller sized specimen of this Australian species. Not only the black-spotted marginal dent of the hindwing seems to be exactly copied in the two species which are geographically so distantly separated, but also the course of the oblique line traversing the wings is the same, and another remarkable fact is that the costal-marginal edge of *Aorista* exhibits the very same deep black transverse streaks which are so conspicuous in numerous *Microiinae* of the Indo-Australian Region, as for instance in *Stesichora advocataria* Gn. (Vol. X, pl. 72 f) and others. — The type of this scheme of marking is also repeated in quite different families on both hemispheres, e. g. in the *Asthenidia* in America and the *Urapteryginae* of the Old World. This zoogeographical curiosity reminds us also of the analogous phenomenon in the distribution of the genuine *Uraniidae*, where the genus *Chrysiridia* in South-East Africa is separated from the *Urania* in South America by oceans and continents showing no connection whatever. — A less unintelligible though remarkable fact is that this type of colouring is also exhibited by other genera of South American *Epiplemidae*, as for instance by *Morphomima albipennaria* H.-Schäff. (170 e). — Palpi short. Antennae of ♂ short, pectinated. Forewing broad, apex slightly produced, distal margin oblique. Vein 5 from the upper cell-angle, 6 + 7 and 8 + 9 + 10 stalked. Vein 11 terminating into 12 and 10 into 11. Veins 3 + 4 and 6 + 7 of hindwing stalked, 5 a little above the middle of the cross-vein. Broadly projecting at the margin between veins 3 and 4, a point at vein 2, then two excisions at the anal angle. Type and only species:

alodia. **A. alodia** Dgn. (170 a). Wings milky white. Forewing striated brown at the costal margin, with 4 transverse lines coloured like coffee with milk, the second of which is most distinct, while the third may even be absent. Hindwing with 3 lines which are confluent at the lobe at veins 3 and 4, where they terminate in streaks. Mostly there are also two black dots edged with yellow. A series of black submarginal striae. 30—33 mm. Loja (Ecuador).

3. Genus: **Meleaba** Wkr.

The present comprehension of the genus is rather doubtful. Body delicate, palpi short. Antennae of ♂ shortly pectinated. Forewing with a pointed apex, straight costal and distal margins, while in *Aorista* the costal margin is bent at the base and before the apex. Hindwing dentate at the distal margin near the anal angle and with a projecting lobe. Nothing is mentioned about the neurulation, but according to WARREN it differs much from *Aorista*. Type: *theclaria* Wkr.

theclaria. **M. theclaria** Wkr. White. Wings with 3 greyish brown transverse lines, the first double, the second and third formed of short streaks. Forewing besides with a distinct vertical interior greyish brown line. Hindwing with a yellow spot at the inner margin, enclosing a black dot. Inner margin black at the end, edged with yellow. Very similar to *Morph. candidata* which we figure (170 e), separated by the antennae. 37 mm. Amazons.

urania. **M. urania** Dyar (172 e). White. Forewing with black long transverse streaks traversing the whole wing at the base. Median line straight, brown, faded, and another line in the exterior third, both nearing each other at the inner margin. The streaks at the margin shorter, but partly linearly united. Hindwing with an outward bend above the middle of the distal margin, an orange spot below it with 2 or 3 black dots. A brown line from the middle of the costal margin outward almost to the yellow spot, then rectangularly bent round on to the inner margin. Brown median streaks extend to this line. Black lines in the apical area. 20 mm. Mexico.

antithetes. **M. antithetes** Dyar (172 a). Forewing ochreous, densely dusted with brown, with 2 broad white lines and a discal spot. The interior line obliquely from $\frac{1}{4}$ costal margin to the middle of the inner margin, slightly widened in the middle, excurved below it. The exterior line from $\frac{3}{4}$ costal margin to the anal angle, slightly bent inward at the end. The spot at the cross-vein small and narrow. A pale submarginal shadow from the costal margin to the centre of the wing. Hindwing also with an outward bend, the orange spot below it with 2 black dots. The rest of the hindwing white, the brown streaks showing through from beneath. A fine brown

rectangularly bent median line. Besides a faded brown submarginal and marginal line. 20 mm. Mexico. — The hindwing in both species thus does not quite agree with that of the typical species.

M. comprimaria Geyer (172 g) may be wrongly placed here. Body and wings brownish ochreous. Forewing broadly yellowish brown at the costal margin. Both wings with two double black submarginal undulate lines which are filled with white on the hindwing. The latter is angled above vein 6. 28 mm. South America. *comprimaria*.

4. Genus: **Nedusia** Hbn.

Antennae of ♂ short and stout, laterally flattened, palpi short. Forewing broad, apex pointed. Vein 2 far basad, 3 and 4 from the lower cell-angle, 5 from the upper angle, 6 + 7 stalked, 8 + 9 on a long stalk. Hindwing with an obtuse tail between veins 3 and 4. Veins 3 + 4 stalked, 5 above the middle of the cross-vein, 6 and 7 from the upper cell-angle. Type: *mutilaria* Hbn.

N. mutilaria Hbn. (170 a). Forewing greyish brown with a violet reflection. Interior line only marked by a black dot below the costal margin. Exterior line of dark brown dots, angled at veins 6 and 4, then indistinct as far as vein 2 and from there somewhat outward to the inner margin. Hindwing with a double exterior line from $\frac{3}{5}$ costal margin obliquely outward, projecting far at vein 4, then inward again and continued parallel with the distal margin. A black spot at the little tail. 26—30 mm. Venezuela, Guiana; the specimen figured originates from the surroundings of Blumenau in Sa. Catharina. — **cuticulata** Gn. (173 b) is hardly a different species. Ground-colour dingy white, the lines still more indistinct than in the typical form. Venezuela, Surinam. — *obliteraria* Wkr., according to the kind information of the British Museum, is the same as *cuticulata*. *mutilaria*.

N. castra Jones (172 g) is surely not correctly placed here by the author, perhaps allied to *Lophopygia castra*. *griseata* Warr. (172 h). Body and forewing brown, striated dark brown. Interior line dark, outward to the lower cell-angle, vertical as far as the submedian fold, then inward, somewhat white before it in the cell. Exterior line straight in the figure, according to the description excurved from veins 8 to 2, then downward to the inner margin. Marginal area lighter from the costal margin to vein 4. Hindwing of the same colouring. Interior and exterior lines parallel, dark, rectangularly broken in the middle. 28 mm. Brazil.

5. Genus: **Psamathia** Wkr.

Antennae of ♂ pectinated. The scheme of markings quite similar to that of *Nedusia*, the neuration is also hardly different, except veins 6 + 7 of the hindwing being also stalked. Type: *laticaudata* Wkr.

Ps. laticaudata Wkr. Dark reddish yellow with brown transverse striae. Lines brown. The interior one straight, more distinct on the hindwing than on the forewing. The median line is also straight, vertical, on the hindwing it extends only to the middle. Forewing with another exterior straight line, nearing the median one at the inner margin. A black subapical spot behind it. Hindwing with a pale marginal line which is edged with black in front. Two blackish spots in the tail. 20 mm. Venezuela. *laticaudata*.

Ps. impunctata Warr. is very similar to *laticaudata*, but larger. Forewing without the black subapical spot behind the exterior line. ♂ 46—52 mm. Peru. *impunctata*.

Ps. parallelaria Warr. (170 a). Wings greyish yellow, striated dark. Costal margin of forewing paler. Interior line dark brown, straight, from $\frac{1}{4}$ costal margin to $\frac{1}{3}$ inner margin. Exterior line from $\frac{3}{5}$ costal margin to $\frac{2}{3}$ inner margin, slightly bent. Traces of a submarginal spot between veins 6 and 7 as in *laticaudata*. Hindwing only with an exterior line, shortly and pointedly angled at vein 4. Two black spots on the tail. The ♀ with a still straighter exterior line. The apex of the hindwing projects somewhat more. 25 mm. Costa Rica. *parallelaria*.

Ps. sordidata Schs. Wings grey, finely striated brown. Interior line of forewing fine, dark brown, turned outward. Exterior line strong, indistinctly edged outside with a lighter brown, slightly angled below vein 6. Submarginal spot also present. Exterior line of hindwing strongly angled at vein 4, divided by a lighter brown line. Paler behind it, whitish grey outside, except between veins 3 and 4, two black spots on the little tail. Similar but larger than *parallelaria* (170 a), the exterior line not straight. 29 mm. Costa Rica. *sordidata*.

Ps. placidaria Wkr. (170 b). Wings reddish yellow, finely striated brown. Lines blackish. Interior line of forewing fine, vertical. Exterior line very deeply undulated, composed of spots. Interior line of hindwing oblique, dentate, hardly recognizable. Exterior line double, sharply angled at vein 4, then more indistinct, parallel to the distal margin. — A few specimens from the Chiriqui exhibit a dark shadow behind the exterior line of the forewing above the inner margin. The light filling of the exterior line on the hindwing is very prominent, it is indistinctly edged with dark outside. These specimens are larger, they may be named: — **fuscumarginata** form. nov. 26—32 mm. Venezuela, Chiriqui, Brazil. *placidaria*.

ochriplaga.

Ps. ochriplaga Dgn. (170 a) differs a little in the scheme of markings. Wings greyish brown, the lines blackish brown. Forewing with 2 distinct thick lines. Interior line very obliquely outward, the exterior one less oblique, from $\frac{2}{3}$ costal margin to $\frac{4}{5}$ inner margin. The whole wing striated dark. Near the margin a kind of submarginal line is formed by denser streaks. Hindwing striated only at the distal margin. Interior line fine, almost parallel with the interior margin, indistinct, dentate, connected with the exterior line at vein 4, the exterior line double, almost parallel with the interior one. Ochreous at the little tail as far as the exterior line, 3 bluish black marginal spots between veins 3 and 4. 33—36 mm. Colombia, Costa Rica (Chiriqui).

The following species exhibit the distal margin of the forewing angled at vein 4, slightly cut out above it.

subangulata.

Ps. subangulata Warr. (170 a). Similar to *placidaria* (170 b), but separated by the distal margin. Wings lilac grey, densely striated dark brown, especially at the distal margin of the forewing. Interior line from $\frac{1}{3}$ costal margin to $\frac{1}{3}$ inner margin, with a black spot at the costal margin, then very finely continued. Exterior line very oblique from $\frac{2}{3}$ costal margin, slightly undulated as far as vein 4, then strongly inward and vertically to $\frac{2}{3}$ inner margin. The usual submarginal spot is present. Hindwing with a very dentate exterior line, dark brown and double from the costal margin to the angle, then fine and indistinct. A broad brown shadow at the margin from the apex to the dental projection, and a large spot in the tail. ♂ 30 mm. St. Vincent.

amplata.

Ps. amplata Warr. (170 b). The indentation at the margin is stronger in the ♀ than in the ♂. Similar to *subangulata* (170 a), but larger, the interior line is only discernible at the costal margin. The exterior line shows another slight outward bend in the submedian fold. Hindwing with 3 black lunae behind the exterior line near the inner margin; these lunae are more distinct in the ♀. 34 mm. Paraguay, Rio Grande do Sul. Very dark, indistinctly marked specimens from the Chiriqui in Costa Rica.

6. Genus: **Tricolpia** Warr.

Forewing broad, costal margin bent, apex pointed, distal margin with an angle at vein 4, cut out above it. Vein 3 a little before the lower cell-angle, 5 near the upper angle, 6 + 7 and 8 + 9 + 10 stalked. Hindwing pointedly projecting at vein 4, fine dents at veins 2 and 3, the margin otherwise straight. Veins 3, 4 and 6, 7 from the cell-angles. Antennae of ♂ only laminated, not pectinated. Type: *acutaria* Wkr.

acutaria.

T. acutaria Wkr. (= *biangulata* Fldr.) (170 b). Wings yellowish white. Interior line of forewing dark, indistinct, very obliquely outward as far as the middle of the cell, then vertical to $\frac{1}{3}$ inner margin. Exterior line obliquely outward as far as vein 5, somewhat inward at vein 4, then slightly outward to $\frac{4}{5}$ inner margin. A violettish brown spot behind it below vein 4. Hindwing with double interior and exterior lines, distinct, dark, filled with white, very far extra-angular in the middle. Narrowly brownish at the margin. ♀ darker brown. 20 mm. Venezuela, Guiana, Amazonas.

flava.

T. flava sp. n. (170 b). ♀ distal margin of forewing uniformly bent. Ground-colour reddish yellow, finely striated brown. Exterior line fine, brown, obliquely outward from $\frac{3}{4}$ costal margin to vein 4, slightly extra-angular at vein 6, slightly bent inward below vein 4. Hindwing whitish at the costal margin in the interior part. Exterior line fine, rusty brown, straight, from $\frac{2}{3}$ costal margin to vein 4, where it is angled, and straight to the inner margin shortly before the anal angle. ♀ 20 mm. Goyaz, type in the Senckenberg Museum, taken by Dr. SEITZ in Viannopolis (Tavarez) in February 1930.

7. Genus: **Skaphion** gen. nov.

Palpi short, antennae of ♂ thick. Costal margin of forewing bent before the apex. Apex pointed, distal margin projecting at veins 3 to 4, slightly concave above it. Veins 3 and 4 from the same base, 2 far back, 5 close below the upper cell-angle, 6 + 7 stalked and 8 + 9 + 10 stalked. Hindwing with a point at vein 7, with a broader lobe at vein 3 to 4 than on the forewing, an angle at vein 2, slightly excavated before and behind it. Veins 3 and 4 from the same base, 5 a little above the middle of the cross-vein, 6 + 7 on a short stalk. Type: *lilacina* sp. n.

lilacina.

S. lilacina sp. n. (170 b). Slightly similar to *Trot. metachromata* (170 c). Lilac grey. Interior line of forewing outward from $\frac{1}{4}$ costal margin, angled at the anterior and posterior cell-margins, vertical between, dark, then white, bent inward almost as far as the base at the inner margin. Exterior line white, edged with brown inside, outward as far as the bifurcation of veins 6 + 7, then to vein 4, along which it extends somewhat inward, then to $\frac{4}{5}$ inner margin, concave between. A rusty brown blotch between veins 4 and 6 before the excision, somewhat rusty brown also at the anal angle. Hindwing with both lines white, projecting very pointedly at vein 4, the interior one somewhat indistinct. The exterior one pale brown inside in the anterior part, edged with blackish in the lower part. Broadly bluish white behind it from vein 4 to the inner margin. The veins on both wings lighter. ♂ 18—19 mm. Venezuela, Brazil. Type in the Berlin Museum.

plagifasciata.

S. plagifasciata sp. n. (172 a). Reddish brown. Subcostal vein of forewing lighter brown. The two lines proceed from two large triangular spots, close together. Interior line of black spots straightly inward to $\frac{1}{3}$ inner margin. The exterior row slightly angled outward at veins and below vein 4, then vertical, to $\frac{3}{4}$ inner

margin. On the hindwing the two rows of spots proceed from $\frac{1}{3}$ and $\frac{2}{3}$ costal margin. The interior one is rectangularly angled at vein 2, the exterior one below vein 4. ♂ 13 mm. Itaituba. Type in the Berlin Museum.

8. Genus: **Hypophysaria** *gen. nov.*

Palpi, antennae, forewing as in the preceding genus. Hindwing uniformly bent at the margin between vein 4 and the inner margin, slightly pressed inward between veins 7 and 8, veins 6 and 7 from the same base, the rest as in the preceding genus.

H. integrata Gn. (170 c). Lilac brown. Interior line of forewing dark brown, from $\frac{1}{3}$ costal margin obliquely outward as far as the centre of the cell, then indistinct, vertical. Exterior line outward from $\frac{2}{3}$ costal margin to vein 4, where it forms a small dent, then to $\frac{4}{5}$ inner margin. The line is double, dark brown, filled with whitish. Black at the margin from veins 7 to 4. The brown interior line on the hindwing is rectangularly angled, the exterior line more acutely, double as on the forewing. Blue marginal spots from veins 2—7, edged with black inside. ♀ 22 mm. Brazil.

9. Genus: **Trotorhombia** Warr.

Distinguished from *Nedusia* by the ♂ antennae showing one row of pectinations. Distal margin of hindwing more dentate near the anal angle.

Tr. metachromata Wkr. (= *bisinuata* Fldr., *excavata* Mschlr.) (170 c). Dark violettish grey or violettish brown. The lines blackish brown. Interior line at the costal margin from a black spot, straight, slightly outward, fine. Exterior line angled at vein 4, a little also at vein 6, concave between 4 and the inner margin. The exterior line of the hindwing is double, filled with light, with white spots at the veins. The interior broken line is rather indistinct. *bisinuata* Fldr. and *excavata* Mschlr. (170 c) are the same species. 22—26 mm. Honduras, Portorico, Venezuela, Brazil.

10. Genus: **Coelura** Warr.

Half a dozen rather small, mostly earth-coloured grey lepidoptera with a small excision at the anal angle of the hindwing, distributed from Central America to Southern Brazil and Paraguay. — Proboscis and palpi short. Antennae of ♂ with one row of pectinations. Forewing bent at the costal margin, apex pointedly produced. Vein 5 from the upper cell-angle, 6 + 7 and 8 + 9 stalked. Hindwing with a round apex, a small excision at the anal angle. Veins 3 and 4 from the lower cell-angle or stalked. The genus is purely American. Type: *transversata* Warr.

C. dissocia Warr. (170 c). Greyish brown with fine dark striae, especially at the margin. A blackish brown line from the apex to $\frac{4}{5}$ inner margin. This line is met by another line at vein 5, proceeding from $\frac{2}{3}$ costal margin. Cross-vein faded, dark. A very indistinct strongly bent line at the base. Hindwing with a distinct double exterior line, absent at the lighter costal margin, slightly bent below it. Dark scales above the anal angle. 26 mm. Peru, Chiriqui.

C. omana Drc. (172 a) resembles *dissocia* in its colouring. According to the description it has also the line from the apex and from the costal margin. But judging from the figure the line from the costal margin passes over at vein 5 into the apical line, which begins only there, while a faded line proceeds from the apex, ending a little outside the angle at vein 5. Hindwing with a faded interior band of dark scales and with a dark single median line, more intensely striated dark behind it. 24 mm. Mexico, Central America.

C. strigitermen Dgn. Forewing with a less pointed apex. Wings pale reddish grey. Forewing with a red exterior line from $\frac{3}{4}$ inner margin, extending towards the apex as far as vein 5 and continued from vein 6 inward to $\frac{3}{5}$ costal margin. Dark streaks behind this line as far as the distal margin, blacker at the apex. Hindwing with regular brown streaks, feeble at the base, denser at the margin, blackish. 20 mm. Panama.

C. purpurea Dgn. Forewing with a very pointed apex. Ground-colour lilac brown, the lines and part of the veins blackish brown. Interior and exterior lines fine, distinct, oblique, both introangular towards the costal margin, parallel to each other and to the distal margin. Striated lilac white at the margin, a black shadowy line before it. Hindwing with a strong indentation at the anal angle. Coloured like the forewing, paler at the costal margin. With a median and exterior dark transverse line, straight and parallel. Marginal area as on forewing. 30 mm. Colombia.

C. transversata Warr. (170 c). Apex and anal angle less conspicuous. Forewing reddish yellow, greyer at the costal margin. Lines fine and pale. The first from $\frac{1}{4}$ costal margin, angled below it, then oblique, bent, inside of it faded dark grey. The second line from $\frac{2}{3}$ costal margin, obtusely angled at vein 4, convex above, concave below, edged with a darker colour on both sides. Median shadow and submarginal shadow faded, dark grey. Hindwing paler, straw-coloured at the costal margin. Median shadow greyish brown, blackish before the distal margin. Interior line indistinct, bent, the exterior line angled. 26 mm. Rio de Janeiro.

11. Genus: **Bicavernosa** *gen. nov.*

Antennae thick, palpi short. Forewing with a bent costal margin, apex pointed, distal margin projecting between veins 3 and 4, cut out above it, inwardly bent below vein 3 to the anal angle, veins 3 and 4 separated, 5 below the upper cell-angle, 6 + 7 and 8 + 9 + 10 stalked. Hindwing cut out between veins 7 and 4, feeble angles at 3 and 2. Veins 3 and 4 from the same base, 5 from the middle of the cross-vein, 6 + 7 on a long stalk.

albilunata. **B. albilunata** *sp. n.* (172 a). Forewing greyish brown. A few dark brown transverse lines from near the base to the middle. A brown shadow in the marginal area, bordered inside by a line from the apex to $\frac{2}{3}$ inner margin, where it is steeper. Four bluish white spots in blackish surroundings at the margin before the excision. Hindwing greyish brown at the base. At the cross-vein a thick white luna from which a dark brown line extends to $\frac{1}{3}$ inner margin. Violetish grey behind it as far as vein 5, dark brown above it. Exterior line dark brown, bent from $\frac{2}{3}$ costal margin to $\frac{3}{4}$ inner margin. A few bluish white spots at the excision below vein 7. ♂ 19 mm. Brazil. Type in the Berlin Museum. — *Epiplema albiocellata* Warr., which is no genuine *Epiplema* judging from the neurulation of the forewing, must be very similar, but the neurulation of the hindwing is different.

12. Genus: **Coeluromima** Warr.

Exterior quite similar to that of *Coelura*, separated only by the antennae which show one row of pectinations in both sexes in *Coelura*. Here they are plain in the ♀, with two rows of pectinations in the ♂. Type: *subfasciata* Warr.

reticularia. **C. reticularia** *Mschlr.* (172 a). Judging from the remainders of the wings in the type, the species belongs to this place here. Apex of forewing more pointed than in *subfasciata* (170 c). Forewing reddish brown with a violet reflection. Lines light. Interior line from $\frac{1}{4}$ costal margin to the base of vein 2, where it is angled, and to $\frac{1}{4}$ inner margin. A blackish shadow with bluish white streaks around the cross-vein. Exterior line excurved from $\frac{3}{5}$ costal margin to vein 5, from where it is slightly concave as far as $\frac{2}{3}$ inner margin. A conspicuous white spot in the middle of the marginal area between veins 3 and 4, bluish white striation near the margin. Hindwing dark yellow. Traces of a light interior line. Exterior line bent from below $\frac{3}{5}$ costal margin to the middle of the inner margin, edged dark inside. Blackish behind it from the inner margin to vein 3. ♂ 26 mm. Porto Rico.

subfasciata. **C. subfasciata** Warr. (170 c). Greyish ochreous. Forewing with two dark brown oblique lines from $\frac{1}{4}$ and $\frac{2}{3}$ inner margin, both edged lighter on the averted sides. The first extending to the faded cellular spot, where it is angled and indistinctly inward to the costal margin. The second angled shortly before the apex, then inward, lead-coloured behind it. Hindwing with an indistinct interior line and a better dark exterior line, the latter fadedly edged with dark outside. Blackish streaks at the anal angle. 25 mm. Ecuador.

13. Genus: **Coelurotricha** Warr.

Likewise similar to the *Coelura*-species, but the ♂ hindwing above exhibits a stripe of coarse scales on half the length of the costal margin, and a hair-pencil proceeding from the base. Type: *curvilinea* Warr.

curvilinea. **C. curvilinea** Warr. Wings bone-coloured yellow. Forewing with grey streaks especially at the costal margin. A large round grey spot at the cross-vein. Exterior line fine, bent, from $\frac{2}{3}$ costal margin, obliquely inward to $\frac{2}{3}$ inner margin. It is touched by a round pale yellow, dark-edged spot. A submarginal stripe of grey streaks, edged with yellow. A small dark spot above vein 6. Hindwing with an exterior line from veins 6 to 2. Intensely striated grey behind it, except at the apex. Hair-pencil at the costal margin dark greyish brown. 24 mm. Panama.

imitans. **C. imitans** *Dgn.* Similar to *Coelura transversata* Warr. (170 c). Greyish ochreous, with lilac scales in the marginal area. Forewing with 2 brown transverse lines, edged with ochre outside. Interior line slightly bent. Exterior line bent inward from the inner margin to vein 5, where it is angled and slightly excurved to the costal margin at $\frac{2}{3}$. A faded black shadow at the cross-vein. A triangular submarginal spot above vein 6. Hindwing with 2 similar lines. An interior line composed of two dots. Exterior line hardly incurved from the inner margin to vein 5, where it is angled, and ending at vein 6. 28—30 mm. Colombia.

14. Genus: **Morphomima** Warr.

Forewing with a slightly produced apex, distal margin excurved in the middle. Veins 2 and 3 on a short stalk, 4 from the angle, 5 close below the upper cell-angle, 6 + 7 from the angle, 8 + 9 + 10 stalked. Hindwing with a broad apex, the margin straight as far as vein 4, somewhat dentate at 2, 3 and 4, cut out below vein 2. Vein 2 shortly before the lower cell-angle, 3 and 4 from the angle, 5 near the upper cell-angle, 6 and 7 separated. Antennae of ♂ thick, shortly dentate, palpi somewhat longer than usual. Veins 2, 3 and 4 of ♀ forewing separated. Veins 6 and 7 of hindwing from the cell-angle or on a short stalk. Type: *opigena* Drc.

opigena. **M. opigena** *Drc.* (= *fulvitacta* Warr.) (170 d). Ground-colour white. Forewing of ♂ in typical specimens brownish in the basal half. Interior line dark, double, from the middle of the costal margin to the inner margin.

near the base. Exterior line also double, from near the apex to $\frac{2}{3}$ inner margin, distal margin brown, rusty yellow at the apex. Hindwing white at the costal margin. Interior line brown, slightly bent, darker before it. Exterior line double, bent. Marginal area more intensely dark, with a light median band. A ♀ from Bolivia is very large, dusted much darker. On the other hand there are also specimens showing hardly any brown dusting at all. 25—30 mm. Nicaragua, Colombia, Bolivia.

The following species were formerly ranged under the genus *Syngria*, but as their neuration is different, I place them here. The antennae of the ♂ seem to be somewhat longer pectinated, the scheme of marking in *acalis* is very similar to that of *Syn. druidaria* (170 f), the other species are differently marked.

M. acalis *Fldr.* (170 d) is rather variable. Wings creamy white. Forewing narrowly violettish brown at *acalis*. the costal margin, the basal half as far as the cross-vein also violettish brown, mostly less prominent below vein 2. Sometimes a yellowish interior line in it, recognizable as in *druidaria* (170 f). Exterior line yellow, edged with brown inside, from the costal margin straightly outward to vein 4, where it is sharply angled, and curved to the inner margin. A subapical black dot. Brown at the margin especially in the lower part. Hindwing with an exterior line between veins 6 and 2 as in *druidaria*, sharply angled at vein 4, whitish, edged with brown inside. Rusty brown above the lowest small tail, adjoining to it a submarginal band of brown scales. One part or another of the marking may be absent, rarely everything is present. 26—30 mm. Central America, Colombia. — **griseata** *Warr.* (170 d) is probably only a very dark specimen in which the dark dusting on the *griseata*. forewing extends to the extinct exterior line, while the light exterior line on the hindwing is not prominent in spite of the intense darkening. 34 mm. Peru.

M. versilinea *Dgn.* is probably a separate species. Ground-colour greyish white with dark streaks, *versilinea*. especially at the costal margin of the forewing. The two lines white, edged with brown at the costal margin, the interior line bent, the exterior one as in *acalis* (170 d). Beside the black subapical spot there are yet black streaks in the marginal area. Costal margin of hindwing white, the rest like the forewing. The exterior line projects pointedly at vein 4. 32—36 mm. Ecuador, Colombia.

M. candidata *Warr.* (170 e) is very different. Ground-colour white. Forewing with a dark brown marking. *candidata*. A double streak at the cross-vein down to vein 2. Exterior line slightly outward at the costal margin, then vertical, double as far as vein 4, where it is very fine, prolonged towards the base, then distinct again, vertical double, to $\frac{3}{4}$ inner margin. Submarginal line interrupted. Exterior line of hindwing double, somewhat angular in the middle, not reaching the costal and inner margins. Submarginal line traceable, a black spot above and below it near the anal angle. 30 mm. Peru.

M. albipennaria *H.-Schäff.* (170 e) is somewhat similar to *candidata*. Wings white with light olive brown *albipennaria*. transverse lines. Forewing with an interior line from $\frac{1}{4}$ costal margin to $\frac{1}{3}$ inner margin. Median line double, straight, slightly oblique. Exterior and submarginal lines composed of dense striae, parallel with the median line. Hindwing with a double median line. The two other lines only formed of striae meeting at an intense spot above the anal angle. The anal angle itself rusty yellow. 30—35 mm. Venezuela, Colombia, Bolivia, Brazil.

? **M. cinerea** *Warr.* (170 d). Dark grey, dusted black. Forewing with traces of 3 faded black bands at *cinerea*. the base, before the middle and at $\frac{2}{3}$ of the length of the wing, the last somewhat more distinct, extra-angular in the middle, below it curved inward. Veins in the marginal area paler. Hindwing with black scales at the base. Traces of a median and submarginal shadowy band. Paler grey at the inner margin. Veins yellowish ochreous. Black dots near the anal angle. 24 mm. Venezuela.

ramosaria *Mschlr.* placed to this genus by DALLA TORRE belongs to the *Geometridae*.

15. Genus: **Schidax** *Hbn.*

Forewing pointed at the apex, slightly cut out below it, excurved at the middle of the distal margin. Veins 3 and 4 near the lower cell-angle, 5 a little below the upper one, 6 + 7 on a short stalk, 8 + 9 on a longer stalk. Hindwing with 2 bows near the anal angle and a rounded margin. Antennae of ♂ and ♀ pectinate. Type: *squammularia* *Hbn.*

S. squammularia *Hbn.* (170 e). Wings greyish white, striated dark. Anal angle of forewing and exterior *squammularia*. half of hindwing brown, rarely with a brown median band as HÜBNER figures the species. Interior line of forewing from $\frac{1}{3}$ of costal margin fine, black, dentate, very obliquely inward. Exterior line projecting in the middle of the wing, very strongly notched. 25—30 mm. Nicaragua, Cayenne, Brazil.

S. anosectaria *Gn.* (170 e). Wings greyish brown with dark striae. Forewing often somewhat darker *anosectaria*. at the cross-vein and anal angle. Exterior line of forewing dark brown, shaped as in *squammularia*, no interior line discernible. 28—30 mm. Brazil. *Erosia similaria* *Wkr.* is probably the same species.

S. evulsa *Fldr.* (170 f). Similar to a large *anosectaria*. Reddish brown. Interior and exterior lines of *evulsa*. forewing fine, distinct, black. Interior line excurved in the middle, exterior line finely notched, straight as far as vein 3, incurved between veins 3 and 1. A black streak before the exterior line at the costal margin. A dentate marginal line parallel with the margin. Hindwing greyish brown, with the light spots at the anal angle as in the two preceding species, but larger, the distal margin more excurved. 40 mm. Guiana.

coronaria. **S. coronaria** *Strecker* (170 e) has the wing-contours of *evulsa* (170 f), but it is smaller. Wings grey, glossy. Forewing with traces of an exterior strongly notched line from the costal margin to vein 5. A few dark spots outside at the costal margin. 30 mm. Florida.

canoferata. **S. canoferata** *Wkr.* Grey, indistinctly striated, rusty brown at the distal margin. Exterior line black, strongly notched, somewhat interrupted on the forewing, with a black radial streak at the base. Interior line black, notched. A few black spots at the costal margin. Hindwing with a notched black median line. Brown between it and the exterior line. 34 mm. Ega.

serraria. **S. serraria** *Wkr.* and *canoferata* may be identical with the variable *squamularia* (170 e). Reddish yellowish grey, striated dark. Exterior line as in *canoferata*. Somewhat reddish yellow at the distal margin. 35 mm. Rio de Janeiro.

Each of the following species has different contours of the wings.

saginata. **S. saginata** *Gn.* (172 a). Light violettish brown, striated dark. The marking consists only of an exterior row of indistinct black dots and a few marginal dots in the anterior part. Hindwing with a red-brown line before the exterior row of dots and two short bands of dark scales extending from the cell to the inner margin. ♀ 28 mm. Cayenne. It is doubtful whether the species belongs to this place, it is very similar to *Molybdophora concinnaria* *Hbn.* (172 g).

fuligaria. **S. fuligaria** *Gn.* (170 f). Distal margin of forewing slightly projecting at vein 6. Veins 3 and 4 close together, bent somewhat upward at their origin. Veins 6 + 7 of hindwing on a very long stalk. Wings dark violettish grey, with a lead-coloured submarginal line, fringe rusty brown. Forewing with a rusty brown ray from the base almost to the margin below vein 5, then upward before the lead-coloured line. Hindwing with traces of a rusty brown submarginal line and black dots at it in the posterior part. 20 mm. Guiana.

semissaria. ? **S. semissaria** *H.-Schäff.* (172 b). Wings light greyish yellow, striated darker. Both wings with interior and exterior lines, dark brown, parallel, strongly angled in the middle, somewhat undulated. Forewing with a dark apical streak and a line from the base of the wing to the centre of the margin. 24 mm. Surinam. HERRICH-SCHÄFFER's figure which is copied here may be a bad figure of *acutaria* *Wkr.* (170 b).

repandaria. ? **S. repandaria** *Wkr.* Greyish brown, with 3 indistinct brown transverse lines. The first two undulated, the third notched. Distal margin angled in the middle. 35 mm. Bogota.

16. Genus: **Syngria** *Gn.*

This genus was formerly quite differently comprehended. To-day it is confined to one of the largest and commonest species of the *Epiplemidæ*. — Antennae short, laterally compressed. Palpi thin, long. Abdomen of ♂ with a long anal tuft. Forewing with a very pointed apex, a sharp anal angle, the margin in the ♂ slightly excurved at vein 6. Vein 2 a little before the angle, 3 and 4 from the lower cell-angle, 5 close at the upper angle, 6 + 7 on a long stalk, 8 + 9 on a very long stalk. Hindwing of ♂ with points at veins 2, 3 and 4, the anal angle cut out below 2. Veins 3 + 4 stalked from the lower cell-angle, 5 above the middle of the cross-vein, 6 from the upper angle. 8 and 7 swollen at the base, 7 branching off from the centre of the cell. ♀ only with a point at vein 3, the anal angle is also cut out. Veins 3 and 4 as well as 6 and 7 from the cell-angles or on very short stalks. Type: *druidaria* *Gn.*

druidaria. **S. druidaria** *Gn.* (♀ = *falcinaria* *Gn.*) (170 f). The species varies extraordinarily much in its colouring and the distinctness of the marking. The very conspicuous light spot on the forewing may also be quite absent above and almost entirely absent beneath. Ground-colour light yellow, greyish yellow, red-brown, dark violettish brown. — Sometimes also the median area is of a much lighter colour than the rest. Such specimens are called: **derwaria** *Oberth.* (172 g). Interior line of forewing vertical, straight, only at the costal margin slightly inward. Exterior line more angled at vein 4, less so at the partition of 6 + 7, bent inward between vein 4 and the inner margin. On the hindwing the interior line joins that of the forewing. Exterior line from the middle of the costal margin obliquely outward to vein 4, where it forms a very pointed angle, and a feebler one below vein 2. The little tails are black. Forewing mostly with a black subapical dot. A light submarginal spot between veins 2 and 4, also beneath. 35—50 mm. — From Mexico to Brazil, apparently very common. — *drepanata* *Fldr.* only known as a ♀ is surely only based upon large specimens of *druidaria*; before me there is such a specimen from Venezuela, at least as large as FELDER's figure of it.

17. Genus: **Syngriodes** *Warr.*

The genus is not described by WARREN, but owing to the statement that *incisaria* *Wkr.* belongs to it, it is characterized. Forewing of ♀ with a pointed apex and angle at vein 4. Veins 3 and 4 close at the lower cell-angle, 2 a little back. 5 near the upper cell-angle, 6 + 7 stalked on half their length, 8 + 9 stalked. On the hindwing veins 3 + 4 and 6 + 7 are stalked, 5 from the middle of the cross-vein. Hindwing of ♂ (in

incisaria) with a brown hair-pencil at the costal margin above proceeding from the base, at the anal angle without dents. Type: *incisaria* Wkr.

S. discolor Warr. (170 g). ♀ yellowish white. Forewing somewhat brownish at the base. The lines *discolor*. pale, edged dark. Interior line strongly bent inward at $\frac{1}{5}$ of the length of the wing. The exterior one bent below the costal margin, then straight and obliquely inward to $\frac{2}{3}$ inner margin. Traces of a dark median line and a spot at the cross-vein. Somewhat dark before the middle of the distal margin. Hindwing with a curved exterior line. An ochreous hue before it in the middle. ♀ 28 mm. Costa Rica.

S. incisaria Wkr. (170 g). Yellowish white, dusted with brown of a variable intensity. Interior line *incisaria*. of forewing finely brown, extending as in *discolor*. A fine white dot at the cross-vein, a large brown spot behind it. Exterior line also like that of *discolor*, mostly only the interior dark edge is somewhat distinct. The brown submarginal shadow is continuous. Hindwing with a dark exterior and submarginal band of brown scales. 22—30 mm. From Mexico to Brazil.

S. acinacidaria H.-Schäff. (172 b) presumably belongs to this place. ♀ similar to *incisaria*. Whitish, *acinacidaria*. densely striated pale brown. Forewing with a luniform spot at the cross-vein, with incurved points, a dark line extending from it to $\frac{1}{3}$ inner margin. Exterior line feebly double, incurved towards the costal margin, where it shows black spots which are absent in *incisaria*. The subapical spot and the dark striation before the margin as in *incisaria*. Hindwing striated the same as in *incisaria*. An interior and exterior line traceable in the original figure. ♀ 28 mm. Venezuela.

S. genaria sp. n. (= *opigena* ♀ *Drc.*) (170 g) resembles *incisaria*. Yellowish. Forewing somewhat *genaria*. brownish in the interior half. A white spot at the cross-vein, with an indistinct brown spot outside. The interior line extends from the white dot straightly inward to $\frac{1}{4}$ inner margin, brown outside, yellowish white inside; towards the costal margin it extends indistinctly, notched, inward. Exterior line brown, white outside, from $\frac{2}{3}$ inner margin, outward below vein 1, obliquely upward as far as vein 5, then quite indistinct. A rusty brown submarginal shadow in the anterior half. Hindwing with traces of a broad median and submarginal band of rusty brown dusting, extending from the inner margin to the centre of the wing. 26—30 mm. Central America, Brazil. The ♂ probably belonging to it has very hazily marked wings, dark bands instead of the lines.

S. cassera Drc. (170 g). Red-brown or dark brown. Forewing with 3 very indistinct dark transverse *cassera*. bands. The interior line vertical on $\frac{1}{4}$ inner margin. The next one before the middle of the inner margin somewhat obliquely outward and a parallel one from $\frac{2}{3}$ inner margin, the two last bent inward at the costal margin. Hindwing with a straight interior line, somewhat extinct. Median line uniformly bent, darker behind it. The apex of the ♀ forewing projects very far. 28—32 mm. Central America.

S. adjectaria Wkr. Similar to *acinacidaria* (172 b). White, dusted greyish brown. Interior line of *adjectaria*. forewing very indistinct. Exterior line white, partly edged with black inside, angled in front. There is no central spot mentioned on the forewing, but there is such a spot on the hindwing. Lines apparently not discernible. The anal angle is very much cut out, the dents beside it feeble. ♀ 22 mm. Venezuela.

S. aeolis Schs. White. Forewing somewhat pale brown at the base, grey at the costal margin. An *aeolis*. exterior row of small spots formed of brown scales. A brown submarginal shadow behind them. Hindwing with an indistinct interior line, the exterior line better visible, spotted. The dark scales are more densely arranged at the anal angle, brown scales are also at the margin. Forewing of ♀ with an interior line of more densely arranged scales, a median band is also traceable. A small marginal spot above vein 4, dark scales above the anal angle. 20 mm. Costa Rica.

18. Genus: **Hyperplema** Warr.

Proboscis small, palpi long, antennae of ♂ bipectinated. Forewing oblong, apex obtusely rounded, distal margin without angles. Veins 2, 3 and 4 at equal distances, 5 below the upper cell-angle, 6 + 7 and 8 + 9 + 10 stalked. Hindwing narrow, with an indentation at the anal angle. Vein 5 above the middle of the cross-vein, 6 + 7 on a short stalk. ♂ forewing with a hyaline spot at the base. Type: *rudis* Warr.

H. rudis Warr. (170 g). Greyish brown. Forewing somewhat darker at the costal margin. The two lines *rudis*. dark, angled. The first at $\frac{1}{3}$ of the length of the wing, angled below the costal margin and at the median vein, then obliquely inward. The second line at $\frac{2}{3}$, obliquely outward, sharply angled at vein 7, then undulate, obliquely inward. A fine black dot at the cross-vein. Hindwing with a double dark interior and exterior line. Cellular dot black. ♂ 20 mm. "Onoribo".

19. Genus: **Leuconotha** Warr.

Proboscis absent, palpi long porrect. Antennae of ♂ bipectinated, serrate in the ♀. Forewing with a round costal margin and apex, the distal margin oblique, bent. Veins 3 and 4 close together, 5 below the upper cell-angle, 6 + 7 and 8 + 9 + 10 stalked. Hindwing rounded. Vein 3 well separated from 4, 5 from the middle of the cross-vein, 6 + 7 on a short stalk. Type: *venosa* Warr. The 4 species described are very much alike and do not look like *Eplipemidae* at all.

venosa. **L. venosa** Warr. (170 h) is all white, all the veins dark brown. Costal margin of forewing black at the base. 20–24 mm. Venezuela.

albida. **L. albida** Dgn. Body white, the wings also white, the veins somewhat more coloured. Similar to *venosa* Warr. (170 h), but smaller, whiter, the veins less prominent. 23 mm. Described according to a ♀ from the Rio Tapajoz (Amazons).

subfumida. **L. subfumida** Warr. (170 h). Brownish white. Costal margin of forewing and all the veins brown. Hindwing with but slightly darker veins and a lighter costal margin. ♂ 20 mm. Venezuela.

persordida. **L. persordida** Warr. (170 h). Wings greyish brown, the veins on both wings dark. Forewing with traces of a dark interior and exterior shadow. Hindwing with a more intensely black cross-vein. Forewing beneath with a black subapical dot. ♂ 22 mm. Bolivia.

20. Genus: **Siculodopsis** Warr.

The 6 very similar species which owe their generic name to a purely habitual resemblance to some *Thyrididae* are all American. — Proboscis present, palpi short, antennae of ♂ pectinate, anal tuft long. Forewing of the typical species oblong, costal margin slightly bent, apex somewhat pointed. Vein 3 a little before 4; 5 and 6 + 7 from the same base, 8 + 9 stalked. Hindwing rounded, anal angle insignificantly lobate. Type: *flaviceps* Warr. All the species look insignificant.

flaviceps. **S. flaviceps** Warr. (170 h). Greyish ochreous, finely striated blackish. Forewing with a black subapical dot which is absent on the hindwing. ♂ 28 mm. São Paulo.

pallidifrons. **S. pallidifrons** Warr. (170 h). Similar to a small *flaviceps*. Forewing dingy pale grey, browner at the costal margin. A dark indistinct spot at the cross-vein, a short black streak near the apex, with no other marking. Hindwing somewhat darker grey, dusted brown. A black dot at the cross-vein. ♂ 20 mm. Ecuador.

dubia. **S. dubia** Warr. Dingy pale grey, spotted darker. Costal and distal margins fadedly darker. Cellular spot brown, a dark indistinct band at $\frac{3}{4}$ of the length of the wing. Hindwing also with a cellular spot and traces of a curved grey submarginal line. ♂ 24 mm. Ecuador.

gracilinea. **S. gracilinea** Warr. Pale reddish grey with fine brown striae. The lines indistinct, brown. The first from below $\frac{1}{3}$ costal margin obliquely inward, interrupted. The exterior line from the middle of the costal margin obliquely outward to vein 7, then straight, inward. On the hindwing only the exterior line is recognizable, costal margin paler. ♂ 24 mm. Peru.

grisea. **S. grisea** Warr. (170 h) has broad wings. Dingy grey with black streaks especially at the costal margin. The streaks form an indistinct interior and exterior band. A rather large black subapical spot above vein 6. Also the hindwing with an indistinct interior and exterior shadowy band. ♂ 28 mm. Ecuador.

semifasciata. **S. semifasciata** Dogn. Grey, the spots and marking blackish brown. The interior line of the forewing is marked by a spot at the costal margin and a small one at the median vein at $\frac{1}{3}$ of the length of the wing. The exterior line marked by a blackish shadow at $\frac{2}{3}$ of the length of the wing and by spots at veins 7, 6, 4, 3 and 2. A small black oblique streak at the apex and two marginal spots between veins 7 and 5. Brown streaks on the whole wing, more densely arranged at the costal margin and at $\frac{3}{4}$ inner margin. A white spot at the cell-end, a brown streak before it and the brown cross-vein behind it. Hindwing with a few streaks at the inner margin and the beginning of a submarginal line.

21. Genus: **Hemioplisis** H.-Schäff.

Antennae of ♂ with one row of pectinations. Forewing with a pointed apex, distal margin excurved above the anal angle. Vein 5 far in front, 6 + 7 on a short stalk, 8 + 9 + 10 stalked. Distal margin of hindwing uniformly rounded, apex and anal angle rather sharp. Type: *drepanularia* H.-Schäff.; it differs somewhat from the other species in the scheme of markings.

drepanularia. **H. drepanularia** H.-Schäff. (171 a). Violetish brown. Interior line fine black, extra-angular from $\frac{2}{5}$ costal margin to the cross-vein, then very oblique to $\frac{1}{3}$ inner margin. Exterior line dark brown, from $\frac{2}{3}$ costal margin obliquely outward to vein 6, where it is bent round, straightly towards $\frac{3}{5}$ inner margin, slightly extra-angular at vein 1. A distinct black line from the apex to the angle at vein 6. The median area somewhat lighter. The lighter median area on the hindwing extends almost to the base. Exterior line from $\frac{2}{3}$ costal margin to $\frac{2}{3}$ inner margin, semicircularly excurved behind the cell. ♂ 30 mm. Brazil.

maculata. **H. maculata** Warr. (171 a). ♂ forewing reddish brown, with fine black transverse streaks, paler at the costal margin. Interior line indistinct, from $\frac{1}{3}$ costal margin, angled in the cell, to $\frac{1}{3}$ inner margin. The space before it dark red-brown. Exterior line from the apex uniformly bent to $\frac{3}{5}$ inner margin, edged with white inside. The margin behind it as far as vein 3 upward red-brown. Hindwing red-brown in the basal and marginal areas. Interior line on $\frac{1}{4}$ of its length, exterior line at $\frac{3}{5}$. ♀ dark violetish brown. Interior line more distinct, steeper at the inner margin. Exterior line from $\frac{2}{3}$ costal margin sharply angled at vein 7, otherwise as in the ♂.

The median area is scarcely lighter. Hindwing with but one line from the middle of the inner margin for some distance in front, bent. 29—33 mm. Venezuela.

H. fallax Warr. (171 a) resembles a species of *Decetia*. Wings dull flesh-coloured, dusted darker, costal margin broadly paler. Traces of an interior line at $\frac{1}{4}$, slightly extra-angular in the cell. Exterior line pale, red-brown outside, straightly obliquely inward from the apex to vein 2, then vertical to $\frac{2}{3}$ inner margin, where there are two brown spots close behind it. Hindwing with a short line from the middle of the inner margin. ♂ 26 mm. Venezuela.

The two following genera may belong to the genus *Saccoploca*.

H. metallica Warr. (171 a). Distal margin of forewing much more excurved, distal margin of hindwing straighter, apex rounder. Forewing dark red-brown, finely dusted with greyish blue. The lines very indistinct, dark brown, edged with bluish grey scales. Interior line from $\frac{1}{3}$ costal margin to $\frac{1}{4}$ inner margin, broadly excurved in the middle of the wing. Exterior line from $\frac{3}{5}$ costal margin to $\frac{3}{5}$ inner margin, obliquely outward as far as vein 6, then bent, and straight from vein 4. Distal margin with bluish grey scales below the middle, a white spot above and below vein 3. Hindwing with a double dark brown median line, darker between. Marginal line rusty red, white dots before it. Besides 1 dot above vein 3 farther inward. ♀ 26 mm. Trinidad.

? **H. alternata** Warr. (171 a). Dull violettish grey, darker at the inner and distal margins. Interior line dark, from $\frac{1}{3}$ inner margin straightly towards the apex, but sharply angled at vein 4, bent inward to the costal margin. A bent line from the middle of the inner margin, angled at vein 7 and inward to the costal margin. Submarginal line dark, somewhat undulated, bent inward at the costal margin, darkened before and behind it in the anterior part. Hindwing with a straight double black interior line. Exterior half dusted black, distal margin warming into reddish yellow. Apex of forewing truncate, at vein 7 the margin projects a little, only veins 8 + 9 are stalked. Also the hindwing shows a slight angle at vein 7. This description differs somewhat from the figure. ♀ 18 mm. Peru.

22. Genus: **Falcinodes** Gn.

Antennae of ♂ shortly pectinated, plain in the ♀. Forewing with a projecting apex, distal margin oblique, anal angle rounded. Distal margin of hindwing slightly bent, anal angle rectangular. Type: *corvinaria* Gn.

F. corvinaria Gn. (172 b). Lead-coloured, dusted with violettish brown. Interior line of forewing excurved from $\frac{1}{3}$ costal margin to the cross-vein, where it is obtusely angled, then to $\frac{1}{4}$ inner margin. Exterior line from $\frac{2}{3}$ costal margin bent parallel to the interior line, from vein 2 somewhat outward to the inner margin, edged white in the bend behind the cell, extending more finely to vein 2. Behind the cell a branch of the exterior line runs to the apex. Hindwing lighter at the costal margin. Both the transverse lines fine, parallel, slightly excurved in the middle. ♀ 35 mm. Cayenne.

F. gazzinaria Oberth. (172 b). Forewing coloured like *corvinaria*, only the costal margin broadly brownish ochreous, with somewhat darker clouds. Interior line only in the dark part, light, undulate, somewhat inward to $\frac{1}{3}$ inner margin. Exterior line light, vertical to $\frac{3}{5}$ inner margin, excurved close above the inner margin, edged with red-brown outside as far as the apex. Hindwing lighter, with an indistinct median line, angled in the middle. — **plagataria** Oberth. (173 a) shows a quadrangular yellowish spot down as far as vein 1 between the two lines on the forewing. 38 mm. Guiana.

F. perstrigata Dgn. Wings violettish brown, brownish ochreous at the costal margin. Exterior line brown, edged with ochre inside, beginning at $\frac{2}{3}$ inner margin at a black dot, bent inward between veins 1 and 2, straight as far as vein 5, obliquely outward, ending at vein 7 below the apex, a branch extending from vein 6 inward to the costal margin. Interior line from the costal margin near the base to the inner margin at the base, extra-angular in the middle of the cell. 3 white submarginal dots between veins 2 and 5. Hindwing with 2 lines as a continuation of those on the forewing, extra-angular in the middle. 30—40 mm. Guiana.

F. rufula Warr. (171 b). Shape of wings and scheme of markings different. Ground-colour reddish yellow, the lines indistinct. Interior line from $\frac{1}{4}$ costal margin, strongly excurved in the cell, then inward. Exterior line from $\frac{2}{3}$ costal margin obliquely to the middle of the inner margin and there near the interior line. Striated in lead-colour between the two lines; similar streaks close at the base. Submarginal line marked by a black spot above and below vein 4. Hindwing with somewhat darker median and submarginal bands. ♀ 28 mm. Bolivia.

gonodontaria Sn. and *suggilaria* Sn. seem to be no *Epiplemidæ* according to the author's statement about the neururation.

23. Genus: **Saccoploca** Warr.

This genus is composed of a dozen of species nearly all of which are rather monotonously blackish brown and which exhibit a great resemblance partly to some *Drepanidæ* (for instance from the genus *Psiloreta*) and partly to some *Geometridæ* (such as the genera *Achlora*, *Nereia* etc.). — Palpi short, porrect, antennae of ♂ finely serrate, laminate in the ♀. Forewing broad, triangular. Apex pointed, distal margin of ♀ cut out below it. Vein 5 from the upper cell-angle, with 6 + 7 from the same base, 8 + 9 on a long stalk. Hindwing with

a rounded apex, the anal end angled. Inner margin of ♂ turned over, containing hair-flocks. Hindwing of ♀ normally shaped. Veins 3 + 4 and 6 + 7 stalked. Type: *excisa* Warr.

In the first two species the exterior line of the forewing extends to the apex.

sordida. **S. sordida** Warr. (171 b). Light ochreous, spotted dark, costal margin darker brown. A blackish brown streak before and behind the middle, and adjoining to each of them an indistinct transverse line. From the apex to vein 4 a line obliquely inward, then bent round to the anal angle, black spots between the veins in the lower part of the line. The distal margin behind it browner, the apex before it lighter. Hindwing lighter at the costal margin, the two brown lines beginning below the cell. ♂ 25 mm. Peru.

divergens. **S. divergens** Warr. (171 b). Violettish brown, striated dark red-brown, with a few blue scales. Interior line rusty brown, rather indistinct, far excurved from $\frac{1}{4}$ costal margin, obliquely inward from the median vein to $\frac{2}{5}$ inner margin. Exterior line from $\frac{3}{5}$ inner margin to the apex, bent round close before it, bluish white, edged blackish inside, rusty red outside. Blackish between the two lines above the inner margin. Marginal area lighter. Hindwing with an interior and a median bluish white line, edged with rusty brown on both sides. Marginal area lighter. In this species the forewing of the ♀ is not cut out at the margin. 24–30 mm. Peru, Bolivia.

In the following species the exterior line extends almost parallel to the distal margin.

strigaria. **S. strigaria** Jones (172 c). Light olive brown, dusted violettish brown, costal margin lighter. Interior line dark brown, from $\frac{1}{4}$ costal margin obliquely to the middle of the cell, then vertically to $\frac{2}{5}$ inner margin. Exterior line from $\frac{3}{4}$ costal margin, very slightly excurved at first, then almost straight to the middle of the inner margin. Hindwing broadly light at the costal margin, somewhat darker at the base. Interior and median lines close together, straight. ♂ 26 mm. Brazil.

brunneata. **S. brunneata** Dgn. Light brown. Interior line of forewing dark brown, bent at the costal margin, slightly inward in the submedian fold. Exterior line strong, with faded edges, from the middle of the inner margin to $\frac{4}{5}$ costal margin, where it is slightly bent inward. Behind it a parallel line, dark, white in the middle. This white line is only inwardly edged with dark above vein 4, and both disappear at vein 6. A parallel submarginal line behind it. Hindwing pale at the costal margin. The dark brown median line proceeds from a red-brown spot at the inner margin. ♂ 26 mm. Colombia. The species seems to resemble a large *alternata* Warr. (171 a).

brevimargo. **S. brevimargo** Warr. (= *consimilis* Warr. ♀) (171 b). The inner margin of the hindwing is shorter here and the anal angle thereby rounded, not angled. Violettish brown, dusted dark, the apex of the forewing more yellowish brown. The lines dark brown, distinct. Interior line from $\frac{1}{3}$ costal margin horizontally into the cell, where it is angled and straight to $\frac{1}{3}$ inner margin. Exterior line from $\frac{2}{3}$ costal margin to $\frac{2}{3}$ inner margin, slightly excurved. Five black dots from the apex obliquely inward. On the hindwing both the lines are bent and distinct. The ♀ of it is said to be an insect which is described as *S. consimilis* Warr. ♀ and which is said to have no excision at the distal margin of the forewing. It is not stated whether the inner margin of the hindwing is also shortened in the ♀. 35 mm. Peru.

hendida. **S. hendida** ♀ Dgn. (= *consimilis* ♀ Warr.) (171 b). The ♀ is said to have the lower angle at the distal margin between veins 2 and 3, which is presumably only a mistake instead of 3 and 4. Wings greyish brown in the interior half, greyish red outside, the border-line red, edged with grey, straight; whether it is vertical or oblique is not stated. The anterior part of the forewing is said to be traversed by bluish feeble fine lines, especially in the marginal area, thus very conspicuous, though WARREN does not mention it in the description of his *consimilis* ♂ or ♀. Black submarginal dots around the excision. Hindwing not described. The ♂ is described to resemble *excisa* Warr. (171 c), but smaller, the apex more pointed. Transverse lines on both wings very fine. Hindwing beneath often brownish ochreous at the distal margin. The ground-colour is not mentioned, but according to our figure it is dark violettish brown with a blue reflection, brownish ochreous only in the anterior part of the hindwing. 30–35 mm. Peru. — A specimen before me, collected by FASSL and labelled as *hendida* ♂, shows some resemblance to the *hendida* ♂ figured by us merely in the ground-colour. The distal margin is almost still steeper than it is figured in *divergens*, the exterior line likewise proceeds from $\frac{2}{3}$ inner margin into the apex. The interior line is shaped as in *brevimargo*, thus angled below the costal margin, then straight. On the hindwing an interior and a median dark line are to be noticed, similar to *brevimargo*. Abdomen orange at the end. Without seeing a specimen or figure of the genuine *hendida* ♀, one cannot ascertain whether the ♂ belongs to it or not, and it seems to me to be useless to denominate it. ♂ 26 mm. Lino Panama, 800 m. A figure, however, may be useful, for which reason we add it (171 b).

excisa. **S. excisa** Warr. (171 c). ♂ dark violettish brown, strewn with fine bluish white scales, especially in the marginal area. The lines darker. The interior line from $\frac{1}{4}$ costal margin outward, shortly bent in the cell, somewhat obliquely inward to the inner margin at $\frac{1}{3}$. Exterior line from $\frac{3}{4}$ costal margin to $\frac{2}{3}$ inner margin, slightly excurved, edged with bluish white. A violet submarginal shadow from the apex to vein 4. Hindwing pinkish brown at the costal margin. The two lines extend only through the cell. The ♀, with an excision on the forewing, is browner, the blue scales denser at the margin. — **nigrosticta** Warr. (171 c) is more wood-coloured brown, the lines less distinct. Black submarginal spots before the excision which is deeper than in *excisa* ♀.

The margin intensely dusted with blue. Hindwing with traces of the two transverse lines. According to the figure the forewing is without the interior line, the exterior line seems to be steeper, broadly edged with grey inside. 30—32 mm. Peru.

S. consimilis Warr. (171 c). The right *consimilis*-♀ (thus not the present *brevimargo*-♀) exhibits an *consimilis*. excision at the margin of the forewing. According to the figure the species is somewhat darker than *excisa*-♀. Both wings without the interior line. The exterior line on the hindwing seems to end at the inner margin a little farther outside. 28 mm. Presumably also from Peru. — Considering the variability of some South-American *Epiplemidæ*, it might be possible that *brevimargo*, *hendida* and the “right” *consimilis* are all forms of one species. The correct determination is made almost impossible by the inexact description of *hendida* and the distribution and displacing of the name *consimilis*.

S. delicata Kaye. Described as *Syngria*. Body and wings pale brownish pink. A whitish spot with a *delicata*. black marginal line inside is at the cross-vein of the forewing. The two lines are olive brown. The interior one projects pointedly to the discal spot, from where it extends very obliquely inward to the costal and inner margins, rather indistinct. Exterior line from the costal margin almost horizontally outward as far as vein 7, where it is angled and straight to $\frac{3}{5}$ inner margin, much more distinct than the interior line. Hindwing slightly strewn with black. An interior and exterior line, mentioned in the original description, are not to be noticed. 30 mm. Trinidad.

24. Genus: **Asyngria** Dgn.

Antennae thick, palpi large, projecting beyond the frons. Forewing with a pointed apex, distal margin rounded. Vein 5 close below the upper cell-angle, 6 + 7 stalked, 8 + 9 + 10 stalked, 10 slightly anastomosing with 11, so that a little accessory cell is formed. Hindwing slightly angled at vein 7, then straight as far as vein 4. Veins 3 and 4 arise separately, 5 from the middle of the cross-vein, 6 + 7 stalked. Type: *nigripuncta* Dogn.

A. nigripuncta Dogn. Wings grey, striated brown. Forewing at $\frac{3}{4}$ of its length with a distinct light line *nigripuncta*. parallel with the margin, but with a deep indentation between veins 3 and 5, and with 3 black subapical spots, the upper two round, the third oblong. The same line on the hindwing is correspondingly shaped. ♂ 27 mm. Ecuador.

25. Genus: **Anorthodisca** Dgn.

The genus consists of 3 Colombian species, of which presumably only the type or the series of types are known; they are in the Un. Stat. Nat. Mus. at Washington. Figures were hardly ever supplied by DOGNIN, nor are the descriptions very clear. For characterizing the genus it is stated that the palpi are straight and project beyond the head. Antennae laminated. Vein 3 of forewing before the lower cell-angle, 5 with 6 + 7 from the same base, 6 + 7 on a short stalk, 10 close behind them, nothing is mentioned about veins 8 and 9. Hindwing dentate at veins 2, 3 and 4, then straight to the angled apex. Vein 5 not far from 4, 6 + 7 on a short stalk. Type: *albimacula* Dogn.

A. albimacula Dogn. Ground-colour brown, densely striated black, especially at the costal margin of *albimacula*. the forewing and at the anal angle of the hindwing. Forewing with a black spot at the cross-vein. Exterior line bent, very indistinct, with white dots at it between veins 6 and 1. Somewhat blackish below the apex. Hindwing also with a black cellular spot. Exterior line blackish, excurved as far as vein 4, then quite indistinct. White dusting behind it at the inner margin, and submarginal white streaks. ♂ 34 mm. Colombia. — In *impicta* Dogn. *impicta*. the marking is simplified. The striation is reduced and the colour thereby more uniform. Forewing with a single white dot between veins 4 and 5. The hindwing shows only traces of the white streaks at the anal angle. Cellular dot of forewing small, but the exterior line distinct. The interior line extends from the forewing into the cell of the hindwing. From the same habitat.

A. caesia Dogn. Hindwing obtuse at the apex. Ground-colour grey, with a lilac gloss, with black scales. *caesia*. Forewing whitish in the last third of the distal margin. A rather large black spot at the cross-vein. An exterior dark shadowy band vertical from the costal margin to vein 5, then disappearing inward. A fine white dot behind it above vein 4, and a black marginal dot above vein 6. Hindwing white at the inner margin with black streaks, finely white farther at the distal margin. ♂ 28 mm. Colombia.

A. florelineta Dogn. Ground-colour as in *caesia*. The lines on the forewing formed of shadowy bands, *florelineta*. A curved interior band. A black dot at the cross-vein. Exterior band also bent, with a series of reddish dots, finely edged with white, distinct between veins 8 and 4, less distinct from there to the inner margin. A brown marginal dot above vein 6. Hindwing black and white at the inner margin. Besides an exterior band forming the continuation of the band of the forewing, with the same dots. ♂ 30 mm. Colombia.

Genus: **Chrysocestis** Hbn.

The three species: *bisignata* Wkr., *fimbriaria* Cr. and *fimbrialis* Stoll were formerly placed to the *Epiplemidæ*. They are very much alike, so that it may be sure that not only *fimbriaria* Cr. which was lying before me, but also the two other species are *Geometridæ*.

26. Genus: **Dasmeuda** Wkr.

Proboscis short, palpi short, porrect. Antennae bipectinate. Wings broad. Forewing angled at the distal margin $\frac{1}{3}$ below the apex, then straight, oblique. Hindwing bent at the distal margin. The genus is placed here by DALLA TORRE, which is hardly justified.

alcimusata.

E. alcimusata Wkr. Brownish ochreous, striated pale brown. Forewing black at the costal margin, black are also a subapical spot and the distal margin in the anterior part; a black streak at the base of the wing. Both wings with white submarginal dots and black marginal dots. 26 mm. Amazons.

27. Genus: **Chaetoceras** Warr.

Palpi short, antennae of ♂ strongly pectinated, hind tibiae swollen. Forewing concave in the middle of the costal margin, convex near the base and apex. Apex slightly projecting, distal margin below it cut out, with a dent at veins 4 and 3, below it cut out again, anal angle angular. Veins 3 and 4 from the lower cell-angle, 5 and 6 + 7 from the upper cell-angle, 8 + 9 + 10 far back. Hindwing oblong, apex round, anal angle slightly projecting. Veins 3 and 4 from the lower cell-angle, 6 and 7 from the upper one. Type: *simplex* Warr. from Amboina. The genus contains 8 species from the Indo-Australian Fauna. Besides two South American species. Cf. Vol. X, p. 582, pl. 58 f, g.

lactifera.

Ch. lactifera Dogn. White. Forewing with black scales at the costal and distal margins. Exterior band of black dots, interrupted. Besides two black marginal dots between veins 4 and 6. Hindwing with an incomplete interior line, a black discal dot and a curved brown exterior band, with brown streaks next to it. A few dots and streaks at the costal and distal margins. ♂ 22 mm. Colombia.

versicolor.

Ch. versicolor Dogn. differs somewhat in the contours of the wings. Hindwing dentate at veins 4 and 7, excavated at 5 and 6. Ground-colour greyish brown, striated blackish brown. Forewing with an exterior row of round brown spots, edged with white scales. A subcostal spot, a few spots between veins 3 and 6 and at the inner margin. Hindwing with a brown incomplete interior line. The exterior line white, edged with brown on both sides, angled in the middle at veins 3 and 4. ♂ 27 mm. Colombia.

28. Genus: **Crypsicoela** Dgn.

Antennae thick, palpi short. Forewing with an obtuse apex. Distal margin dentate at veins 6 and 7, less at vein 4, strongly excavated between, then straight to the curved anal angle. Close before the latter the inner margin is very much cut out. Vein 4 from the lower cell-angle, 5 and 6 + 7 from the upper angle, 8 + 9 stalked. Hindwing cut out in the middle at the costal margin and at the distal margin above vein 7, with slight tips at veins 6 and 4. Vein 4 from the lower cell-angle, 6 and 7 from the upper cell-angle. Only 1 species.

subocellata.

C. subocellata Dogn. (171 c). Wings dark brown. Forewing with a rusty red spot at the cross-vein. A black line from $\frac{1}{3}$ costal margin, almost horizontal to this spot, then indistinct to the middle of the inner margin. A submarginal row of brown lunae, edged with white outside and with black behind it. A dark brown marginal line from the apex to vein 3 straight, cutting off the two notches. Hindwing with a curved interior row of black dots. An exterior row of lunar spots mostly only distinct in the anterior part. A dark marginal line from vein 7—2, corresponding to the line on the forewing. The ♀ is somewhat lighter and smaller. 26—32 mm. Bolivia.

29. Genus: **Epiplema** H.-Schäff.

Already about 300 forms of this typical genus of the family have been made known, and as the species, the majority of which is very insignificant, are generally regarded as small Geometrids or even Microlepidoptera by amateur and non-specializing collectors, they have hitherto attracted slight attention. This is principally due to the fact that they are not much attracted by light and those really rare ones gather in numbers on the lantern only on flying nights, when sometimes in the tropics 5—10 thousand lepidopteral specimens come to the light. Then the insignificant *Epiplema* of often only 1 to 2 cm wing span are lost among the swarms of *Saturniidae*, *Ceratocampidae*, *Notodontidae* and large *Noctuae* and awaken little interest. Another reason is that it was almost impossible so far to distinguish the few species which were described as there were practically no illustrations and the usually long-winded descriptions, sometimes based upon one specimen only, were scattered and hardly sufficient for a safe discrimination. The *Epiplema* have been thoroughly elaborated only in the very largest museums, and the numerous single specimens in small private collections (often placed among the Geometrids) have seldom been considered as their owners were vague as to their classification. Most of the species appear, as already mentioned, only singly and are difficult to distinguish by day, resting, often with wings furled in disguise, along wood paths on low growing weeds or bushes. Their position at rest reminds us strongly of the larger *Micros*, the *Alucitidae* for instance. If they are discovered and recognized in spite of their

disguise, many of them take refuge in the darkness of the bushes from which it is hard to drive them out. Only the *E. incolorata* (171 c) appears in places as a really common *Epiplema* though extraordinarily individual and varying locally. It may happen that in a day's catch not a single specimen resembles another, which adds to the difficulty of recognizing the species. — Altogether we specify about 70 forms of this genus from America; more than double that number are listed in Vol. X from the Indo-Australian Region. Africa has hardly more than 20 species, the palaearctic region does not even attain that number; they abound like so many other groups of *Heterocera* in the Papuan Region. — Palpi obliquely porrect. Antennae of ♂ thickened. Margins of wings very variably shaped. Forewing with veins 3 and 4 from the lower angle, 5 and 6 + 7 from the upper angle, 8 + 9 stalked. Hindwing with veins 3 and 4 from the lower angle, 6 and 7 from the upper angle. Type: *acutangularia* H.-Schäff. from South America. Cf. also Vol. II, p. 278; Vol. X, p. 583, and Vol. XIV, p. 391.

1. Forewing as well as hindwing without an excision at the distal margin.

E. rotundata Warr. (171 c). Yellow, somewhat browner at the margin. The lines brown. The interior *rotundata*. one at $\frac{1}{3}$, strongly extra-angular in the middle. The exterior line at $\frac{2}{3}$, uniformly bent, edged with brownish ochre outside. Four black dots before the margin from the apex to vein 4. On the hindwing the two brown lines are more distinct, two black marginal dots near the apex. ♂ 13 mm. Paraguay.

E. mamillata Fldr. (= *obvallataria* Mschlr.) (172 b). Tan-coloured. Forewing with two violettish brown *mamillata*. triangles edged with red-brown, one each at the costal and inner margins. Narrowly red-brown in the anterior part of the distal margin. Hindwing with a red-brown line from the middle of the costal margin towards the anal angle, bent inward at vein 3 and disappearing. The specimen figured by FELDER is somewhat greyer than the two specimens (types) of *obvallataria*. 18—22 mm. Portorico, Panama, Amazons.

E. atrilinea Dogn. Lilac grey, strewn with white atoms at the distal margin in both wings; the fore- *atrilinea*. wing especially at the end of the costal margin and the hindwing at the inner margin. Forewing with the beginnings of 3 black lines: a basal line, an interior and exterior one. Black dots at the base of the cell, at the cross-vein and above vein 6. Two white postmedian dots on veins 5 and 6. Hindwing also with 3 lines; a short one at the base, a median line as far as the large black cellular spot and an exterior bent continuous line. As nothing is mentioned about marginal dents in the description, it is placed here. ♂ 24 mm. Colombia.

2. Forewing without an excision at the distal margin, hindwing with a dent at veins 7 and 4, sometimes also at vein 6.

E. ornata Jones (172 b). Forewing greyish ochreous, greyish brown at the costal margin as far as the *ornata*. exterior line and with the apex as far as vein 3 downward in the middle. Dark at vein 2 as far as the exterior line. Interior line fine, indistinct, dark, excurved in the cell. Exterior line undulate, rusty brown, almost parallel with the margin, whitish behind it. Marginal area grey and greyish brown. Hindwing greyish ochreous. Interior line very dark, angled in the cell. Median line parallel with it. The space between dark greyish brown, a dark undulate exterior line behind it. Hindwing with but one dent at vein 6. ♂ 18 mm. Brazil. The description of the hindwing differs somewhat from the original figure.

E. ora Drc. (172 c). Ground-colour greyish brown. Exterior line of forewing uniformly bent from $\frac{3}{4}$ *ora*. costal margin to $\frac{3}{4}$ inner margin, broadly edged with reddish brown inside. Interior line marked by 2 black streaks at the inner margin. Hindwing white at the inner margin. Adjoining to it a spot in the middle and an exterior white band as far as vein 4; reddish brown above and below the latter. ♀ 24 mm. Mexico, Guatemala.

E. varipuncta Dogn. Wings white with red-brown dots. Three dots from the cell to the inner margin *varipuncta*. indicate the interior line. Exterior line indicated by 4 somewhat larger spots. A few dark streaks in front before the distal margin. Hindwing with a spot in the cell, at the costal margin, behind the cell, and with streaks before the margin. Hindwing slightly dentate at veins 4 and 7, somewhat concave between them. ♀ 20 mm. Ecuador.

E. subapicata Dyar i. l. ? (172 c). Ground-colour milky white, marking violettish brown. Interior line *subapicata*. interrupted. At the costal margin as a triangular spot vertical from the median vein, somewhat inward at vein 1. Exterior line of thick spots, two of them at the costal margin obliquely outward. Faded dark below it as far as vein 3, a white line partly indicated outside, then obliquely inward and broader dark, almost to the interior line. Blackish at the margin between veins 4 and 6. Hindwing with a median line rectangularly bent at vein 4, whitish, very broadly edged with brown inside, narrowly outside. Broadly violettish brown behind it at the margin between veins 5 and 2, a slight dent at vein 6. ♀ 22 mm. Mexico.

E. incolorata Gn. (171 c). Ground-colour from white to greyish white with a brown marking, often *incolorata*. indistinct. Median line excurved from $\frac{2}{5}$ costal margin to the middle of the inner margin, where it forms a large red-brown spot. Exterior line from $\frac{3}{5}$ costal margin to the inner margin near the anal angle. A few black dots in front at the distal margin. Interior line of hindwing notched, near the base. Exterior line from $\frac{2}{3}$ costal margin, sharply extra-angular at vein 4, then indistinct to $\frac{2}{3}$ inner margin, broadly edged with red-brown inside, with a red-brown triangle inside before the angle. A brown shadow at the margin from vein 4 upward. Brazil,

nigrocapitata. Guiana, Honduras, Portorico. — **nigrocapitata** Sn. (171 c) are intensely brown specimens indistinctly marked. Venezuela, Colombia. Presumably always together with *incolorata*. Hindwing dentate at veins 7 and 4, concave between them.

pauvillata. **E. pauvillata** Sn. Greyish brown, dusted dark brown. Forewing with 2 brown lines from $\frac{2}{5}$ and $\frac{2}{3}$ costal margin, nearing each other in the middle at the inner margin, where they form a joint spot. Four black dots in front at the distal margin. Hindwing with two brown bent lines. The notches at the distal margin are probably inexactly represented in the original figure. ♂ 14 mm. Venezuela.

excludaria. **E. excludaria** Mschlr. is just as small. Forewing ochreous, dusted with dark red-brown, no further marking being noticeable. Hindwing darker. Median area bordered by dark lines edged with light outside. Interior line rectangular in the centre of the wing, exterior line rounded off with a larger bow at vein 2. Distal margin cut out between veins 6 and 7. The only specimen preserved is unfortunately not fit for a reproduction. 14 mm. Portorico.

amorata. **E. amorata** Pack. Pearl-coloured grey. Forewing with two dark lines from $\frac{2}{5}$ and $\frac{3}{5}$ costal margin, in the beginning parallel excurved as far as vein 4, from where the exterior one extends more inward, connected with the interior line by a bar at vein 2, then the two lines separate again. Dark between veins 4 and 6 at the distal margin, edged by a brown line. Hindwing with a rounded interior line, the exterior line with a sharp outward point at vein 4, finely edged light outside. Hindwing with a dent at veins 7 and 4, a smaller one at vein 6. ♂ 20 mm. Canada, New York.

certiorata. **E. certiorata** Pearsall. Larger than *amorata*, the excision on the hindwing deeper. Dark bluish grey, dusted with black. The lines agree exactly with those of *amorata*. The median area on the forewing with black and smoke-brown scales. Hindwing with a round black spot at the margin between veins 3 and 4, dusted with blue in the exterior half; at this place the margin is not fringed, but a hair-pencil is at vein 4. The whole incision on the hindwing with a strong black marginal line. 21 mm. Arizona.

3. Differing from the 2nd group in a lobe at the costal margin of the hindwing.

rectangularia. **E. rectangularia** Jones (172 c). Brownish ochreous, the costal margin of the forewing darker. Interior line indistinct, extra-angular below the costal margin and at vein 1. Exterior line dark, faded, strongly bent inward behind the cell. Marginal area ochreous, creamy white at the apex, a violettish brown spot at the anal angle. Interior line black, rectangular in the centre of the wing, violettish brown behind it, except in the apical area. Exterior line sharply angled at vein 4. The light apical area is edged dark. ♀ 24 mm. Brazil.

4. Forewing slightly cut out at the distal margin between veins 6 and 4. Hindwing with a feeble dent at veins 7 and 4.

albiocellata. **E. albiocellata** Warr. (171 d). Forewing red-brown and grey without a distinct marking. Traces of a strongly bent exterior line at $\frac{3}{4}$. Distal margin dark in front, a dark spot in the cell. Hindwing bluish grey, somewhat yellowish at the costal margin. Interior line blackish, undulate, interrupted. Exterior line black, angled at vein 4. Cross-vein white. A fine white streak below the lower small tail. Antennae of ♂ serrate. Veins 8 + 9 + 10 of forewing stalked, vein 3 of hindwing far off from 4. ♂ 18 mm. Venezuela.

turbinata. **E. turbinata** Warr. (171 d) is just as insignificant as *albiocellata*. Pale greyish yellow. A narrow greyish brown median band, somewhat broader at both its ends, very narrow in the middle, edged with black, somewhat oblique. Submarginal band marked by dark scales. Hindwing more greyish brown. A bent dark median line. Fine black lunae at the marginal excision. Submarginal line traceable. ♂ 13 mm. Peru.

lignicolor. **E. lignicolor** Dogn. Wings wood-coloured yellow, the scanty marking dark brown. It consists of a marginal spot on the forewing between veins 4 and 6. Besides both wings are traversed by a broad median band, interrupted on the forewing, with a spur branching off at vein 4 of the hindwing, the margin of the hindwing somewhat brownish. Forewing with a hair-pencil at the anal angle. ♂ 20 mm. Colombia.

rufula. **E. rufula** Warr. (171 d). Greyish brown or reddish brown, with a darker median band. The interior border from $\frac{1}{3}$ costal margin to $\frac{1}{3}$ inner margin, extending somewhat inward at the median vein. The exterior one from $\frac{2}{3}$ costal margin to the middle of the inner margin. Distally angled at the median vein. Two black submarginal spots behind the cell. Hindwing with an indistinct dark brown median band. ♀ 20 mm. Ecuador.

bilineata. **E. bilineata** Dogn. Ground-colour reddish. The two lines on the forewing rusty brown. The interior one strongly angled in the cell, then oblique, straight. Exterior line oblique, straight, continued on the hindwing, bent at vein 2, extending to the inner margin. Between these two lines the ground-colour is lilac grey. A few black dots before the margin. Margin of hindwing slightly salient at vein 7, otherwise the species is said to be allied with *rufula*. ♂ 25 mm. Colombia.

E. obliquifascia Dogn. resembles a small *rufula* (171 d). Light reddish brown, the marking brown. Both wings with a joint median band which is broadest at the costal margin of the forewing. This band is traversed on the forewing by a thick straight dark oblique line almost parallel with the distal margin. On the hindwing the band turns darker, yellow striae are at the margin. The excision on the forewing is edged with brown. ♀ 18 mm. Colombia.

E. rectilinea Warr. (171 d). Reddish brown, the lines dark brown. Interior line of forewing from $\frac{1}{4}$ costal margin, bent over at the median vein and to $\frac{1}{4}$ inner margin. Exterior line straight, from $\frac{2}{3}$ costal margin to $\frac{2}{3}$ inner margin, the space between darker brown especially at the inner margin, also at the base of the wing. A faded spot at the margin between veins 4 and 6. Interior line of hindwing slightly bent, the exterior one more bent. ♂ 20 mm. Peru.

E. commixtata Warr. (171 d). Claret-coloured, dusted with black. Median band of forewing red-brown, edged with black. The interior border from $\frac{1}{3}$ costal margin obliquely bent outward, then vertically to the middle of the inner margin. The exterior border almost vertical, slightly excurved at the costal margin to $\frac{2}{3}$ inner margin. Blackish brown before the excision. The median band on the hindwing is much broader, extending almost to the base, edged pale outside. A black spot at the margin between veins 3 and 4. 22 mm. Peru.

E. rostrifera Warr. (171 d). Wood-brown and dark brown, the lines blackish brown. The interior one excurved from $\frac{1}{4}$ costal margin to the median vein, then vertical. The exterior one from $\frac{2}{3}$ costal margin vertical to vein 4, where it forms a feeble angle, concave above the inner margin, edged with light. Black at the margin before the excision. Hindwing paler at the base. Interior line indistinct, notched, light. Exterior line also pale, pointedly projecting at vein 4, bent inward above it and below it. Peru.

E. caesiogrisea Warr. (171 d). Slate-coloured, with dark striae at the costal margin. The lines faded, dark. The first obliquely outward from $\frac{1}{3}$ costal margin, bent to $\frac{1}{3}$ inner margin in the middle. The exterior line from $\frac{3}{5}$ costal margin rather vertical, then slightly inward, ending beside the interior line. A dark shadow from the anal angle to the middle of the exterior line. Argentina.

E. excoria Warr. Forewing grey, with dark striae at the costal margin. The transverse lines fine. The first from $\frac{1}{3}$ costal margin outward, bent in the middle of the wing, then obliquely inward. The exterior line at $\frac{2}{3}$, straight, obliquely inward. A blackish spot in the narrow interspace between veins 4 and 6. A dark submarginal shadow is traceable, the excision edged with brown. On the hindwing the lines are brown, both bent parallel. A few bluish white scales at the distal margin. Beside the excision between veins 7 and 4 of the hindwing there is another one in the submedian fold. The dents and excisions are stronger in the ♀. 18 mm. Mexico.

E. purpurata Dogn. Lilac blackish brown with a few white scales. The interior line on the forewing is hardly traceable, the exterior one reddish, black inside, strongly angled at vein 4. A black luna before the excision. Hindwing with the exterior line likewise angled at vein 4. A black dot at the margin above and below vein 4. The dents at veins 7 and 4 pointed. ♂ 23 mm. Colombia.

5. Forewing more or less cut out at the distal margin between veins 6 and 4, apex obtusely cut off. Hindwing with a dent at veins 7 and 4, a smaller one at vein 5.

E. acutangularia H.-Schäff. (= *praeclorata* Mschlr.) (171 e). Forewing of ♂ greyish brown, ♀ reddish brown. The excision at the margin not very deep. A quadrangular spot in the middle of the costal margin somewhat darker than the ground-colour, a semicircular spot above the middle of the inner margin, both distinct, edged with dark brown. A brownish shadow from the anal angle vertically upward to the costal margin. A straight black line before the excision. Hindwing of ♀ more intensely red-brown, of ♂ greyish brown. Interior line near the base, dark, rounded. Exterior line fine white, sharply angled at vein 4, then extinct to the inner margin. 28—32 mm. Brazil.

E. rubrofasciata sp. n. (172 c). ♂. Similar to *acutangularia* in the wing-contours. Ground-colour light reddish brown. Of the anterior spot only the exterior black border-line is preserved; of that at the inner margin only 2 spots above vein 1. Hindwing with the black interior line extending from $\frac{1}{3}$ costal margin vertically to the lower cell-edge. The exterior one from $\frac{2}{3}$ costal margin, obtusely angled at vein 4, to $\frac{2}{3}$ inner margin. The space between both lines in the anterior part filled with red-brown with 2 white dots. Dark dusting in the submedian fold at the margin. ♀ 26 mm. Bolivia.

E. coelisparsa Dogn. Hindwing angled only at veins 4 and 7. Ground-colour of both wings brownish ochreous, the lines dark brown. Costal margin of forewing dusted somewhat white. Interior line only from $\frac{1}{3}$ costal margin to the base of vein 3, then again as a short oblique streak at the inner margin. Exterior line almost parallel with the distal margin. Submarginal line indicated by white dusting. Interior line of hindwing twice bent, the exterior line excurved between veins 2 and 6. The whole hindwing is strewn with white, especially at the veins. ♂ 24—28 mm. Colombia.

E. ignefumata Warr. (171 e). Dark brown. Interior line of forewing black, from $\frac{1}{3}$ costal margin obliquely outward, from the median vein vertically to the middle of the inner margin. Exterior line from $\frac{3}{4}$ costal margin to $\frac{3}{4}$ inner margin, sharply angled at vein 4, incurved on both sides of the angle. The space between

blackish. Distal margin from veins 6—3 with a black luna. The median band on the hindwing violettish blackish, both the edges sharply angled at vein 4. Blackish at the margin from the apex to vein 4. A black spot at each dent. ♂ 24 mm. Peru.

ignefusa. **E. ignefusa** Warr. (171 d). Wings rusty brown and olive brown, costal margin of forewing paler. The lines indistinct, dark brown. A few near the base. The exterior line angled at vein 4. Somewhat darkened at the excision. The two lines on the hindwing more distinctly, dark brown, both angled in the middle. Between the dents black marginal lunae and a black spot below the lowest dent. The species is said to resemble *E. scabra* (171 f), which is not to be seen in the figure. ♀ 18 mm. Peru.

fulvigrisea. **E. fulvigrisea** Warr. *i. l.* (171 e). Dark rusty brown, veins and margin of forewing dark brown, a black luna before the excision. Two black dots at the costal margin indicate the beginnings of a median and exterior line. Hindwing dark reddish brown, violet at the margin. Lines black, the interior one uniformly bent, the exterior one more bent at vein 4. ♂ 20 mm. South America.

nigricans. **E. nigricans** Dogn. ♂. Wings blackish, lustrous blue, the last quarter at the costal margin and below the apex greyer, reddish at the excision. The two transverse lines only indicated at the inner margin by 2 dots each. Hindwing with 2 blackish brown lines, the interior one bent in the cell, the exterior one at vein 4, both edged with white. The ♀ is browner. Forewing with a blacker median band, the edges of which are faded, twice as broad at the costal margin as at the black dots at the inner margin. 26 mm. Colombia.

The following species show a deeper excision on the forewing.

hians. **E. hians** Fldr. (171 e). Bluish grey. Interior line of forewing thick, black, from $\frac{1}{4}$ costal margin to the lower cell-angle, then finely white, edged with black to the middle of the inner margin, extra-angular above it. Exterior line fine white, undulate, from $\frac{3}{4}$ costal margin to $\frac{3}{4}$ inner margin, slightly excurved at vein 4, broadly edged with black inside. A black submarginal line from the apex to vein 3. Interior line of hindwing black, straight, from $\frac{1}{4}$ costal margin to $\frac{2}{3}$ inner margin. Exterior line fine white, pointedly projecting at vein 4, edged with black inside. Inner margin yellowish. 28—30 mm. Venezuela. — *lucisquamata* Warr. (171 e, f) is mostly less dusted with blue, ground-colour reddish brown. Interior line dark brown, the exterior one double, blackish, filled with red-brown. Blackish between the two lines at the inner margin in the ♀. Both lines on the hindwing red-brown, finely white on the averted sides. 28—30 mm. Peru.

6. Excision on forewing strong, the dent at vein 7 on the hindwing is more salient than the one at vein 4, a projecting lobe at vein 8.

draco. **E. draco** Warr. (171 f). Lilac greyish brown, coarsely dusted dark, lighter at the apex. Interior line dark brown, very obliquely outward from $\frac{1}{3}$ costal margin, very indistinctly from the cell to the middle of the inner margin. Exterior line from $\frac{2}{3}$ costal margin vertically to vein 4, then quite indistinct, removed outward, ending at the inner margin near the anal angle. Hindwing red-brown in the interior two thirds. A yellowish brown faded median and exterior band. Margin lilac grey. 22—24 mm. Bolivia.

scabra. **E. scabra** Warr. (171 f). Rusty red, dusted with lilac grey. The forewing with a greyish yellow spot between the exterior and submarginal lines down as far as vein 5, a series of red lunae behind it at the distal margin. Interior line red, indistinct, from $\frac{1}{3}$ costal margin obliquely outward as far as the cell, then vertically to the middle of the inner margin. The exterior line almost vertically from $\frac{2}{3}$ costal margin, slightly angled at veins 6 and 4, then concave. Hindwing with a darker curved median band, finely edged with light outside. A dark spot at the lower dent. ♀ 22 mm. Peru.

vulpecula. **E. vulpecula** Warr. (171 f) resembles a large pale *scabra*. Light brick-red, dusted dark at the costal margin. A broad lilac grey postmedian band. Transverse lines indistinct, but rather similar to *scabra*. Hindwing still more indistinctly marked. Traces of a light band at the inner margin. A blackish spot below the lower dent. ♀ 24 mm. Peru.

reversata. **E. reversata** Warr. (171 f). Greyish brown, dark oblique streaks at the costal margin, without transverse lines. Distal margin broadly blackish brown. A brown spot traceable at the cross-vein. Hindwing browner, with 5 indistinct dark bands. ♂ 21 mm. Peru.

illota. **E. illota** Dogn. Greyish ochreous, marbled with greenish brown. Interior line bent at the costal margin, more intensely greenish brown, then faded. Besides a similar interrupted exterior line and a marginal line. Cross-vein spotted reddish, before the excision likewise reddish. Hindwing more reddened, the spots forming a straight exterior and submarginal band. ♂ 20 mm. Colombia.

equinata. **E. equinata** Gn. (172 c). Greyish brown, with a slight lilac reflection. Interior line black, from $\frac{1}{3}$ costal margin obliquely outward to vein 2, then vanishing. Exterior line from a black oblique streak beginning at $\frac{2}{3}$ costal margin, bent at vein 4 and parallel with the margin to $\frac{3}{4}$ inner margin. There before it a black semi-circle. The latter and the anterior space between the two lines somewhat darker brown. A brown line before the excision. Both the lines on the hindwing fine black, rectangular in the middle of the wing, the exterior one finely edged with white. Darker between them. 22 mm. Cayenne.

E. columbicolor Warr. (171 g). Forewing yellowish white. The lines very indistinct, brownish. The *columbicolor*. interior one from $\frac{1}{3}$ costal margin from a black spot obliquely outward to the cell, then to $\frac{1}{3}$ inner margin, a round dark spot behind it in the submedian fold. Exterior line from $\frac{2}{3}$ costal margin, excurved, very indistinct, ending in a spot close beside the interior line. A dark shadow from the anal angle upward to vein 4. The excision edged with dark. Hindwing more reddish. The lines rusty brown. The interior one bent, the exterior one curved at vein 4. Rusty brown at the margin between the two dents, a brown spot below it. ♂ 18 mm. Peru.

E. mixtilinea Warr. (171 g). Dark brownish grey, spotted black at the costal margin. Lines black, in- *mixtilinea*. distinct, interrupted. The interior one from $\frac{1}{3}$ costal margin, bent in the middle, indistinct, then vertically to the middle of the inner margin. Exterior line from $\frac{2}{3}$ costal margin to $\frac{2}{3}$ inner margin, interrupted in the middle. A black luna at the excision. Darker at the anal angle. Hindwing with an angular interior line, interrupted in the middle. Exterior line sharply angled at vein 4, marginal area broadly dark. In the figure, however, the two lines are uniformly bent. ♂ 20 mm. Peru. — The presumable ♀ is a little darker. The interior and exterior lines are nearing each other in front as in *draco*, whereupon they extend together fadedly inward, parting at the inner margin semicircularly. On the hindwing the faded interior line is as bent as in the figure of the ♂, the exterior line red-brown inside, whitish outside, slightly angled at veins 5 and 2. Traces of a submarginal shadow. 22 mm. Bolivia.

E. alpina sp. n. (172 d). Reddish brown with a violet shine, costal margin lighter in its exterior part. *alpina*. Interior line dark brown, faded, from $\frac{1}{3}$ costal margin obliquely outward as far as into the cell, then bent inward to $\frac{2}{5}$ inner margin. The exterior line from $\frac{2}{3}$ costal margin to $\frac{3}{4}$ inner margin, slightly inward at the two ends. Black dots behind it at the costal margin. A dark brown line at the margin, slightly stronger at the excision. Hindwing somewhat lighter at the base. Median band broad, straight, bent somewhat inward in the submedian fold, with a black spot there at the interior border, coloured like the median band of the forewing. Lighter again behind it. The margin broadly dark. No dent at vein 6. ♂ 20 mm. Bolivia, 2—3000 m (Garlepp). Type in the Berlin Museum.

E. aequidistans sp. n. (172 d). Forewing ochreous. Interior line dark brown, far excurved from $\frac{1}{4}$ costal *aequidistans*. margin, then inward to $\frac{1}{3}$ inner margin. Exterior line from $\frac{2}{3}$ costal margin somewhat obliquely outward, very indistinct, then parallel with the interior line, but from the submedian fold slightly outward; outside the exterior line is rectilinear, rusty brown, prolonged to the costal margin. The median area somewhat violet. A straight rusty brown line before the feeble excision at the margin, with a black dot above and below. Basal area of hindwing as light as the forewing. Median area as on the forewing. The interior border brown, undulate, straight; the exterior one rusty brown inside, light outside, slightly bent at vein 4. Marginal area somewhat lighter, with a black dot below the lower dent. ♂ 18 mm. Haiti. — We figure the type (in the Berlin Museum).

The following species with long dents at veins 7 and 4 of the hindwing.

E. straminea Warr. (171 g). Apex apparently pointed not truncate, as usual with an excision at the *straminea*. margin. Forewing straw-coloured, somewhat violettish brown at the inner margin. The fine grey lines are edged with brown. The interior one from $\frac{1}{3}$ costal margin to $\frac{1}{3}$ inner margin, extra-angular in the cell and submedian fold. Exterior line from $\frac{2}{3}$ costal margin to $\frac{2}{3}$ inner margin, vertical, only with a feeble outward notch at vein 4. Submarginal shadow brownish, double, indistinct, ending in a violettish black spot at the anal angle. Hindwing paler, browner at the costal margin. The two lines brown, double; the interior one sharply angled at vein 4, the exterior one obtusely, according to the description. According to the figure, however, it is just the reverse, and mostly also the exterior one is more sharply angled. A brown spot at the cross-vein is surrounded with brown. A dark submarginal line from the costal margin to the dent at vein 4. Besides two black dots at the lower dent. ♀ 22 mm. Peru.

E. pallifrons Warr. (171 g). Pale brown, costal margin lighter. Interior line from $\frac{1}{3}$ costal margin to *pallifrons*. $\frac{1}{3}$ inner margin, far outward between, extra-angular at vein 4 and in the submedian fold, dark brown. Exterior line paler, from $\frac{2}{3}$ costal margin, slightly extra-angular at vein 6, more so at vein 4, introangular at vein 2, to $\frac{3}{4}$ inner margin, with a white dot above and below vein 4. Submarginal line black, interrupted, stronger at the excision. Hindwing with a blackish bent interrupted interior line. Exterior line dark brown, sharply angled at vein 4, its anterior part thickly edged with white. Black spots edged white inside are at the margin from the upper dent to below the lower dent. ♀ 25 mm. Peru, Sa. Catharina.

E. dryopterata Grote (171 g). Hindwing straight between the dent at vein 4 and the anal angle. Ground- *dryopterata*. colour dull brownish ochreous. Median band of forewing somewhat darker. Its borders dark brown. Interior line from $\frac{2}{5}$ costal margin to $\frac{2}{5}$ inner margin, strongly excurved between. Exterior line slightly excurved from $\frac{2}{3}$ costal margin, then rather vertically to $\frac{4}{5}$ inner margin, the median area behind the interior line at the inner margin darker. Hindwing with 2 parallel brown lines which are rectangular at vein 4. 20 mm. New York, Alabama.

The following species exhibit a large excision at the distal margin of the forewing, the hindwing being rounded. It is doubtful whether they belong to the *Epiplema*.

E. ocalea Drc. (172 d). Forewing reddish brown, paler at the base. Traces of a median, exterior and *ocalea*. submarginal vertical dark brown band. Hindwing ochreous in the inner-marginal area with dark brown lines, apical area brown. ♀ 20 mm. Guatemala.

carilla. **E. carilla** Drc. (172 d). Forewing pale brown. A dark interior line from $\frac{1}{3}$ costal margin to $\frac{1}{2}$ inner margin, far excurved, and an exterior line from $\frac{2}{3}$ costal margin rather straightly towards $\frac{1}{2}$ inner margin. Hindwing pale yellow, brownish at the base. ♂ 25 mm. Guatemala.

similata. **E. similata** dalla Torre (= *similaria* Schs.) is near *carilla* (172 d). Forewing light brown, dusted somewhat dark brown, inner margin greyish brown. A dark brown line from the costal margin before the middle to below vein 4 near its base, then bent up again to the costal margin. Hindwing brownish grey, dusted with brownish ochre outside, veins 3 + 4 stalked. ♂ 24 mm. Costa Rica.

The following species lack any statements about the shape of the distal margin or their resemblance to other species.

cononaria. **E. cononaria** Schs. Wings grey slightly mixed with brown. Interior line of forewing reddish brown, excurved, touching a small brown spot below the costal margin. A large dark brown spot close behind the cell. Exterior line reddish brown, thicker at the costal margin, slightly incurved. A submarginal red-brown shadow from the apex to vein 4. Hindwing darker. Interior and exterior lines more formed of spots. Median area with blackish brown streaks which are also behind it, though not at the distal margin. 17—21 mm. Costa Rica.

lustrata. **E. lustrata** Schs. Forewing light grey, slightly dusted with black. Median line thin, light reddish brown, excurved. Exterior band reddish brown from the costal margin to vein 5, then darker grey, edged with reddish outside, reddish below vein 2, broadly edged with blackish brown, fused with the median line. A dark submarginal shadow from vein 3 to the anal angle. Reddish brown before the excision below the apex, inwardly edged with black. Hindwing greyish white at the base and inner margin, the rest reddish brown. Median line dark brown, from vein 3 to the inner margin. Exterior line angled between veins 3 and 4, white on a brown ground, brown at the inner margin. A black marginal dot below vein 4. ♂ 20 mm. Costa Rica.

chremesaria. **E. chremesaria** Schs. Forewing dark brown as far as the exterior line, hued with steel-blue, the lines brown. Median line angled at vein 4, edged with white inside from the cell to the inner margin. Exterior line edged with white outside. Distal margin light brown with a dark brown marginal and submarginal shadow. Dark brown marginal spots above and below vein 5. Hindwing similar, dark brown at the margin. Interior line bent down to the middle of the inner margin, exterior line excurved between veins 3 and 4, edged with white outside. Anal angle grey with brown streaks. Vein 5 of forewing arises somewhat deeper than usual. ♀ 24 mm. Costa Rica.

We append here a number of species described by WALKER, which are not in the British Museum, so that it cannot be decided to which of the numerous genera of the *Epiplemidae* they belong, or whether they are *Epiplemidae* at all and not partly *Geometridae*. We arrange them according to the shape of the distal margin.

1. Forewing pointed, distal margin bent. Hindwing without notches or indentations.

subtruncata. **E. subtruncata** Wkr. Greyish red, wings somewhat narrow. Forewing with some fine undulate reddish yellow lines which are edged with pale greyish yellow. Submarginal line pale greyish yellow, interrupted, connected in front with a black apical streak, cross-vein black, the lower part at the distal margin very oblique. Hindwing with more indistinct lines, the distal margin truncate at the apex. ♂ 25 mm. Brazil.

integrata. **E. integrata** Wkr. Forewing also pointed. Pale greyish reddish yellow, wings rather broad, dusted with blackish. Submarginal line brownish ochreous, indistinct, parallel with the margin, edged with faded blackish on the hindwing. Marginal line silvery white with black dots. ♀ 28 mm. Amazons.

2. Hindwing with a small indentation at the margin, forewing without an indentation, pointed at the apex only in the two first species, rounded in the others.

quadruncata. **E. quadruncata** Wkr. Greyish yellow, wings broad, finely dusted with black. Interior and exterior lines brown, indistinct, the interior line slightly bent. Exterior line oblique, almost straight, edged with pale grey outside, angled above the inner margin on the forewing, where it is edged with greyish yellow outside. A black dot at the cross-vein. Hindwing violettish grey before the margin. Distal margin of hindwing slightly excavated in front. ♀ 45 mm. Brazil.

oblivaria. **E. oblivaria** Wkr. Whitish, scantily dusted with black, fine black streaks at the distal margin. Forewing with a black spot at the cross-vein, exterior line reddish yellow, angled, costal margin strongly bent, distal margin straight. Hindwing with a blackish, strongly angled exterior line, the margin excavated near the anal angle. ♂ 20 mm. Venezuela, Brazil.

distincta. **E. distincta** Wkr. Wings rusty red, rather narrow. Forewing with a black dot at the cross-vein, with an oblique brown line outside. Close behind it a rusty red line with an irregular exterior edge; submarginal line rusty red. A black dot at the costal margin at the base and before the middle, also a black subapical spot. Hindwing with a rusty red band at the distal margin which is somewhat excavated in front. ♀ 20 mm. Brazil.

E. oppositata Wkr. Greyish brown, wings oblong, partly somewhat browner. Forewing with an exterior *oppositata*. row of black dots which are more distinct at the costal margin. Marginal dots black, costal margin straight, distal margin convex. Hindwing with blackish spots and a strongly bent white line. Distal margin hollow in the middle. ♀ 22 mm. San Domingo.

E. demptaria Wkr. Pale greyish brown and reddish brown, with 2 fine bent reddish brown lines, the *demptaria*. forewing with a straight costal margin, distal margin slightly convex. Hindwing with two pointed dents, with two black submarginal dots below the lower dent, a black streak at the cross-vein and two near the apex at the costal margin. ♀ 22 mm. Venezuela.

E. subpatulata Wkr. Brownish white, irregularly spotted rusty red. Forewing with blackish spots at *subpatulata*. the costal margin near the base. Two oblique straight rusty red lines from the costal margin to the centre of the wing. A rusty red spot at the inner margin, corresponding to the interior line of the hindwing. Hindwing with two indentations and 2 sharp dents, a jet-black spot at the second dent, with 2 rusty red lines, the interior one shortened in front, the exterior one behind. ♀ 22 mm. Brazil.

3. Forewing with an excision at the distal margin.

E. chalybeata Wkr. Brown, dusted with black. Interior and exterior lines blackish, zigzag, pale-edged. *chalybeata*. Forewing very pointed, distal margin hollow in front, feebly angled in the middle. Hindwing with a submarginal black line, distal margin feebly angled. ♀ 22 mm. Brazil.

E. ferraria Wkr. Rusty yellow, dusted black, with 2 indistinct bent lines of black dots, submarginal *ferraria*. line black, interrupted. Forewing with a long black spot at the cross-vein, distal margin shaped as in *chalybeata*. Hindwing with a small dent at the middle of the margin, truncate beside it. ♀ 17 mm. Brazil.

E. subsignaria Wkr. White, finely dusted with black, distal margin with black dots. Forewing with a *subsignaria*. brown median band, irregular, incomplete, forming a bow at the inner margin. Hindwing with an incomplete brown median line, with two short blunt dents at the margin. ♀ 17 mm. Brazil.

E. lacerataria Wkr. Reddish yellow, scantily dusted with black. Interior line black, extra-angular, *lacerataria*. interrupted. Submarginal band brown, faded, far interrupted on the forewing. Exterior line of forewing rusty yellow, undulatingly edged with grey, with a white dot outside behind the cell, with black dots at the inner margin. A bent black streak at the deep indentation at the distal margin, exterior part of the inner margin hollow. Hindwing with 3 sharp dents at the rusty yellow distal margin, a black eyespot behind the lowest dent. Exterior line black, edged with white outside, angled. Costal margin excavated in the middle and at the apex. ♀ 26 mm. Amazons.

E. parvaria Wkr. Ash-grey, somewhat reddish yellow. Wings pointed. The lines reddish yellow, fine, *parvaria*. dentate, oblique. Forewing with black costal-marginal dots, distal margin reddish yellow at the excision with white streaks. Hindwing with a black spot at the end of the reddish yellow streak, exterior line partly edged with black. ♀ 17 mm. Amazons.

E. proclivaria Schs. Similar to *lacerataria*. Body and wings brown. Forewing with a few dark streaks *proclivaria*. in the basal area. Median line dark brown, excurved in the middle, almost angular at vein 4. The exterior line is a blackish brown shadow, bent inward, edged with dark brown outside, excurved below vein 2, and edged outside with a white line. A white spot behind it above vein 4, and a small blackish brown marginal spot above vein 5. Hindwing paler at the inner margin. Interior line excurved, dark brown. Exterior line dark brown, finely edged with white outside. Distal margin projecting between veins 6 and 7. ♀ 30 mm. Costa Rica.

30. Genus: **Thysanocraspeda** Warr.

A subordinate group of *Epiplema*, which it resembles in the neurulation and the marking of the wings. It consists of 9 species all of which are known from Peru and Colombia bordering on it. The forewing is slightly cut out at the margin, the hindwing is strongly dentate at vein 7, mostly less dentate at vein 4. The ♂ shows a hair-pencil at the inner margin of the hindwing, with a groove between vein 1 and the cell, mostly containing flour-like scales. For the ♀ alone it is thus not easy to decide whether they are to be included here or in *Epiplema*. Type: *semicastanea* Warr.

Th. nudata Warr. (171 g). Greyish yellow. An indistinct median band on the forewing with puncti- *nudata*. form black edges at the costal and inner margins. Feebly darker at the excision. Hindwing somewhat browner, grey at the inner margin, the pencil at the inner margin yellowish. Black dots above the middle of the inner margin. Both wings have no coarse hair at the anal angle as in *inornata*, but there are rusty brown scales in the fold on the hindwing as in *geminipuncta*. ♂ 19 mm. Peru.

Th. inornata Warr. (171 g, h). Forewing dark brownish grey, a brown luna before the excision. The *inornata*. ♀ shows traces of a darker median band the outer edge of which is rather vertical, with an outward dent at the median vein, the inner margin is slightly bent. Coarse scales at the anal angle, extending also inward below vein 2 which is bent downward. Hindwing almost uniformly dark grey, a median band is scarcely traceable.

The ♂ hindwing shows grey coarse scales in the groove and below vein 2, the pencil at the inner margin is pale yellow. 16 mm. Peru.

- vermiculata.* **Th. vermiculata** Dogn. Ground-colour grey with black scales. Interior and exterior lines of forewing indicated by red and black scales, black scales before the excision. Exterior line of hindwing rounded, indicated by a few red scales, a straight row of streaks behind it on the veins. ♀ 16 mm. Colombia.
- intervenata.* **Th. intervenata** Warr. (171 h). Wings of ♂ greyish yellow, of ♀ greyish brown, lighter at the apex of the forewing. Interior line at $\frac{1}{3}$ of the length of the wing strongly excurved below the middle, edged with dark outside at the costal and inner margins. Exterior line at $\frac{2}{3}$, vertical as far as vein 4, then incurved, forming a truncate dent. Median area somewhat darker. Hindwing the same, besides lighter at the cross-vein. 18 to 22 mm. Bolivia.
- fulvitincta.* **Th. fulvitincta** Dogn. Grey, feebly strewn with black. Interior and exterior lines of forewing indicated above the inner margin by brown dots, at the costal margin by brown scales, in the middle by reddish yellow dusting. The two lines approach each other at the inner margin. Reddish yellow dusting before the excision, edged with black inside. On the hindwing both the lines are indicated by reddish yellow dusting. ♀ 18 mm. Colombia.
- geminipuncta.* **Th. geminipuncta** Warr. (171 h). Pinkish brown, also violettish brown, the median band darker. Interior line of forewing from $\frac{1}{3}$ costal margin to $\frac{1}{3}$ inner margin, projecting far obtusely at the median vein. Exterior line from $\frac{2}{3}$ costal margin, extra-angular in the middle, then inward as far as the submedian fold, outward below the latter. Both lines above the inner margin with black spots, intensified at the costal margin. Dusted dark at the anal angle. Hindwing of the same colouring, the angled band continuous as far as the inner margin, its exterior edge introangular at vein 2. Hindwing of the ♂ beneath with large rusty brown scales in the groove, grey scales behind them and also at vein 2 as in *squamiplaga*. 18—20 mm. Peru, Bolivia. — The name *intervenata* Warr. may only refer to pale specimens of this species.
- ochodontaria.* **Th. ochodontaria** Sn. Yellowish red. Forewing dark greyish brown in the middle, with a blackish brown luna at the distal margin. Hindwing with a broader median area, with yellow hairs at the inner margin. WARREN thinks it possible that his *squamiplaga* resembles *ochodontaria* the description of which is difficult to understand. I myself rather think that *geminipuncta* might be synonymous with *ochodontaria*. The latter is said to have an expanse of 24 mm. thus much larger than all the normal species of *Thysanocraspeda*, but the marking is rather similar in *ochodontaria* and *geminipuncta*, the dots are very indistinct also in my specimens of *geminipuncta*. ♂ 24 mm. Cucqueta.
- The two last species are somewhat less scantily marked.
- semicastanea.* **Th. semicastanea** Warr. (171 h). Ground-colour greyish white, the marking light red-brown. The forewing shows the interior border of the median band strongly extra-angular at the median vein, then obliquely inward, the exterior border rather vertical. Behind it, at some distance, a faded greyish brown band. A broad luna before the excision. Hindwing with an almost straight interior line and a slightly bent exterior line. Behind the interior line the whole space above vein 3 is red-brown. The pencil at the inner margin grey. 21 mm. Peru.
- squamiplaga.* **Th. squamiplaga** Warr. (171 h). Very pale brownish grey, the marking darker red-brown than in *semicastanea*. Interior line of forewing slightly excurved from the middle of the costal margin, then inward to $\frac{3}{5}$ inner margin. Exterior line somewhat concave between $\frac{3}{4}$ costal margin and vein 6 as well as between vein 4 and $\frac{2}{3}$ inner margin. In the anterior part the median area is incompletely filled with red-brown. A red-brown luna at the excision. A tuft of grey hair at the anal angle. Hindwing nut-brown, grey only at the base and in the submedian fold. The bent median band is somewhat darker, very indistinct, edged by a pale line outside. ♂ 21 mm. Peru.

31. Genus: **Erosia** Gn.

Contours of forewing as in *E. acutangularia*. Neuration of forewing almost exactly the same as in that species, but vein 5 arises a little farther from 6 + 7. Veins 3 + 4 and 6 + 7 of hindwing stalked, the stalk of 6 + 7 short, 5 less strong, close at vein 6. The inner margin of the ♂ exhibits a broad turned down edge with scent-hair on the upper surface. Veins 3 + 4 of the ♀ are also only short-stalked. In accordance with WARREN, only 1 species is ranged here, the other *Erosia*-species described by older authors are now mostly placed to the genus *Epiptema*.

- incendiata.* **E. incendiata** Gn. (♀ = *birostrata* Gn., *furcillata* Fldr.) (171 h, i). ♂ ground-colour reddish brown. Interior line from $\frac{1}{4}$ costal margin horizontally to the base of vein 5, thick, dark brown, after this more finely inward to $\frac{2}{5}$ inner margin. Exterior line from $\frac{2}{3}$ costal margin obliquely to vein 4, where it shows white dots, then light on, inward as far as vein 2, outward below it. The median area below vein 2 darker. The interior and exterior lines on the hindwing strongly angled, radially in the middle intensely rusty red, the inner margin yellowish white. The ♂♂ seem easily to become oily. ♀ forewing as in the ♂, but the exterior line is fine, light,

the median band slightly darker. On the hindwing the two lines are more distinct. The interior one slightly, the exterior one very strongly projecting at vein 4. Basal area and the space behind the median band lighter than the latter. 30—45 mm. Mexico to Brazil. — *veninotata* Warr. (171 i) is scarcely different.

32. Genus: **Capnophylla** Warr.

Proboscis short, palpi thin, somewhat erect, antennae of ♂ plain, tegulae long. Forewing triangular, apex very round, with a small scent-spot at the inner margin at the base. Veins 2, 3 and 4 near the lower cell-angle, 5 above the middle of the cross-vein, 6 and 7 from the upper cell-angle, 8 + 9 and 10 + 11 stalked. Hindwing of ♂ almost square. Inner margin beneath with a fold for long hairs, above at the edge with erect scales. Of the veins only 6—8 are preserved. Only 1 species.

Cap. albiceps Warr. (= *castraria* Jones) (172 d). ♂ forewing olive brown, lighter at the costal margin. *albiceps*. Median line rusty brown, dark brown outside, from the inner margin somewhat outward to the lower cell-angle, then bent inward. A white dot before it in the cell-end. Exterior line rusty brown, edged with dark brown inside, bent inward at the costal margin, otherwise parallel with the distal margin, broadly faded white behind it. Hindwing olive brown, greyish-brown in the anterior half. Interior line rusty brown, only at the costal margin. Median line angled in the centre of the wing. A few years later, also the ♀ was described by WARREN. Forewing dark chocolate brown, paler at the costal margin. The two lines darker, especially at the inner margin. Interior line strongly excurved in the middle, exterior line extra-angular above the middle at veins 6 and 4, sharply inward in the submedian fold. A black line before the margin. Hindwing lighter. Interior line dark, undulate, with a white spot at the costal margin. Exterior line fine white, bent, a dark brown shadow before it, with white scales outside at the inner margin. A long dent at veins 4 and 7 at the distal margin, a short one at vein 6. 20—23 mm. Brazil. A ♂ from the Senckenberg Museum is much darker and, owing to the indistinct marking, not so well fit for being figured as the light type. The ♀, likewise from the Senckenberg Museum, differs rather much from the description quoted above. The lines on the forewing are still more indistinct than in the ♂. On the somewhat lighter hindwing both the lines are dark, bent parallel, the exterior one from $\frac{2}{3}$ costal margin to $\frac{3}{4}$ inner margin. And the main difference is the hindwing being so uniformly rounded that it is not probable that dents have been shed. Thus, in general, the ♀ figured by us fits much better to the ♂ than the ♀ described by WARREN.

C. semibrunnea Dogn. Forewing brown, intensely dusted with black, dusted somewhat red-brown in *semibrunnea*. the middle, besides a broad red-brown submarginal band. Hindwing red-brown with a bent fine interior and exterior line. ♀ 18 mm. Guiana. It is possible that it is a small *albiceps*-♀ from my point of view, not WARREN's.

33. Genus: **Philagraula** Hulst.

Palpi thin, obliquely held, antennae flattened. Forewing with a round apex, distal margin straight. Veins 3 and 4 near the lower cell-angle, 5 near the upper angle, 6 + 7 and 8 + 9 stalked. Veins 3 and 4 of the hindwing from the lower angle, 6 and 7 from the upper angle. Costal margin with a projecting lobe at the base. Distal margin with dents at veins 4, 6 and 7. Only 1 species.

Ph. slossoniae Hulst. Wings violettish brown, more brownish ochreous in the interior halves. Forewing *slossoniae*. with traces of 2 fine basal lines. A broad triangular blackish spot at the middle of the costal margin, its apex extending downward $\frac{1}{3}$ of the width of the wing. An opposite spot at the inner margin extends to $\frac{1}{4}$ upward, both being edged with a deeper black. A dark marginal spot from below the apex to the middle of the distal margin. Hindwing with a jet-black spot at the base in front. Median line reddish brown, edged with brownish ochre outside. ♂ 25 mm. Florida.

Genus: **Powondrella** dalla-Torre.

P. cingillaria Geyer. The original figure seems to me to be an *Epiplema nigrocapitata* Sn., but without having a reliable specimen nothing definite can be said about it.

34. Genus: **Symphytophleps** Warr.

Forewing oblong, apex truncate, distal margin very oblique, inner margin excurved at the base, anal angle rectangular. Vein 2 far before the cell-angle, 3 + 4 on a long stalk, 5 from the middle of the cross-vein, 6 and 7 from the upper cell-angle, 8 + 9 on a long stalk, 10 on a short stalk with them. Hindwing cut out in the middle, projecting far at veins 7 and 6, with short dents. Vein 2 far basad, 3 + 4 on a long stalk, 5 from the middle of the cross-vein, 6 and 7 from the upper cell-angle, 8 excurved at the base. Only 1 species.

S. latifascia Warr. (171 i). Greyish yellow with blackish lines. Interior line of forewing thick, far ex- *latifascia*. curved from $\frac{1}{4}$ costal margin, forming a spot there, then to $\frac{1}{3}$ inner margin, parallel with the distal margin. Exterior line somewhat excurved from $\frac{3}{4}$ costal margin, then to $\frac{4}{5}$ inner margin, blackish brown between the

two lines at the inner margin. On the hindwing the dark interior line extends from $\frac{1}{4}$ costal margin almost to the middle of the inner margin, bent inward below the cell. A black spot at the upper cell-angle. Exterior line undulate, uniformly and far excurved. The space between them darker. The ♀ shows an almost blackish ground-colour, the forewing is faded yellowish brown only in the middle before the curve of the interior line. Median area of hindwing black, the marginal area dark rusty brown. The beginnings of the two transverse lines at the costal margin of the forewing are very indistinct in the ♂ and ♀. 35—40 mm. Peru, Colombia.

35. Genus: **Antiptecta** Warr.

Palpi short, antennae flattened. Forewing with a straight costal margin, the apex rounded. Vein 5 almost from the middle of the cross-vein, 6 + 7 on short stalks, 8 + 9 stalked, 11 anastomosing with 12. Costal margin of hindwing strongly bent forward, veins 6 and 7 from the upper cell-angle, the other veins hidden in the fold at the inner margin containing a hair-pencil. There are no statements about the neurulation of the ♀ which, of course, has not this fold. Type: *pusilla* Warr. The 7 species belonging to this genus are small and of a dark colouring.

caesia. **A. caesia** Warr. Blackish slate-coloured, the lines darker. The interior line of the forewing excurved in the middle, the exterior one excurved in front, inwardly angled in the submedian fold, where it approaches the interior line, then excurved again. A black spot at the inner margin between the two lines. A black line at the distal margin from the apex to vein 4. Both the lines on the hindwing black, bent, the median area darker than the rest, the exterior line edged light. Hindwing of ♂ and ♀ dentate at veins 7, 6 and 4, the fold in the ♂ with white hairs. 16 mm. Mexico.

cinerascens. **A. cinerascens** Warr. (173 a). Greyish yellow, the ♂ paler. Distal margin of forewing somewhat reddish. Interior line at $\frac{1}{3}$, extra-angular at the median vein. Exterior line from $\frac{2}{3}$ costal margin obliquely outward as far as vein 6, then vertical as far as vein 2, then undulate to $\frac{3}{4}$ inner margin, median band dark brown. In the ♀ this band is complete, in the ♂ narrower below the middle and interrupted. Black dots in front at the distal margin. Interior line of hindwing extra-angular in the middle, the exterior line from $\frac{3}{5}$ costal margin to the anal angle, bent between. The lines on both wings brown, edged with light. The ♂ shows the angle of the interior line filled with reddish grey. Hindwing of ♂ concave between veins 3 and 4, the ♀ with small dents at veins 7—3. Hair-pencil of ♂ pale ochreous. 16 mm. Cayenne.

pusilla. **A. pusilla** Warr. (172 d). Similar to *cinerascens*. Greyish brown. Forewing darker at the costal margin, the marginal third somewhat lighter. Exterior line strongly excurved above the middle, then inward to vein 2, then vertical. Interior line very indistinct, at $\frac{1}{3}$, obtusely introangular in the middle. Black dots before the margin. Hindwing only with a rusty brown exterior line, from the middle of the costal margin to $\frac{3}{4}$ inner margin, where it is broader. The fold grey with a black spot. A fine dent at veins 7 and 6. ♂ 15 mm. Dominica.

ineptaria. **A. ineptaria** Mschlr. (172 e) is a simplified *cinerascens*. Forewing dark brown with a violet reflection. As to the marking only the rest of an exterior yellow line vertical on $\frac{3}{4}$ inner margin is recognizable, extending to vein 2. Hindwing dark reddish brown. Exterior line light, straight, from behind the middle of the costal margin towards the anal angle, bent over to $\frac{3}{4}$ inner margin in the submedian fold. ♂ 16 mm. Portorico, Haiti.

clipearia. **A. clipearia** Schs. Wings light brown, dusted dark. Costal margin of forewing dark grey as far as the exterior line. A dark brown line from before the middle of the costal margin outward as far as below vein 3, then bent up again to the costal margin, where it turns slightly inward, edged with greyish white outside in the upward bend. A correspondingly bent line at the inner margin, its interior space darker. A black undulate line at the margin, with greyish white streaks inside. Hindwing broadly greyish black in the middle, bordered outside by a brown line which has white streaks outside. A pale brown shadow at the inner margin before the brown interior line. Grey and white streaks at the margin. Veins 6 and 7 on forewing arise from the same place. ♂ 15 mm. Costa Rica. Later on *clipearia* was declared by SCHAU to be identical with *nigripleta* Warr., but the description is very different.

nigripleta. **A. nigripleta** Warr. Greyish flesh-coloured, the marking similar to *cinerascens* ♂. Base of forewing pale, the exterior edge of the median band more distinctly light-edged. Hindwing with a less bent exterior line, the basal area before it blackish, except at the inner margin. ♂ 15 mm. Mexico.

triangularis. **A. triangularis** Warr. Stone-grey, dusted darker. The lines on the forewing fine, blackish, the interior line extra-angular in the middle, the exterior one angled at veins 6 and 3, often a dark shadow before it. Median area at the inner margin dark. A dark submarginal shadow at the costal and inner margins, and a fine black marginal line in the anterior part. Exterior line of hindwing bent, blackish before it, the interior line very fine. A grey submarginal shadow. Hindwing of ♂ concave before the fold which contains yellow mealy scales, in the ♀ the margin is dentate at veins 7, 6 and 4. 15 mm. Mexico.

36. Genus: **Dirades** Wkr.

Nearly all the *Dirades* are very small lepidoptera which do not differ much from the real *Epiplema* in their shape and colour. Only very few, but among them the typical species, have become known from Africa, and the geno-type *theclata* has been figured in Vol. XIV, pl. 67 h. More than 30 forms are Indo-Australian,

and a large number of species occur especially in Ceylon and the Sunda Is.; more than a dozen forms have been reported from Ceylon alone. Only two American species occur in the genus as it is comprehended here, a very tiny one the smallness of which is only excelled by *Epipyropidae*, and a larger one which is rather unicoloured sooty blackish brown. — Palpi erect, reaching the frons. Wings broad. Vein 5 of forewing below the upper cell-angle, somewhat higher than in the preceding genus, all the other veins the same. Hindwing typically with small points at veins 7 and 4. Vein 5 from the middle of the cross-vein, 6 and 7 from the upper cell-angle or on a short stalk. ♂ with a fold and hair-pencil at the inner margin beneath. Type: *theclata* Gn. from Africa and India. *Dirades* is one of the few genera occurring in several faunae.

D. infans Warr. (172 e). Wings lilac grey, dusted darker. Median band of forewing brownish, thickly edged with dark brown. Interior line at $\frac{1}{3}$, uniformly bent, the exterior line from $\frac{3}{4}$ costal margin, outward as far as vein 6, then vertical to vein 4, bent inward in the submedian fold. A dark shadow behind it at the costal margin and anal angle. Black dots before the margin. Hindwing similar. Both the lines bent, marginal area silvery grey, a black dot before the lower dent. Inner margin of forewing excurved at the base, hollow behind the middle. Hindwing with a dent at vein 4, smaller ones at 6 and 7. ♀ 12 mm. Jamaica.

D. erebata Warr. (172 e) has the neurulation of *Dirades*, but it looks quite different. Brownish black. A black line at the cross-vein of the forewing, a white spot before it. Exterior line pale, edged darker inside, from $\frac{4}{5}$ costal margin somewhat outward, from veins 6—2 vertical, then inward almost to the anal angle. The hindwing has a dark bent exterior line, with rusty brown scales behind it and pale spots between the veins. Inner margin and fold white, the hair-pencil brownish ochreous. ♂ 23 mm. Peru.

37. Genus: **Gathynia** Wkr.

This genus has also been differently defined by the various authors. It occurs especially in the Indo-Australian Region, from where 16 forms are known; only 1 species is known from Africa and 6 from America. In the Old World, however, its distribution is enormous, extending even to the remote South-Sea Islands, and one form (*fasciaria* Leech) is said to reach also the palaearctic region in Corea. All the species are small. — Palpi thin, obliquely raised, antennae flattened. Forewing broad, entirely margined. Veins 5, 6 and 7 close together or 6 + 7 on a short stalk, 8 + 9 and 10 + 11 stalked. Hindwing concave at the costal margin in the middle, with a hair-tuft at the base and apex. Distal margin somewhat dentate at veins 7, 6 and 4, ♂ with a fold and hair-pencil at the inner margin. Neurulation of hindwing normal. Type: *misaria* Wkr. from India. Nearly all the American species resemble *dilacerata* Gn.

G. dilacerata Gn. (172 e). Forewing greyish yellow, more densely dusted dark in the anterior half, with transverse rows of dark brown spots. Hindwing blackish, whitish at the apex, yellowish at the inner margin. Three black spots at the apex. Short dents at veins 7, 6 and 4. 20 mm. Cayenne.

G. biocellata Warr. (172 e). Forewing dull greyish brown, strewn with dark. The only marking consists of 3 small black spots below the apex, the margin is narrowly brown from the apex to vein 5. Hindwing blackish. Interior line near the base, black, bent. Exterior line double, roundly bent forward in the centre of the wing, with black spots inside, edged light outside. Two white dots at the cross-vein. Black lunae at the dents. A hyaline spot at the base with black marginal streaks. ♂ 16—18 mm. Peru, Bolivia.

G. cassata Warr. Reddish grey, more brownish ochreous towards the apex. Costal-marginal area excepting the apex as far as the middle of the cell grey with brown spots. From $\frac{4}{5}$ costal margin a grey undulate line extends vertically to vein 6, where it is interrupted, at $\frac{3}{4}$ inner margin as a double black line filled with brown. Paler behind it, blackish brown only at the anal angle. Black dots before the margin. On the hindwing the apical area above vein 6 and the inner margin are pale straw-coloured. The two lines angled in the middle, the interior one black, the other one light brown. A brownish ochreous spot at the upper cell-angle. Brown and blackish brown scales from the costal margin to vein 2. Black lunae at the margin from veins 7 to 4, brown scales before them. ♀ 21 mm. Mexico.

G. ochripennis Warr. Greyish brown, brownish ochreous at the apex, costal margin spotted light and dark. A double grey undulate line from $\frac{3}{4}$ costal margin to the cell, then interrupted and as a double brown streak at the inner margin, the sides of it, however, not parallel as in *cassata*. A short greyish yellow band behind it. Anal angle dark grey. Hindwing marked as in *cassata*, but the light places ochreous, somewhat grey. A spot between veins 4 and 5 before the margin, a small cellular spot and one at the costal margin before the apex purely yellow. ♀ 24 mm. Mexico.

G. latonaria Schs. Wings rusty brown. Forewing broadly dark grey at the costal margin. Interior line fine brown, extra-angular at vein 4, forked at vein 2 and enclosing a broad dark spot at the inner margin. Exterior line dark brown, excurved, united with the interior line below vein 2. Blackish dusting at the margin and before it. A small black spot at the apex, and one below it. Hindwing scantily dusted with black, the lines

dark brown. The interior one twice excurved, the exterior one incurved, edged with white scales outside. Margin narrowly dark, with a black spot below vein 4. Veins 10 and 11 of forewing not stalked. ♀ 18 mm. Costa Rica.

orbiferata.

G. orbiferata Warr. (172 e) in the shape of the wings and in the marking does not resemble the other species of *Gathynia*. Forewing dark violettish brown. A bent dark median line is traceable. Exterior line at $\frac{3}{4}$ costal margin, dark brown, excurved as far vein 6, then parallel with the margin, somewhat inward below vein 2. Hindwing reddish brown, with a dark bent median line. Hindwing rounded at the distal margin, without dents. ♀ 19 mm. Peru.

38. Genus: **Gymnoplacia** Warr.

Similar to *Dirades*, but there is no hair-pencil in the fold of the ♂ hindwing, but a short hair-tuft at the base at the inner margin. A large hyaline spot in the base of the cell, the costal margin slightly undulated, without hair. Vein 11 of forewing nearing 12 as in *Epiplima*, but not fused with it. Only 2 species.

brevicens.

G. brevidens Dogn. (172 f) is somewhat similar to *Ep. acutangularia* (171 e), but smaller, and the forewing almost lacks the excision, on the hindwing the dent at vein 7 is not longer than the one at vein 4. Greyish yellow, strewn with black scales. Forewing with 2 large spots opposite to each other, edged with dark brown, filled with violet. A violet shadow at the anal angle, brown at the margin between veins 6 and 4. Hindwing with 2 sharply angled lines, the interior one less distinct. A black spot at the margin between veins 3 and 4. 22—24 mm. Venezuela.

anodontia.

G. anodontia Dyar has been described as an *Epiplima*, but as it is compared with *brevicens* (172 f), we place it here. Wings grey with a brown reflection. Interior and exterior lines of forewing interrupted and transformed into a large triangle at the costal margin, as well as a thick bow at the inner margin. A straight dark line is at the margin between vein 3 and the apex. Lines of hindwing irregular, bent parallel. 18—20 mm. Described according to a couple from Costa Rica and Mexico.

39. Genus: **Neodirades** Warr.

Little different from the genus *Dirades* Wkr. which is chiefly distributed in the Old World. Vein 11 of forewing strongly fused with 12, vein 5 arises a little above the middle of the cross-vein. A small scent-spot below vein 1 near the base in the ♂ and ♀. In the hindwing of the ♂ the inner margin is folded, and there is no hair-pencil in the groove. Only 1 species, in the marking quite different from *Dirades*.

spurcata.

N. spurcata Warr. (172 f). Light greyish brown, the median band somewhat darker, twice as broad at the costal margin as at the inner margin, broadly edged with white. An interrupted black line from the apex to the anal angle. Hindwing of ♀ similar to the forewing. In the ♂ the whole hindwing is white above vein 5, with a dark exterior line in it. The inner-marginal half is blacker. 15—17 mm. Peru.

40. Genus: **Neoplema** Warr.

The only species looks like an *Epiplima*, the neurulation is also similar. Veins 3 + 4 and 6 + 7 of the hindwing, however, rise on short stalks. The main difference consists in the antennae showing one row of pectinations.

candidata.

N. candidata Warr. (172 f). Yellowish white, densely dusted with brown. Interior line of forewing marked by three black dots, vertically below each other as far as into the submedian fold, besides a dot at the upper end of the cross-vein. Exterior line marked by a bent row of spots. A spot below the costal margin, two at veins 4 and 2 at the inner margin, the last 4 uniform, edged with rusty brown inside. A bent black line before the excision, a few brown spots before the margin. Hindwing with a blackish indistinct interior line. Exterior line white, edged with brown inside, straight as far as below vein 4, far outward, then dentate to $\frac{2}{3}$ inner margin. A few spots behind it at the costal margin and 2 below the lower dent. ♀ 20—22 mm.

deruptaria. Peru, Bolivia. — **deruptaria** Dyar (i. l.) (173 a). Lines only indicated yet by small shadowy spots. Mexico.

41. Genus: **Notoptya** Warr.

Also similar to *Epiplima* in the neurulation. Vein 5 of forewing arises a little below the upper cell-angle. In the ♂ the distal margin extends at vein 2 inward on $\frac{1}{3}$ its length parallel with the costal margin, the inner margin projects towards the base in a lobe. The distal margin is concave behind the cell. Only 1 species.

fuscularia.

N. fuscularia Warr. Reddish yellow with dispersed dark scales. Lines of forewing fine. Interior line indistinct, extra-angular in the middle. The exterior line from $\frac{2}{3}$ costal margin vertical to the middle, then obliquely inward, parallel with the interior line. Marginal area paler, a dark spot at the anal angle. 4 black dots in front at the distal margin. Hindwing with a bent exterior line and traces of an interior line. Two black dots before the dents. ♂ 14 mm. Brazil.

42. Genus: **Nyctibadistes** Warr.

Similar to *Gathynia*. Forewing entirely margined. Veins 2 + 3 stalked, 4 close beside from the lower cell-angle, 5 from above the middle of the cross-vein, 6 and 7 from the upper cell-angle. 8 + 9 and 10 + 11 stalked. A large scent-spot at the base in both sexes. Hindwing somewhat angular at vein 7, anal angle somewhat lobate in the ♂, vein 2 terminating into it, anal angle only humped in the ♀. Type: *informis* Warr.

N. informis Warr. (172 f). Reddish brown. Forewing with an indistinct brown median line. Exterior *informis*. line dark brown, at $\frac{3}{4}$ of the length of the wing, uniformly bent. Brown dots before the margin. Hindwing similar, the median line strongly excurved below the cell. Both wings with an indistinct cellular spot. 13 mm. Peru. — Without our figure the ♂ cannot be recognized from this description which is to refer to both sexes.

N. nigrata Warr. (172 g). Forewing dull black. Cellular spot deeper black. Three black dots before *nigrata*. the distal margin below the apex, somewhat paler before them, without any other marking. Hindwing with 2 thick dark lines. Interior line angled in the middle, close before the exterior line which is uniformly bent at $\frac{3}{5}$, the space between being black, with a few red-brown scales at the median vein. A paler spot at the apex, the fold and inner margin pale yellow. Forewing oblong, anal angle projecting. Costal margin of hindwing excavated in the middle, hairy at the apex. ♂ 19 mm. Peru.

43. Genus: **Neodeta** Warr.

Forewing oblong, costal margin straight, distal margin dentless, the inner margin bent, in both sexes a scent-spot above the base of the submedian fold. Veins 2 + 3 stalked, 5 near the middle of the cross-vein, 6 — 7 stalked, 8 + 9 stalked, 10 and 11 free. Hindwing concave in the middle of the costal margin, apex obtuse, a dent at vein 7, distal margin straight, anal angle rounded, projecting. Neuration normal. Type: *ochriplaga* Warr.

N. fasciata Warr. Violetish grey. Forewing without an interior line, the exterior one at $\frac{3}{4}$ of the *fasciata*. length, vertical as far as vein 1, bent inward at the costal and inner margins, thick black, extending somewhat inward at the veins. Broadly pinkish white behind it, striated grey at both the ends. Marginal area darker again. Hindwing with a bent interior and exterior line, the latter introangular at vein 7. The pale band behind it narrower than on the forewing, the base also pale. A tricuspid black streak in the dark marginal area from the costal margin near the apex. ♀ 15 mm. Guiana.

N. nana Warr. Forewing violetish black, a thick black interior line traceable at the inner margin. *nana*. Exterior line at $\frac{3}{4}$, rather distinct, strongly excurved in front, near the inner margin parallel with the interior line. A dark shadow before the distal margin. Hindwing with a dark bent exterior line finely edged with light. ♂ 14 mm. Guiana.

N. ochriplaga Warr. Forewing dark brown, without any markings, only three black dots at the distal *ochriplaga*. margin below the apex. Hindwing the same, with a narrow bent median band edged with dark inside, somewhat undulatingly edged outside. On either side of it paler with brownish ochreous scales which are condensed into a spot at the costal margin near the apex, with a black tricuspid line behind it. The fold is white. ♂ 17 mm. Brazil.

44. Genus: **Aphyodes** Warr.

Palpi short, proboscis small, antennae laminated. Forewing broad, costal margin straight, the apex obtusely projecting, the distal margin below it slightly concave. Veins 2 and 3 close together, before vein 4 the median vein is strongly bent upward. Vein 5 below the upper cell-angle, 6 + 7 and 8 + 9 stalked. Hindwing very small, pointed at the apex, cut out at the anal angle, the inner margin shortened and wrinkled. Veins 5 + 6 stalked, 7 and 6 far off from 8, the other veins cannot be ascertained. Only 1 species.

Aph. pilosa Warr. (172 g). Forewing reddish yellow and brown. The lines brown, thick and faded. In- *pilosa*. terior line from $\frac{1}{3}$ costal margin, bent in the cell and then to the middle of the inner margin. Exterior line from $\frac{3}{5}$ costal margin, sharply extra-angular at vein 6, then inward, ending near the interior line. Somewhat darker before the excision, also at the apex. Hindwing covered with long blackish brown hair. ♂ 19 mm. Peru.

45. Genus: **Lophopygia** Warr.

Antennae thick, palpi porrect, short, proboscis present. Abdomen with a hanging hair-tuft at the base, hind tibiae thickened. Forewing with a straight costal margin, bent at the apex, then truncate as far as vein 7, somewhat angular at veins 7 and 6. Veins 3 and 4 close together, 2 a little back, 5 and 6 + 7 from the upper cell-angle, 8 + 9 on a long stalk. Hindwing with an excision in the middle of the costal margin, the apex cut off from vein 8 to 7, an angle at 7, then bent to the anal angle. Veins 3 + 4 stalked. Only 1 species.

L. griseata Warr. (172 h). Greyish yellow with a violet reflection. Lines of forewing thick, black. The *griseata*. interior one from $\frac{1}{3}$ costal margin to $\frac{2}{5}$ inner margin, obtusely angled at the cell-end. Exterior line from $\frac{2}{5}$ costal margin to $\frac{3}{4}$ inner margin, bent inward below the middle, intensely black only below vein 2. Median

area darker brown, fadedly extended towards the anal angle. Hindwing with a somewhat darker undulate interior and exterior line, from the latter a shadow to the anal angle. ♂ 29 mm. Peru. — *Nedusia castra* (172 g) which we mentioned as a doubtful *Nedusia* on p. 1143 seems to be extremely similar. The anal angle of the hindwing, however, shows an excision which is absent in *griseata*, but the marking is at any rate more like that of *Lophopygia*.

46. Genus: **Lophotosoma** Warr.

Similar to the genus *Thysanocraspida* (p. 1161) in the wing-contours, but both the wings are more oblong. Hindwing at the anal angle with a lobe and a fold which is filled with rough scales beneath. Costal margin undulate. Neuration as in *Epiplema*. The penultimate abdominal segment exhibits hair-tufts which being turned upward meet on the dorsum. Only 1 species.

ustanalis.

L. ustanalis Warr. (172 h). Forewing lavender-green, partly darker, with claret-coloured streaks between the veins. An oblique red line from $\frac{1}{3}$ costal margin to the median vein seems to form a triangle with another one from $\frac{2}{3}$ costal margin obliquely inward. Three red streaks at the distal margin before the excision. Traces of a submarginal line of dark dots. Hindwing rusty red, spotted dark. Median band edged darker. A dark spot at the margin between veins 3 and 4, another one at the anal angle. ♂ 20 mm. Peru.

47. Genus: **Paurophlebia** Dgn.

Palpi short, hind tibiae with one pair of spurs. Forewing very oblong, apex not very prominent, distal margin slightly angled at vein 3. Veins 2 and 3 before the lower cell-angle, the cross-vein bent upward to the origin of vein 4, where it disappears. 5 near the upper cell-angle, 6 + 7 and 8 + 9 stalked. Hindwing very small, rounded. Veins 3 + 4 and 6 + 7 stalked. Only 1 species.

obscura.

P. obscura Dogn. Forewing olive brown, finely strewn with white. The interior and exterior lines only marked by a few reddish brown spots below the costal margin. Hindwing greyer. ♂ 20 mm. Colombia.

48. Genus: **Molybdophora** H.-Schäff.

Palpi projecting obliquely, antennae of ♂ with one row of pectinations, plain in the ♀. Forewing broad, apex obliquely truncated as far as vein 6. Anal angle sharp, inner margin excurved. Vein 2 bent downward, before the angle, veins 3 and 4 from the lower cell-angle, 3 slightly bent downward. 5 near the upper cell-angle, 6 + 7 from the side of the areole, 8 + 9 from its apex, 10 from the costal margin. Hindwing somewhat angular at vein 4, anal angle rectangular. Veins 3 + 4 on a short stalk or from the same base, 5 at $\frac{1}{3}$ distance from the upper cell-angle, 6 + 7 on a very long stalk. Type: *concinularia* H.-Schäff. As no other *Epiplemid* genus has an areole, *Molybdophora* may be placed here only with a reservation.

concinularia.

M. concinnularia H.-Schäff. (172 h). Ground-colour variable: yellow, greyish yellow, reddish brown, finely dusted with dark. Near the apex below the costal margin sometimes blackish scales or a rusty red stripe through the cell, also a submarginal lead-coloured line may be traceable. Black dots at the margin especially near the apex. Hindwing with submarginal dots with a white halo. 22—25 mm. Venezuela, Surinam, Amazons.

schedata.

— **schedata** Fldr. has the normal yellow ground-colour of *concinularia*. The space above the median vein on the forewing and vein 3 as far as the costal margin suffused with grey. Hindwing with a large black spot at the cross-vein. A similar one may be in *concinularia* between veins 2 and 3 behind the cell-angle. 25 mm. Amazons. — A large form (28 mm) is before me from Bolivia. Greyish white. A rusty brown stripe extends from the inner margin near the base to the margin at vein 6. Three white streaks before the margin above the stripe. The space towards the costal margin is tinged with violet. The margin between veins 6 and 3 broadly black. Hindwing with a rusty yellow line before the submarginal dots. Another species of the same size has the ground-colour of *Falcinodes rufula* (171 b).

concinularia.

M. concinnularia Hbn. (172 g) shows the forewing uniformly bent at the distal margin. The areole is very small. Vein 2 is very strongly curved in the ♂, a fold with scent-scales below it. In the ♀ vein 2 is straight. The angle at vein 4 is hardly traceable on the hindwing. Ground-colour violettish grey, dusted dark. Both wings with black dots before the margin, more or less surrounded with lead-colour. The ♀ shows this marking more distinctly, and besides a dark brown exterior band on both wings, that of the forewing being often edged with lead-coloured grey outside. 20—25 mm. Guiana, Brazil.

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18. Family: **Cymatophoridae.**

Since our elaboration of the *Cymatophoridae* of the Old World, very much has been written about their relationship to the other Heterocera families established since and about their relations to the genera *Axia* and *Diloba*, with hardly any success in solving this question. Most of the discussions on these relations result in the statement that the comprehension of the three groups of *Cymatophoridae* (sensu angust.), *Epicimelia* and *Diloba* maintained in our Vol. II is incorrect and therefore untenable. But WARREN who opposes the *Axiinae* as a special (3rd) group to the *Thyatirinae* and the *Palimpsestis*-group, as well as my arguments (in Vol. II, p. 332, and in Suppl. Vol. II, p. 194) only speak of a very loose connection — if any at all — between the *Cymatophora*, *Axia* and *Diloba*, and already the remark in Vol. II that *Diloba* “scarcely belongs to this place” clearly indicates that a union with the *Cymatophoridae* is almost out of the question. In the meantime it has been recommended to establish separate families for the two groups appended to the Cymatophorid chapter in Vol. II: *Axiidae* by H. REBEL and *Dilobidae* by CLOSS & HANNEMANN. If this separation as special families has not yet been employed in the “Macrolepidoptera”, it is because further studies may nevertheless cause them to be inserted in or appended to some other Heterocera family, for which reason it appears to be more advisable in a work of reference as the present one is to leave them at their old place until this question will have been ultimately decided.

Meanwhile also the position of the genuine *Cymatophoridae* has been frequently treated upon again. The American species prove to be rather homogenous among themselves and still more connected with the palaearctic forms than with those of the other faunae. We find the European *Thyatira batis* represented by quite similar forms across a very great part of America, especially also in its tropical regions, and the same is the case with *Habrosyne derasa*; and the representatives of these two genera so truly resembling the palaearctic ones appear in America even in their largest and most beautiful forms, i. e. *Thyatira mexicana* and *H. scripta* which shows a wonderfully delicate colouring. Also the eastern palaearctic *trimacula* is represented in Tropical America by the wonderful *Th. heurippa* which, in a certain measure, connects the colouring of *Thyatira batis* with that of *Habrosyne derasa*.

Many of the 250 names in DALLA TORRE's “Lepidopterorum Catalogus” simply denote insignificant deviations or also only synonyms; frequently forms have been named, which scarcely differ from their nomenclatural type, as for instance *Cymatophora ab. albingensis* from the typical *or.* And yet the transformation of the type into its melanism has taken place, so to speak, before our eyes; and this process seems to be in full swing just now (cf. Suppl. Vol. II, p. 197). The total number of the well separable species of *Cymatophoridae* probably amounts to about 100 one third of which occur in America.

Another species was recently established for America, showing a few remarkable characteristics of the *Cymatophoridae*, i. e. *Oiozona geometrica* Draudt, which was similarly to be appended to the other genera of the family. However, its character proved to be that of the *Notodontidae*, for which reason the species has been treated there and figured on pl. 154 b. Neither would its insertion in the *Cymatophoridae* have shown a connecting link between the *Notodontidae* and the *Cymatophoridae*, so that the latter still have no definite position in the system. SICK, in a recent publication, refers to the resemblance of the tympanal organ to that of the *Drepanidae*.

1. Genus: **Habrosyne** Hbn.

All the important details about this genus have been mentioned already in Vol. II, p. 322. Only 2 or 3 species occur in the American Region, thus not even as many as in the Palaearctic Region. Type: *derasa* L. from Europe.

scripta.

H. scripta Gosse (172 h). Similar to *derasa* (Vol. II, pl. 49 d). Thorax and forewing bronze brown. At the costal margin near the base there is a white triangle from which a short white streak extends obliquely inward to vein 1. An oblique line extends outward from this triangle to a little beyond vein 1, then it bends inward to the inner margin. Ring-macula and reniform macula close together, edged with white, the latter with a white median streak. White before it at the costal margin almost as far as the apex. An exterior white line is only shortly traceable at the costal margin and at the inner margin from vein 2. Numerous parallel strongly dentated dark and light lines behind the reniform macula and down as far as the middle of the inner margin. Submarginal line thick, white, from the apex to the anal angle, bent inward between them. Hindwing brown, lighter at the base, with traces of a light exterior line near the inner margin. 36—40 mm. Alaska, Canada, to the south as far as Colorado. — **abrasoides** Barnes & Benj. is less contrastingly marked than the nomenclatural form. The reniform macula is longer, the submarginal line narrower. The relations between *scripta* and *abrasoides* are similar to those between *rectangulata* and *arizonensis*. Described according to 1 ♀ from Arizona. — The larva is dark yellowish brown, often almost black, with a black dorsal line. Laterally yellow with black spots ending pointedly at the stigmata, sometimes with a few white spots there. Head yellow with dark brown spots. Cocoon feeble, deposited in moss.

rectangulata.*arizonensis*.

H. rectangulata Ottolengui is very similar to *scripta* (172 h) and *derasa*. The interior line is hardly angular at vein 1 in *derasa*, slightly angular in *scripta*, rectangular in *rectangulata*. The ground-colour is rather the same in all the three species, though somewhat darker in *rectangulata*. The marking which is white in *scripta* with a very slight pink tinge, is distinctly pink here. The submarginal line is broad and distinct in *derasa* and *scripta*, here it is narrow, dentate outside, faded inside. 35—40 mm. Atlantic States, Canada. — **arizonensis** Barnes exhibits a drab ground-colour on the forewing and thorax, not brown as in the type. The white blotch at the base of the wing is smaller. The pinkish white colouring at the middle of the costal margin and at the submarginal line is reduced. The colour of the hindwing corresponds with the forewing, thus grey not brown as in *rectangulata*. Described according to 1 ♂ from Arizona. BARNES & BENJAMIN ascertained in 1929 that *Habrosyne gloriosa* Gn. having been described from the Caucasus and never found again is identical with *rectangulata*.

chatfieldi Grote. This species or form reported from Alaska is merely referred to GROTE's List of North-American Eupterotidae in DYAR's List of N.-Amer. Lepid.; in GROTE's List, however, only the name *chatfieldii* [not *chatfieldi* as DYAR writes] is quoted without any further description.

2. Genus: **Thyatira** Hbn.

This genus has also been described already in Vol. II, p. 323. While the species of *Habrosyne* chiefly live in a cooler climate, the species of *Thyatira* are tropical for a great part in the Old World and predominantly so in the New World. Type: *batis* L. from Europe.

staphyla.

Th. staphyla Dgn. (172 i) is very similar to *batis* (Vol. II, pl. 49 c), but larger. The two white spots, mostly suffused with brown near the apex, are more oblong, their lower ends connected by one or several white streaks. The spot at the anal angle is rounded, with 2 smaller olive brown spots behind it at the margin. The basal spot is almost as in *batis*. A white streak between the two inner-marginal spots at vein 1, yellowish below it. On some specimens we notice a black, undulate, uniformly bent interior line, as well as a treble dark exterior line extending from the costal-marginal spot, touching the spot at the anal angle inside, excurved between. Hindwing brown in the distal half, lighter at the base. 34—38 mm. Bolivia, Peru, Colombia, Venezuela. — In a few specimens from Brazil I find the two spots at the costal margin to be rounder and not connected by a streak.

lama.

Th. lama Schs. is presumably similar to *staphyla*, but larger. Thorax dark brown, abdomen pale brown. Interior line of forewing as in *staphyla* (172 i). In the median area the costal margin and the cell dark brown, traversed by black lines. Interior line double, black, incurved above the inner margin. The median area below the cell is drab, narrowed by the exterior lines. A small yellow spot in the centre of the inner margin. Exterior line double, undulate, vertical to the costal margin, then excurved behind the cell, fine, dentate, slightly incurved to the inner margin. Behind it at the costal margin there is a large white spot with a small olive brown centre. From this spot another double dentate line extends filled with drab. Behind the cell, as far as vein 2, both the double lines are edged with white outside. A triangular blackish brown spot behind it at the costal margin, with a white dot. From the apex a broad white stripe, distally undulated, extends to vein 5, enclosing a faint olive brown streak. A large oval spot at the anal angle is edged with black outside, with white inside. It encloses an olive brown streak and pinkish flesh-coloured scales. Hindwing with a broad dark marginal area, with a light line inside, the basal area lighter. 45 mm. Described according to 1 ♀ from British Columbia.

mexicana.

Th. mexicana Edw. (172 i) was briefly described as a form of *batis* (Vol. II, pl. 49 e), but it is easily determined by its size. Somewhat darker than *batis* on both wings. The number and shape of the spots is not different, though they have a more extensive brown interior shadow. The specimens from STAUDINGER's collection, which I consider to be *mexicana* have a black interior line as in *staphyla* (172 i); from the spot at the costal margin a brown finely dentate line extends to vein 3, in light surroundings; from the exterior edge of

the spot mentioned another feebler dentate line extends; a submarginal row of dots from the apical spot. Hindwing with a light median band as in *batis*. The name *speciosa* Stgr. has been given to these specimens probably only i. l. 40—45 mm. Mexico, Bolivia, Panama.

Th. hersilia Drc. (172 i) slightly resembles *decorata* Mr. (Vol. X, pl. 85 a) from India. Forewing dark reddish brown with indistinct dark transverse lines and dingy white spots. One at the inner margin at the base, a parted one at $\frac{1}{3}$ of the costal margin, a small one at $\frac{2}{3}$ costal margin, an oblique double spot at the apex, a small one at the inner margin near the anal angle, and a larger spot obliquely above it. Hindwing dark brown, paler at the base. 48 mm. Described according to a single specimen from Guatemala.

Th. heurippa Drc. (172 h) is somewhat similar to the Eastern Asiatic *trimaculata* Brem. (Suppl. Vol. II, pl. 14 b, nec Vol. II, pl. 49 e). Ground-colour dark red-brown. A large round light olive brown spot at the base is edged with yellowish. An equally large spot beside it at the costal margin is edged with yellowish only in its anterior half, with numerous fine white dentate lines behind and below it. Hindwing lighter reddish brown. 38 mm. Panama, described according to a single specimen; the specimen figured is from Misantla, Mexico (Coll. DRAUDT).

? **Th. hypatia** Drc. (172 k). The author himself doubts whether it belongs to this genus. In fact, the scheme of markings is rather different, nothing is unfortunately said about the neururation. Forewing pale olive brown, spotted pinkish brown and whitish. A semicircular olive brown spot in the middle of the costal margin, a similar one at $\frac{1}{3}$ costal margin, a more round one near the apex. Smaller black spots at the base and below the first marginal spot. The central spot and the apical spot are edged with black inside. The darker brown spot at the inner margin is situate much farther towards the anal angle than in the other species. Marginal area with brown and greenish white spots. Hindwing pale olive brown, broadly darker at the margin. 36 mm. Panama. Only 1 specimen known.

? **Th. casta** Fldr. (172 i) may belong to this family, but it seems rather doubtful whether it belongs also to the genus *Thyatira*. Ground-colour pale olive brown with a dark brown marking. Two curved dark ante-median bands, broad at the costal margin, ending pointed in the submedian fold, small and larger radial spots before the interior band in the basal area. Median band broad at the costal margin, ending pointed in the middle of the wing. Before it at the inner margin as far as before the interior line there are 2 oblique semicircular rings filled with olive brown. Exterior line vertical to the costal margin as far as vein 4, slightly inserted behind the cell; bent inward between vein 4 and the inner margin. Darker brown behind it, except a pale, somewhat oblong spot at the apex, similar to the other species. Hindwing whitish olive, broadly brown at the margin. 46 mm. Bogota.

3. Genus: **Euthyatira** Smith.

Wings more elongated than in *Thyatira*. Base of palpi very hairy. Veins 3 and 4 of forewing slightly separated, 5 in the middle of the cross-vein, 6 a little below the upper angle, 7 + 8 and 9 + 10 stalked. Veins 3 and 4 of hindwing from the angle, 5 a little above it, 6 a little below the upper angle, 8 extends close beside it as far as the cell-end. Type: *pudens* Gn.

Eu. pudens Gn. (172 i). Thorax grey, abdomen brown. Forewing dark red-brown. A broad white band from the base of the costal margin to the middle of the lower cell-margin, where it ends broad. Behind it traces of a double interior line. A pinkish white double spot in the middle of the costal margin, two smaller ones behind it. From these spots 3 indistinct dentate white exterior lines proceed, more strongly incurved below the cell. An oblique white spot at the apex, its lower part filled with pale pinkish brown. An oval pinkish brown spot at the anal angle is edged with white. Hindwing ochreous, darker in the distal half, with an ochreous exterior and submarginal line. 40 mm. North Atlantic States. — **anticostiensis** Grote is greyer, the pink spots are less bright, the ground-colour is darker. From Anticosti (Gulf of St. Lawrence). — **pennsylvanica** Smith (172 k) is only a more extreme form of *anticostiensis*. It is without any pink at all, the maculae are more distinctly prominent, and the ground-colour is darker than in *pudens*. Pennsylvania. — The larva has a white head with 4 black spots. The body is whitish, somewhat diaphanous, with white dorsal spots, blackish at the segmental margins, stigmata pale brown, with few short light hairs. On *Cornus florida*.

Eu. lorata Grt. Forewing broader than in *pudens*, greyish brown, dusted white in the median area, the same around a deep brown triangular spot which forms the beginning of the submarginal line at the costal margin. Median lines distinct, black, nearing each other at the inner margin. Black spots behind the exterior line. Ring-macula small, round, near the erect oval reniform macula. A reddish, white-edged spot at the anal angle. A narrow undulate apical streak. The basal spot is angled in front, less extensive than in *pudens*. The apical spot of *pudens* is absent here. Hindwing yellowish brown with an undulating median shadow. Thorax light brown, laterally white. 40 mm. North Western States.

Eu. superba Barnes. Thorax light brown, abdomen yellowish brown. Forewing brownish, blackish at the costal margin, interior line black, indistinct, exterior line double, undulate, somewhat indistinct in front. The ring-macula is a small yellow indistinct spot. Reniform macula oval, erect, brown, edged lighter. Veins somewhat black, on both sides of the exterior line. The 5 large light spots are distinctly edged, more or

less encircled with white, filled with pink and yellowish brown shadows. The basal spot is the largest, extending to the exterior line which it joins inside. The upward prolongation is filled with pink and white, the lower one by a double yellowish spot. A brown quadrangular spot at the middle of the inner margin is edged with white above and outside. The spot at the anal angle is oval. Apical spot oval, filled with pink, edged somewhat white. The fifth spot at the costal margin near the apical spot is round, filled with yellowish brown, edged with pinkish white. Hindwing dark brown with a light median line. ♀ 40 mm. Arizona. Presumably only 1 specimen known.

tema. **Eu. tema** *Strecker*. Body brown, patagia greyish white. Forewing, base and apical spot greyish white. The basal spot is very angular and extends to the inner margin. A darker band behind it is traversed by dark brown lines. Median area paler, behind it follows a similar dark band with lines. Reniform macula indistinct. Marginal area paler grey. The pale apical spot is edged with dark outside. Hindwing light grey, darker at the margin. 42 mm. North-Western States. According to BARNES & McDUNNOUGH, *tema* is identical with the following species.

semicircularis. **Eu. semicircularis** *Grt.* is compared by the author with *Cym. improvisa* *Edw.* from which it differs in the absence of the yellowish green spots at the pink marking. Wings broad. Forewing with a creamy white, black-edged spot at the base, with a point in the submedian fold. A broad interior dark band behind it contains 3 or 4 black lines. Median area dark grey, the rest of the wing whitish grey. Behind the middle another indistinct dark band with 2 or 3 lines, nearing the first band at the inner margin. Ring-macula and reniform macula small, rather indistinct, close together. Submarginal line composed of black lunae, as in *lorata* where, however, it is not mentioned in the description. Hindwing yellowish grey, 40 mm. North-Western States. — *griseor*. **griseor** *Barnes*. Patagia dark, not light grey as in the nomenclatural form. Forewing slightly tinged with smoky grey, the lines more indistinct. The white basal spot and the apical spot are less prominent, especially indistinct is the former. Hindwing darker with a broad dark brown margin. 1 ♀, 40 mm. Nevada.

4. Genus: **Pseudothyatira** *Grt.*

Palpi thick, porrect. Forewing bent at the costal margin at the base, with a short dent of scales at the anal angle. Vein 5 from the middle of the cross-vein, 6 from the middle of the areole, 7 + 8 and 9 from its apex, 10 from its anterior edge. Veins 3 and 4 of hindwing slightly separated, 5 above the cell-angle, 6 from the upper angle, 7 a little back, 8 nearing 7 as far as behind the cell-end. Abdomen of ♂ laterally with a hair-pencil. Type: *cymatophoroides* *Gn.*

cymatophoroides. **Ps. cymatophoroides** *Gn.* (172 k). Thorax dark red-brown, abdomen lighter, with black tufts. Forewing still lighter. Interior line threefold, dentate, black. Rusty brown before it in the middle of the wing, black at the base. A rusty brown dot in the middle of the cell and at the lower cell-angle. Exterior line threefold, black, extra-angular below the costal margin, then almost extinct, obliquely inward. Submarginal line of black sagittal spots. A divided dark brown spot before it at the costal margin, a larger spot before it at the anal margin, edged with white inside. Hindwing reddish brown. 35—42 mm. Atlantic States, Nova Scotia as far as New Mexico.

expultrix. **Ps. expultrix** *Grt.* (172 k). Thorax and forewing red-brown, greyer in the marginal area. Interior line black, of a very irregular course, edged with white inside, two less distinct parallel lines behind it. The ring-macula is a rusty brown dot, the reniform macula narrow, black or rusty brown at its lower end, the rest finely edged with brown. An indistinct dark median line extends across the reniform macula. Exterior line black, double, rather indistinct, far outward close below the costal margin, then obliquely inward in large dents, the interior branch more distinct above the inner margin, edged with white. The black submarginal spots are intense. Anal angle rusty brown. Hindwing somewhat lighter than forewing. 38—42 mm. Canada to Texas.

5. Genus: **Cymatophora** *Tr.*

All the necessary details about this genus have already been given in Vol. II, p. 326, under the name of *Palimpsestis* *Hbn.* The 14 species of the latter are opposed by only 5 species in the American Fauna, 3 of which occur in North America. It is not sure whether the two South American species belong to this genus.

improvisa. **C. improvisa** *Edw.* is sometimes regarded to be identical with *Cym. tearlei* *H.-Edw.* (172 k); it is also very similar to *Euth. semicircularis*, but the interior black band is undulate in *improvisa* and incurved in the submedian fold, not uniformly bent. Moreover, the ring-macula is indicated in *improvisa*, the apical streak is not undulate, the basal spot extends to the inner margin. *improvisa* is also similar to the following *fasciata*, but the green basal area of *improvisa* is not so extensive as in *fasciata* and distinctly apple-green. In the marginal area only the apical spot and the submarginal line are green. The exterior line is much more oblique at the costal margin in *improvisa* than in *fasciata*. ? mm. North-Western States.

fasciata. **C. fasciata** *Barnes & McDunn.* Body brown, only the patagia grey. Forewing light violettish brown, with a slight whitish green at the base and at the distal margin, the broad median band of the same colour. The basal area is bordered by a curved line which is bent inward in the submedian fold, besides with 3 parallel dark lines before it. Median area with a small round black spot in the cell, a dark undulate median line behind it.

Exterior line double, almost vertical, slightly excurved behind the cell, incurved in the submedian fold, the interior branch deep black, the interspace filled with red-brown. Soon behind it a vertical pale green undulate line, then whitish green almost as far as the margin. Submarginal line finely black, beginning curved, continued as a greenish shadow with a dark edge to the anal angle, often absent. Hindwing dark greyish brown with a dark basal line and a light median band. 37 mm. Vancouver I.

C. tearlei *Edw.* (172 k) is sometimes considered to be identical with *improvisa*, but it is presumably a *tearlei*. distinct species. The original description is somewhat insufficient. It runs as follows: Ash-grey. The forewing is traversed by two undulate red-brown lines edged with black. The median area is somewhat lighter than the rest, the inner margin dark. Hindwing dark. It differs from *fasciata* in its dull grey colouring and less contrasting marking. The median area is insignificantly lighter and without any green colour. Our figure shows that also the shape of the exterior line is different, since it is not incurved at the costal margin and excurved only below the cell. Hindwing lighter than in *fasciata*. 40 mm. North-Western States.

C. moderata *Wkr.* Greyish brown. Forewing with greyish white rather straight transverse lines, in- *moderata*. distinct excepting the submarginal and neighbouring lines. An indistinct double row of black dots between them. Ring-macula and reniform macula large with incomplete greyish white edges. Hindwing dark brown. ♀ 35 mm. Bogota. Only this one specimen seems to be known.

C. temperans *Wkr.* Rusty yellow. Forewing with 4 light undulate lines, with white dots outside. The *temperans*. submarginal line is scarcely undulate. Ring-macula and reniform macula large, edged light. Black marginal lunae. Hindwing dark brown, lighter at the base. ♂ 34 mm. Rio de Janeiro.

6. Genus: **Polyploca** *Hbn.*

This genus has also been briefly, though sufficiently described already in Vol. II. p. 329.

P. oniroe *Dgn.* Wings narrow and long. Ground-colour grey, dusted with white at the costal margin. *oniroe*. pale yellow in the middle. Short black streaks at the costal margin. Ring-macula edged with pale yellow. No other distinct marking to be noticed. Hindwing semi-diaphanous, white, somewhat iridescent. 33 mm. Described according to a single excellently preserved ♂. Ecuador.

7. Genus: **Ausava** *Wkr.*

Palpi short. Antennae plain. short. Abdomen with feeble lateral tufts. Costal margin of forewing hardly bent. Only 1 species.

Au. triplaga *Wkr.* Greyish brown, metathorax darker. Forewing with indistinct undulate light trans- *triplaga*. verse lines. Three black spots at the costal margin with a white partition-line. A black streak behind the reniform macula and two others parallel to it, nearer to the distal margin. Hindwing with two undulate dark bands. ♂ 26 mm. Rio de Janeiro.

Aphabetical List

of the original descriptions of the American forms of *Cymatophoridae*.

* signifies that the form is also figured at the place quoted.

abrasoides Habr. *Barnes & Benj. Bull. Brooklyn Ent. Soc.* 24, p. 184 (1929).

anticostiensis Euth. *Grote Canad. Ent.* 18, p. 215.

arizonensis Habr. *Barnes. Canad. Ent.* 44, p. 124.

candida Euth. *Smith, Ent. Amer.* 6, p. 179.

casta Thyat. *Fldr. Reise Novara t.* 98, f. 8.

chatfieldi Habr. *Grote, Abhdlg. Nat. Ver. Bremen* 14, p. 51.

cymatophoroides Pseud. *Gn. Spec. gen. Lep.* 5, Noct. 1, p. 13.

expultrix Pseud. *Grote Proc. Ent. Soc. Philad.* 2, p. 58. *

fasciata Cym. *Barnes, Journ. N. York Ent. Soc.* 18, p. 160.

griseor Euth. *Barnes, Journ. N. York Ent. Soc.* 18, p. 161.

hersilia Thy. *Dre. Biol. Centr.-Amer., Lep. Het.* 1, p. 258. *

heurippa Thy. *Dre. Biol. Centr.-Amer., Lep. Het.* 1, p. 258. *

hypatia Thy. *Dre. Biol. Centr.-Amer., Lep. Het.* 1, p. 258. *

improvisa Cym. *Edw. Proc. Californ. Acad. Sci.* 5, p. 189.

lama Thyat. *Schs. Ann. Mag. Nat. Hist.* (10) 12, p. 479.

lorata Euth. *Grote, Papilio* 1, p. 75.

mexicana Thyat. *Edw. Papilio* 4, p. 16.

moderata Cym. *Wkr. List. Lep. Het. Br. Mus.* 11, p. 707.

oniroe Pol. *Dgn. Le Natural.* 13, p. 126.

pennsylvanica Euth. *Smith, Journ. N. York Ent. Soc.* 10, p. 34.

pudens Euth. *Gn. Spec. gen. Lep.* 5, Noct. 1, p. 13. *

rectangulata Habr. *Ottoleng. Ent. News* 8, p. 25.

scripta Habr. *Gosse Canad. Natural.* 1840, p. 249.

semicircularis Euth. *Grote Papilio* 1, p. 75.

staphyla Thyat. *Dgn. Le Natural.* 12, p. 155.

superba Euth. *Barnes Canad. Ent.* 33, p. 55.

tearlei Cym. *Edw. Ent. Amer.* 2, p. 11.

tema Euth. *Strecker Lep. Rhop. & Het. Suppl.* 1, p. 5.

temperans Cym. *Wkr. List. Lep. Het. Br. Mus.* 15, p. 1646.

triplaga Aus. *Wkr. List. Lep. Het. Br. Mus.* 15, p. 1644.

Psychidae Case-bearers.

As most of the peculiarities of this rare group of lepidoptera have been exhaustively treated in Vol. II (p. 369), Vol. X (p. 729) and Vol. XIV (p. 481) only a few remarkable traits will be dealt with here. The puzzling contradiction between the total immobility of the female imago and the world wide distribution of several of its species need only be mentioned as a number of explanations have been pointed out in the above named places. No other group of lepidoptera have so many chances of spreading as these where the larva when changing into a chrysalis adheres to every kind of object, posts, faggots, fruit, even to utensils in every day use; not infrequently in a waterproof case not subject to any outside influences. Branches of fruit rind falling into the water are much more easily swept or carried away than the pupae or imagines of large Rhopalocera, as for instance *Danaus archippus*, whose transportation from its (American) home to fairly remote regions such as Australia, New Zealand, Portugal, the Atlantic Islands, the Indian Archipelago (Jaluit etc.) has taken place under our very eyes so to speak. *Castniidae* and Central American *Syntomidae* have of late been repeatedly delivered alive to European Museums or bred from pupae which have been brought over. The invaders of the latter groups have not propagated, as introduction in sufficient numbers for copulation is hardly possible by this means. In the case of the *Psychidae* parthenogenesis takes place to a greater degree, as was pointed out in discussing the group in the volumes mentioned of the "Macrolepidoptera", so that the occasional drifting in of a single branch with a ♀ pupa clinging to it may lead to complete naturalization. The fact that such parthenogenesis has not yet been satisfactorily proved among the extremely similar forms of the *Oiceticinae* which are spread all over the southern hemisphere, does by no means exclude such a possibility, as just the *Psychidae* have revealed the amazing phenomenon that the same species is able to propagate in some districts entirely parthenogenetically, in others, however, constantly and in others again frequently sexually. It would therefore not be very surprising should this parthenogenesis come about in cases of artificial transportation also among species where, under normal conditions, it has never been observed, as it has been similarly observed among numerous insects of other orders as an adaptation to seasonal changes.

In addition to these qualities so favourable for conquering new patriae there are numerous others directed to the same effect. Just with certain *Oiceticinae* the eggs, even in regions without any real winter, often lie for weeks and months without releasing the little larvae, and it is not impossible that, as it frequently happens in the animal world, they await better conditions before emerging from their case. Moreover, we find an astonishing polyphagia among many *Oiceticinae*. Breedings of *Oik. geyeri* and *kirbyi platensis*, which I carried out in the Frankfurt Insect House proved the suitability of nearly all the foliage trees of the Zoological Gardens there as welcome food for the larvae, especially willows, plane-trees, Robiniae and many kinds of timber; only certain poisonous plants such as nerium and eucalyptus were disdained, and conifer needles were only slightly gnawed and then abandoned.

The temporary frugality of certain otherwise very greedy widely distributed *Psychidae* is also wonderful. While one is accustomed to find little power of resistance to hunger just among polyphagous sorts, the *Arctiidae* for instance, the *Oiketiscus* can do without any food for a very long time without showing any noticeable change in condition. Even the lack of fresh green food for a long time is not necessarily injurious, for if it once happens that all vegetable food fails, the larva which often accepts the driest leaves without distinction, stalks and all, even seeming to prefer them to fresh food at times, has another means of fighting starvation. When food is plentiful it cuts differently sized bits out of the leaves and fastens them outside on its case as if for decoration. Then, when food gets scarce, it rips these bits out of its case and devours them, no matter how dry they may be, patching up the holes produced in the bag with silk web.

I should like to take this opportunity of recalling an event (related in Vol. II, p. 353) when, in an absolutely treeless district, great fragments of branches of undoubtedly far distant trees were brought to me by a pampero (storm in the steppes). A cracking noise like distant rifle-fire sounded in the sky and showed me a wind-spout like a pillar, by which dry and fresh pieces of wood, some as thick as small logs, were whirled round and round and against each other, till they were broken into small pieces. On examining these later on I discovered small still inhabited case-bearer bags. This is noteworthy for the diffusibility of an insect species, as such wind-spouts may carry insects, which are unable to fly, hundreds of miles at great speed.

The further spread of colonies of *Psychidae* which have settled somewhere follows then most rapidly, for however incapable of locomotion the females are, the larvae are very nimble. A box full of collected *Oiketicus*-bags if left open will be deserted by its occupants in few minutes. They scatter in all directions into every nook and cranny of the room. They are seldom seen even on their feeding trees in the lazy quiescence which makes so many other larvae seem as if they had grown to the twig. On the contrary, I observed a continual bustle among the Australian *Oiketicus* on the Paramatta as well as among the South-American ones on the La Plata, clearly visible from the jerking of the cases they drag along.

For the reason already mentioned in Vol. X, p. 730, we do not wish to lay too much weight upon the fact that only 17 genera have been included here in the domain of the American *Psychidae*. As stated, there are just as many reasons for including further genera, *Acrolophus* for instance, as for omitting them in a work on "Macrolepidoptera". We have already mentioned the pros for the opinion that most *Psychidae* belong altogether to the Microlepidoptera and give preference here, as behoves a handbook, to what is of conventional importance.

For the sequence of the genera the Catalogue of DALLA TORRE was followed, just as in Voll. X and XIV. For the adjustment of the species in the genera more attention has been given to the views of the latest authors than to this catalogue.

a) Subfamily: **Chaliinae** *Hmps.* (*Oiketicoidinae Strd.*).

As the name *Chaliinae* was already used in the palaearctic part of the work (Vol. II, p. 364), we keep to it also here. The characteristic mark of the group is: the two inner-marginal veins of the forewing anastomose outwardly, no veinlet branching off towards the inner margin. Hind tibiae without spurs.

1. Genus: **Chalia** *Mr.*

Anterior tibia with a long spur. Antennae strongly pectinated, the pinnae gradually decreasing in length towards the tips. Forewing with stalked veins $4 + 5$ and $7 + 8 + 9$, hindwing without veins 5 and 8. In all the species treated here, however, the neuration differs from this rule.

künckeli.

Ch. künckeli *Heyl.* Veins $4 + 5$ and $8 + 9$ of forewing stalked, in the hindwing the veins 4—7 are short, 8 stronger in the middle and connected with the cell by a bar. Forewing yellow above; black are the base, the costal margin and the veins. On the short hindwing the apex projects hardly, the ground-colour is more rusty yellow. Under surface darker. The ♀ is ash-grey, the 3 first segments yellow. ♂ 24 mm. Argentina. — The larval bag is 35—42 mm long, cylindrical, longitudinally covered with grass. The single bits of grass are about 4 mm long, encircling the bag like a screw.

pizote.

Ch. pizote *Schs.* In the forewing of the ♂ veins $4 + 5$ and $8 + 9 + 10$ are stalked, 11 is absent, veins $4 + 5$ of the hindwing are shortly stalked. Antennae of the ♂ long and scantily pectinated, body and wings uniformly dark brown. ♂ 15 mm. Guatemala.

tristis.

Ch. tristis *Schs.* In the forewing veins 4 and 5 arise from the same base, 7 and $8 + 9$ from the upper cell-angle. In the hindwing veins 4 and 5 are close together, 8 distantly separated from 7. Ground-colour greyish brown. Wings densely scaled. ♂ 17 mm. Jalapa (Mexico).

zacualpania.

Ch. zacualpania *Dyar.* In the forewing veins 4 and 5 arise from the same base, $7 + 8 + 9$ are stalked. Hindwing with 7 veins, vein 8 connected with the cell by a bar. Wings grey, scantily scaled. 22 mm. Described according to a single specimen from Zacualpan (Mexico).

vigasi.

Ch. vigasi *Schs.* Similar to *zacualpania*, smaller, more transparent. Wings grey, semidiaphanous, scantily scaled with darker hairs. Costal margin of forewing finely black. Fringe darker grey. 16 mm. Las Vigas (Mexico).

rileyi.

Ch. rileyi *Heyl.* Antennae of ♂ of $\frac{1}{3}$ the length of the costal margin of the forewing, broadly pectinated in the middle, anterior tibia with a large spur. Wings greyish yellow, narrowly edged with brown, oblong, no

vein stalked. ♂ 12 mm. Missouri. — The larval bag is cylindrical, ash-grey, 11 mm long, covered with fine rests of bark or lichens. On the trunks of apple and pear trees. According to DYAR also on *Quercus marylandica*.

2. Genus: **Prochalia** *Barnes & Mc. Dunn.*

Antennae of ♂ bipectinate. Anterior tibiae with a long thorn. In the forewing all the veins are present, free, only 8 + 9 stalked, towards the inner margin no spur from the inner-marginal veins. Veins 4 and 5 of hindwing from the same base. Vein 8 not connected with the cell by a bar.

P. pygmaea *Barnes* (169 b). Body and wings uniformly blackish brown, similar to *Platoeceticus nigrita pygmaea*. (169 d). Abdomen as long as hindwing. 12½ mm. Described according to 1 ♂ from Florida. — The larval bag is narrow, cylindrical, 12 mm long, spun with pieces of lichens. Common on trunks of orange trees, but the breeding yielded only a single ♂.

3. Genus: **Dendropsyche** *Jones.*

Antennae of ♂ bipectinate to the tips. No spurs or thorns on the tibiae. Wings rounded. Forewing with 11 veins, 8 and 9 from the same base, the others separately, no spur to the inner margin. Hindwing with 7 veins all of which are separated, vein 8 sometimes with a bar to the cell.

D. burrowsi *Jones* is of a feeble structure. Uniformly smoke-brown, body hairy. 12 mm. Described *burrowsi*. according to 3 ♂♂ from British Guiana. — The bag is 12 mm long, conical, the largest width above 3—4 mm, below 1 mm. It is presumably carried by the larva in an erect not pendent way.

b) Subfamily **Psychinae** *H.-Schäff.*

The two inner-marginal veins of the forewing despatch a single spur to the inner margin. The hind tibiae are shorter than the anterior ones.

4. Genus: **Cochliotheca** *Rmb. (Apterona Mill.)*

The genus contains tiny lepidoptera of a frail structure with broad wings clothed with hair. Forewing typically with 10 veins, hindwing with 7. The larval back of the European species is curved like a snail-shell and clad with sand. Only 1 species in America.

C. fragilis *Barnes & McDunn.* (169 b). Forewing with all the 10 veins arising at equal distances, only *fragilis*. veins 4 and 5 a little nearer together. Hindwing with 7 veins, veins 4 and 5 from the same base or stalked. Vein 8 connected with the cell by a bar. Antennae of ♂ strongly pectinated, thorax thinly clad with long white hair. Wings blackish, semidiaphanous, long-haired. Abdomen short. 11 mm. 2 ♂♂ from Arizona.

5. Genus: **Psyche** *Schrk.*

All that is necessary has already been said about this genus in Vol. II, p. 361. Only one American species which, however, may also belong to *Platoeceticus*.

Ps. watsoni *Jones* (169 b). Similar, but larger than *Plat. gloveri Pack.* (169 c). Antennae of ♂ strongly *watsoni*. pectinated. Forewing with 12 veins, 4 + 5 and 8 + 9 stalked, sometimes also 7 + 8 + 9. The hindwing has 8 veins, 4 + 5 stalked or arising from the same base. Anterior tibiae without a thorn. Antennae black, wings brownish black, body delicate, little or not projecting beyond the hindwing. 15—20 mm. Haiti. — Larval bag 15—20 mm long, strongest in the middle, composed of grey silk, irregularly spun with small pieces of leaves and bark.

Ps. bergi and *Ps. burmeisteri Weyenbg.* are quite irrecoznizably described and figured, for which reason they have been passed over here.

6. Genus: **Eurycyttarus** *Hmps.*

In the forewing of the type veins 7 and 8 + 9 arise from the upper cell-angle, vein 6 is absent in both wings.

E. confederata *Grt. & Rob.* (169 b). Veins 8 + 9 of forewing on a very long stalk. The bar from vein *confederata*. 8 to the cell on the hindwing is situate nearer to the cell than in the other species. Blackish brown, wings not diaphanous, broad. 15—20 mm. In the Southern States and as far as New York. — The bag is 15 mm long, longitudinally covered with projecting needle leaves.

E. tracyi *Jones* (169 b). The antennae are larger and more broadly pectinated than in *confederata*, each *tracyi*. dent of the comb with a fine tuft at the tip. Body hairy, especially densely so on the thorax. Wings broad, forewing short, so much rounded that an apex or anal angle is not discernible. Veins 8 and 9 not or very shortly stalked. In the normally round hindwing the bar extends from vein 8 to the middle of the cell. Ground-colour

brownish grey, thorax and forewing somewhat darker than the hindwing and abdomen, slightly diaphanous, with a violettish blue gloss above and beneath. ♂ 17—19 mm. Mississippi. — Larval bag 20—27 mm long, cylindrical, outside with closely appressed pieces of dry grass. As the imago has a smaller expanse than in *confederata*, but a stronger structure, the bag is relatively large.

cacoenemis.

E. cacoenemis Jones (169 b) is closely allied with *tracyi*, but the legs are remarkably weaker. According to the author, this depends on the shape of the ♀ larval bag which is not so broad at the end as in *tracyi*. The rounded apex on the forewing projects a little farther than in *tracyi*, veins 8 + 9 are stalked. Vein 8 of the hindwing is fused with the middle of the cell for some distance, which may also occur in *celibata* (169 c). Antennae as in *tracyi* (169 b). Ground-colour blacker, less brown. Forewing with traces of a black streak at the cross-vein. Laterally projecting hair at the end of the abdomen. ♂ 17 mm. Described according to 5 bred specimens from Florida. — The larval bag is 25—30 mm long, similar to that of *tracyi*, but less uniformly covered with small pieces of bark, which are often absent at the end. Similar bags have been found by JONES also in Carolina.

edwardsi.

carbonaria.

E. edwardsi Heyl. (= *carbonaria* Pack.) (169 b). According to JONES, *edwardsi* and *carbonaria* are identical, and *edwardsi* is not a synonym to *gloveri* as DYAR presumed. — **carbonaria** (169 c) was described in 1887 according to two specimens from Texas and was no more found, until JONES, in 1932, visited a district in Texas of a similar nature though of an easier access than the typical one, where he discovered ample material of larval bags in the first half hour. In the forewing veins 7 and 8 + 9 arise normally together, 8 + 9 being shortly stalked, but they may also be separated. Veins 4 and 5 may arise in both wings from the same base or they may be stalked. In the hindwing a bar extends from vein 8 to the middle of the cell-margin. Body black, long-haired, rather strong. Wings broad, rounded, blackish, somewhat diaphanous. 20—22 mm. Texas. The ♀ is 12 mm long, yellowish white, the thorax above olive brown. — The larval bag is 22—26 mm long, cylindrical, 4 mm strong, silky, wood-coloured brown, smooth. According to the figures, the tone of colours of *edwardsi* and *carbonaria* is somewhat different.

celibata.

E. celibata Jones (169 c). All the veins of the forewing arise at about equal distances except veins 7 and 8 + 9. The neuration of the hindwing is very variable in the ten lepidoptera that were examined; vein 8 is mostly fused with the middle of the cell, and veins 4 and 5 may be distantly separated or also shortly stalked. The tiny lepidopteron is brownish black, with broad and round wings, a few white hairs on the body. Abdomen as long as the hindwing. Wings with moderately dense scales, the costal margin of the forewing narrowly darker. 10—12 mm. Florida. — The larval bag is about 15 mm long, cylindrical, longitudinally irregularly covered with fine needle-leaves and pieces of grass.

polingi.

E. polingi Barnes & Benj. (169 c). Antennae strongly pectinated. In the neuration very similar to the European *Can. unicolor* Hfn. (Vol. II, pl. 55 a). In the hindwing the position of veins 4 and 5 varies a little. Vein 8 is connected with the cell by a bar. Similar to *edwardsi* (169 b), but the thorax is whitish, the abdomen with black hair. Wings with a slight bronze reflection, somewhat diaphanous in the distal area, the fringe white. Apex of forewing more pointed, the distal margin more oblique, straighter than in *edwardsi*. 19—21 mm. Numerous ♂♂ from Arizona. — The bag is 34 mm long, 10—12 mm strong at 1/3 from the upper end, pointed at the other end, of a pale grey silk, looking as if it were densely covered with shield-lice.

7. Genus: **Pachythelia** Ww.

Forewing with 11 veins, hindwing with 7 veins, in both cases without vein 6. Antennae short, but pectinated to the tips. Anterior tibiae with a long thorn. The genus contains only 1 European species (*villo-sella* O.) and 1 American species.

lepidopteris.

P. lepidopteris Dyar. Antennae of ♂ long pectinated. Forewing with 12 veins, hindwing with 8, thus against the rule. Veins 6 + 7 of forewing stalked and 9 + 10 shortly stalked, 2—5 well separated. All the veins of the hindwing arising separately, 8 connected with the cell by a bar in the middle. Wings broad, rounded, thinly scaled black. 17 mm. Described according to 2 ♂♂ from Colima (Mexico). — The other *Pachythelia*-species described by DYAR has been transferred to *Hyaloscotis* by JONES; to which genus *lepidopteris* belongs in fact, seems to be not yet ascertained.

8. Genus: **Acousmaticus** Btlr.

Antennae almost as long as the forewings, very strongly pectinated. Neuration not described. Both wings oblong. Costal margin of forewing straight.

magnicornis.

A. magnicornis Btlr. (169 c). Body and forewing greyish brown, the veins brown, lighter at the cross-vein with 2 black dots. Hindwing whitish. ♂ 22 mm. Chile. Presumably no specimen known besides the type. Judging from the exterior, the species scarcely belongs to the *Psychidae*.

9. Genus: **Thanatopsyche** Btlr.

In the contours similar to *Thyridopteryx*. Veins 4 + 5 and 8 + 9 of forewing stalked. The two inner-marginal veins do not send a spur to the inner margin (as in the *Chaliinae*), except in *apicalis* Hmps.

T. chilensis Philippi (169 c) is the oldest American species described from this family. Antennae strongly *chilensis*. pectinated, these as well as the body and legs jet-black, long-haired. Wings almost quite hyaline, only the veins deep-black. ♂ 30 mm. Chile. — The larval bag is about 62 mm long, 18 mm thick, strongest at $\frac{1}{3}$ of its length, parchment-like. On fruit-trees, roses, arbor vitae. The larva seems to feed on the young bark.

Th. canescens Btlr. (169 d) is similar to *chilensis*, but smaller. Thorax thinly covered with grey hair. *canescens*. Abdomen blackish; wings grey, diaphanous, veins and margins black. 22 mm. Chile. Larval bag very similar to that of *chilensis*.

Th. thoracica Schs. Veins 4 and 5 arise separately on both wings. Thorax and base of abdomen brownish *thoracica*. ochreous, the rest greyish black. Wings brownish black. The cell of the hindwing is somewhat diaphanous 46 mm. Described according to 1 ♂ from British Guiana.

Th. apicalis Hmps. Body black, patagia with large white spots. Wings hyaline with a few black hairs, *apicalis*. the veins and margins black. Costal margin of forewing broader black in its exterior half. The inner-marginal area of the hindwing is black. ♂ 22 mm. Bahama Is. Three specimens are known.

(Genus: **Psychonoctua** Grt.)

By this generic name the species *personalis* Grt. has been described as a *Psychida*. But as the two other species *terrafirma* Schs. and *poam* Dyar were placed to the *Cossidae* by their authors, we shall also deal with the genus there. In the catalogue of DALLA TORRE they are probably wrongly mentioned as *Psychidae*.

10. Genus: **Thyridopteryx** Steph.

Body strong, densely haired. Antennae short, strongly pectinated, with bare tips. Abdomen markedly projecting beyond the round hindwing. Wings hyaline. All the 12 veins of the forewing are present, veins 3 and 4 nearer together. 7 + 8 stalked. Veins 2—5 of hindwing equally separated. 6 absent, 7 and 8 more or less anastomosing.

Th. ephemeræformis Haw. (= *coniferarum* Pack., *plumifera* Steph.) (169 c). Though the neuration is *ephemerae-* of course normal in a great number of specimens of this common species, yet the variability is enormous. *formis*. According to JONES, the number of veins on the forewing may vary between 14 and 9, on the hindwing between 8 and 5. Accordingly, the arrangement of the *Psychidae* by their neuration may be believed to be almost impossible, if one considers that a similar variability might also occur in other species, if a sufficient number of specimens were available. Besides, however, some specimens of *ephemeraeformis* also show cross-bars and accessory cells — one might almost say in impossible places — so that one is reminded of quite different groups of insects. The confused schemes of veins published by WEYHENBERGH *) for his species are even surpassed here. Antennae dark brown, body brownish black, wings hyaline. Costal margin of forewing narrowly blackish in its exterior part. Hindwing narrowly blackish at the costal margin, broader at the inner margin, the veins brown. ♂ 26 mm. New York to Florida, Bahama Is. — The bag of the ♂ is 35—45 mm long and 6 mm thick in the middle, besides the clothing with small pieces of wild cherry, willow, oak, conifers; the larva may even live on herbs. According to the plant on which the larva lives, the bags look rather different. Those of the ♀♀ are about 60 mm long, 15 mm thick. The ♀ does not leave the larval bag. As soon as the pupal case has burst, ♂♂ are allured, the abdomens of which are enormously stretched during the copulation. The only thing that is not variable in *ephemeraeformis*, is the appearance of the imago towards the end of summer and the hibernation of the eggs.

Th. vernalis Jones (169 d) resembles the preceding species, but it differs in the time when it flies. *vernalis*. The larva hibernates, the imago appears in spring. In 2 of 5 specimens veins 4 + 5 of the hindwing are stalked, and veins 7 and 8 of the hindwing anastomose more or less. The hindwing is thereby more rounded than in *ephemeraeformis*. The collar is remarkably grey, and the tegulae are also somewhat mixed with grey. Otherwise the imago seems not to differ. 25 mm. Delaware to Georgia. — The larval bag is 38—50 mm long, 8 to 11 mm thick, rather cylindrical, fastened to bark, spun outside with rests of bark and lichens, not with pieces of leaves. The shape of the bag is not covered by the small size of these parts as it is mostly the case in *ephemeraeformis*. It lives on *Pinus rigida* and presumably also on other species of *Pinus*.

Th. meadii H.-Edw. Wings hyaline, without black scales at the inner margin of the hindwing. Veins *meadii*. pale orange. ♂ 25 mm. Mohave Desert (California). — The bag is smaller than in *ephemeraeformis*, cylindrical.

* In Tijdschr. v. Ent. 27, t. 2, f. 7—9.

Th. alcora Barnes. The description corresponds exactly with that of *ephemeraeformis*. The only difference is that nothing is said about the colour of the veins. The size (25 mm) is also similar. Described according to 1 ♂ from Arizona.

pallidore-nata. **Th. pallidovenata** Grossbeck resembles a large *ephemeraeformis*. Antennae brown, yellowish at the tips. Body above and beneath dark smoky brown, with a silky gloss. Wings whiter hyaline than in *ephemeraeformis*, the veins also paler. Forewing narrowly dark brown at the costal margin, broader so at the inner margin at the base. Hindwing the same at the two margins. ♂ 34 mm. Described according to a single specimen from Florida. The author thinks that the Florida specimens of *ephemeraeformis* mentioned in literature belong to *pallidovenata*.

thoracicum. **Th. thoracicum** Grt. is smaller than *ephemeraeformis*, wings scantily scaled. Thorax with pale silky hair, the other hair brownish black. Forewing with a distinct partition-vein in the cell, which is absent in *ephemeraeformis*. ♂ 25 mm. Described according to 2 ♂♂ from Cuba.

microptera. **Th. microptera** Schs. has only 9 veins in the forewing, 3 in the hindwing. Body black, only the metathorax and the abdomen at the base brownish ochreous. Wings hyaline. Forewing with brownish ochreous veins in the basal area. The hindwing has long black hairs except at the costal margin. ♂ 23 mm. Cayenne. Described according to a single specimen.

seitzi. **Th. seitzi** sp. n. (169 e) is the smallest species. The veins 2 to 5 of the forewing follow each other at about equal distances, 6 is absent, 7 and 8 from the upper cell-angle, 10 a little farther back, 11 present. In the narrow hindwing a vein extends from the very broad and long cell into the apex, one more each above and below it at equal distances to the margin. Above it the cell bends outward almost as far as the costal margin and despatches a short vein from the anterior bend to the margin. Body black. Antennae dark brown. Forewing hyaline. Brown scales at the inner margin at the base and at the costal margin at the interior half. The exterior part at the costal margin and the distal margin are quite narrowly black. Hindwing narrow, the terminal third black, the costal margin narrowly black, the inner margin with white hairs. ♂ 16 mm. Rio de Janeiro. taken by Dr. SEITZ. Type in the Senckenberg Museum.

(Genus: **Dipyle** Guer.)

The author assures that *Dipyle* is allied to the genus *Oiketicus*. The cocoon is twice as long as it is thick and is open on both sides. The shape resembles that of a Venetian gondole. All this shows that the author had a *Pecrophorida* at hand. The species *boucardi* Guer. has thus been wrongly ranged in DALLA TORRE's Catalogue.

11. Genus: **Animula** H.-Schäff.

Antennae of ♂ bipectinated to the tips, in contrast with the likewise hyaline species of *Thyridopteryx*. Veins 8 + 9 of forewing stalked, 5 absent. In the hindwing 4 veins are present, besides vein 8 which anastomoses with the cell. Two species are known in the Indo-Australian Region, among them the typical one (*herichi*), from South America there are 3, and two more from unknown habitats.

dichroa. **A. dichroa** H.-Schäff. (169 d). Antennae blackish. Body densely covered with black hair. Forewing hyaline, the veins pale yellow especially at the costal margin. On the hindwing only the cell is hyaline, faint black dusting behind it, the inner margin broadly covered with greyish black hair. 28—32 mm. Colombia, Venezuela. 1 ♀ which might belong to it is 26 mm long, 5½ mm thick, yellowish brown, with densely arranged red-brown spots, a dark brown head and a blackish neck-shield.

limpia. **A. limpia** Dgn. resembles *dichroa* (169 d). Antennae black, body with long black hair. Forewing hyaline, the costal margin and the veins at the base yellow, then gradually covered with black scales, a few black scales also on the whole wing. They are absent in *dichroa*. The hindwing is black only at the inner margin, thus less extensively black than in *dichroa*. 23—28 mm. Described according to 5 specimens from Ecuador.

basinigra. **A. basinigra** Fldr. (169 d). The figure shows a species which is less similar to *dichroa* than to *dimidiata*. Body dark brown. Both wings hyaline, somewhat yellowish, the interior two fifths of both wings dark brown according to the figure, not black as the name indicates. ♂ 18 mm. Brazil. No further specimens seem to have been found later on.

Origin of the two following species unknown.

dimidiata. **A. dimidiata** Heyl. The shafts of the short antennae greyish yellow, with dark brown pectinations. Body with long gray hair, scarcely projecting beyond the hindwing. Wings hyaline. The forewing widens outwardly. The base densely covered with blackish brown scales, the margins narrowly black, the fringe with yellowish tips. Hindwing rounded, the base, margin and fringe as in the forewing. ♂ 22 mm. — The larval bag is 60 mm long, strongest near the base, longitudinally irregularly covered with rests of dry leaves of different sizes. Described from the Coll. OBERTHÜR, but apparently not figured.

basalis. **A. basalis** Heyl. Antennae short, yellow, with long blackish brown pectinations. Body with whitish hair. Forewing almost quite hyaline, only the base of all the cells densely covered with blackish hair. Hind

wing quite hyaline, almost circular, with long whitish hair at the inner margin. ♂ 24 mm. Described from the Coll. STAUDINGER where, however, it is no more present.

Subfamily: **Oeceticinae** *H.-Schäff.*

In the forewing the two inner-marginal veins anastomose and send several branches to the inner margin. The partition vein of both cells is forked.

12. Genus: **Clania** *Wkr.* (Eumeta *Wkr.*, Cryphothelea *Wkr.*)

Antennae of ♂ pectinated to the tips. Hindwing somewhat shorter than in *Oiketicus*. Forewing with stalked veins 4 + 5 and 8 + 9, all the veins present. Vein 8 of the round hindwing mostly sends spurs to the costal margin. Anterior tibiae with a long thorn. In Vol. X we enumerated 21 species from the Indo-Australian Fauna, in the American Fauna there are but 2 species.

C. surinamensis *Mschlr.* The species is described as a *Psyche* and compared by the author with *unicolor surinamensis*. *Hfn.* (Vol. II, pl. 55 a), while HEYLAERTS has placed it to the genus *Clania*. Antennae blackish brown, the body somewhat lighter, corresponding with *unicolor*. Forewing with a straight distal margin and a sharper apex than in *vilosellae*. The colour of the wings is the same as in *unicolor*. 23 mm. 1 ♂ known from Paramaribo.

C. brasiliensis *Heyl.* Similar to *surinamensis*. Antennae dark brown, with long pectinations up to the tips. Body and wings blackish brown, densely scaled. Forewing slightly bent at the costal margin. Hindwing slightly inserted at the distal margin. ♂ 23 mm. Brazil. — The bag is about 24 mm long, densely covered with pieces of light lichens and darker leaves. The larva is blackish, with yellow dots and streaks, the 3 anterior segments yellow.

13. Genus: **Platoeceticus** *Pack.*

Small species. wings broad. vein 6 present in both wings.

Pl. gloveri *Pack.* (169 c). ♂ uniformly dark brown, the ♀ is oval, whitish. — Larval bag 14—18 mm long, *gloveri*. strongest (5 mm) in the middle. The larva lives on orange trees. ♂ 18 mm. Florida.

Pl. costaricensis *Schs.* Body and wings dark greyish brown. Forewing browner in the interior two thirds, the veins very dark, veins 4 + 5 on a long stalk. Veins 4 + 5 of hindwing on a short stalk. 34 mm. 1 ♂ known from Juan Vinas (Costa Rica).

Pl. aphaidropa *Dyar.* Neuration as in *costaricensis*, but also veins 9 + 10 of the forewing stalked. Forewing triangular, hindwing rounded, brown, thinly scaled, with a faint bronze gloss. Forewing with darker veins, the apex and distal margin somewhat more bronze. 1 ♂, 19 mm, from Panama.

Pl. symmicta *Dyar.* Forewing broad with a round apex, hindwing rounded triangular. Ground-colour brown, somewhat lighter on the hindwing. Forewing: veins 8 + 9 stalked, 10 free. On both wings veins 4 and 5 arise from the same base. 12 mm. Panama.

Pl. marona *Schs.* Body and wings brownish black. Veins 4 + 5 stalked only in the forewing. 26 mm. 1 ♂ known from Cayenne.

Pl. rebeli *Köhler* (169 d). Described as *Chalia*, later on placed here by the author. Similar to *Ch. künckeli*, but the shape of the bag is different. Imago blackish brown. The original figure shows a strongly built insect with rounded wings. The distal third of the forewing seems to be lighter, both wings with small light round spots (? damaged). — The bag is 15—25 mm long, quadrangular, irregularly covered with transverse thorns. 5 mm thick, on *Cynara cardunculus*.

Pl. macleayi *Guild.* (169 d). Described as *Oiketicus* and compared with *Oi. kirbyi* which has quite different contours of the wings and is not in the least similar. Body delicate, abdomen just as long as the hindwing. Wings broad, rounded, dark brown. 18 mm. West Indies. — The larval bag is 20 mm long, 5 mm strong, conical, covered with projecting little pieces of lichens. We reproduce the original figure of the lepidopteron though it is hardly complete.

The two following species were described as *Manatha* *Mr.*, but later on placed here by their authors.

Pl. nigrita *Barnes & McDunn.* (169 d). Veins 4 and 5 of the forewing may be stalked, but it is rarely so; 8 + 9, however, are stalked, sometimes also 7 + 8 + 9. Veins 4 + 5 of the hindwing sometimes stalked. A bar from vein 8 to the cell seems to be absent. Size and colouring of the imago similar to that of *Eur. edwardsii* (169 b), but of a somewhat duller black, separated by the neuration. ♂ 16—18 mm. — The larval bag resembles that of *confederata*, it is interwoven with fine particles of grass and outside longitudinally covered with short caulicles of grass. Described according to 7 ♂♂ from Florida and Texas. According to DYAR, the imagines of *nigrita* and *gloveri* are not discernible.

jonesi. **Pl. jonesi** Barnes & Benj. is similar to *nigrita* (169 d), but smaller, with shorter antennal pectinations. In *jonesi*, veins 4 + 5 of the forewing are not stalked as a rule. Separated from *nigrita* by the antennae and the genitals. Described according to 20 ♂♂ from Texas. — On the occasion of this description another species is mentioned, which may be identical with *jonesi* or *gloveri* of which no more material is preserved in the collections. 20 ♂ bags yielded lepidoptera which had the same antennae as *jonesi*, but black wings as in *confederata*, without the brown tints of *jonesi* and *nigrita*. The larvae fed on blossoms and delicate leaves of *Crataegus*, but neither on leaves of fruit-trees nor on grass. The bags resemble those of *gloveri*, they are therefore only spun over with very fine particles of plants, not with large pieces.

Of the following three species only the larval bags are known.

tandilensis. **Pl. tandilensis** Köhler. The bag is 18—22 mm long, covered almost in parallel order with grass-pieces of different lengths, some of them being longer than the bag. Diameter 3—4 mm. The larva lives on Gramineae, but the adult larva may also feed on the blossoms of the Malvacea *Pavonia cymbalaria*. Argentina.

rugosus. **Pl. rugosus** Köhler was described from the same district. The bag is just as long, but thicker, spun over with obliquely arranged parallel remnants of herbs, not of grasses, though it feeds on grass.

14. Genus: **Oiketicus** Guild.

While the genus is represented only by 2 species in the Indo-Australian Fauna, the American Fauna contains 12, some of which occur in the Southern States; of 3 species only the bag is known. In the oblong forewing veins 4 + 5 and 7 + 8 + 9 are stalked, a few spurs extend from the inner marginal vein to the inner margin. Hindwing almost triangular. Anterior tibiae with a long thorn.

Of the first three species only the bag is known.

westwoodi. **Oi. westwoodi** Berg. The bag is about 90 mm long, 25 mm thick, conical, spun over with few particles of plants, similar to that of *geyeri*. According to KOEHLER, the size is 60 and 18 mm. The larva is similar to that of *kirbyi* but discernible by white dots on the dorsum of the segments 4 to 6, which are hardly noticeable in *kirbyi*. The rest of the body is similarly coloured, only the head is redder. The antennae and parts of the mouth being white in *kirbyi* are red here. Body with more numerous and more distinct black lateral dots than in *kirbyi*. On species of *Piptadenia*. Argentina.

elegans. **Oi. elegans** Köhler. The bag is 22—28 mm long, grey, 4 mm thick, somewhat narrower towards the end. Not spun over with particles of plants. On tree-like Leguminosae. The case seems to be very small for a species of *Oiketicus*. Described from Argentina.

davidsoni. **Oi. davidsoni** H. Edw. According to DYAR, the species surely belongs to some other genus, since the bag is longitudinally covered with branchlets which are partly longer than the bag. Length of bag: 40 mm.

geyeri. **Oi. geyeri** Berg (= *tabacillus* Weyenbgh.) (169 e). Widely distributed, but much rarer than *kirbyi*. Antennae blackish. Forewing reddish brown, body more yellowish, hindwing lighter, somewhat diaphanous. Forewing without any marking, but the bar of the two inner-marginal veins seems to be somewhat lighter. Corresponding to this scheme of markings, which is quite different from that in *kirbyi*, the larval bag is also different, up to 60 mm long, 12 mm thick at its upper end, then slowly getting narrower, 4 mm thick at the end, quite smooth, looking at the end as if it were torn. According to KOEHLER's statement, the ♂ does not emerge at this end, but the larva makes an opening for emerging about $\frac{1}{3}$ distant from the end. BERG states the bag to be 80—120 mm long, which seems to be rather much. On species of *Acacia*. The imago, 36—48 mm large, is known from Venezuela, Uruguay, Argentina. — A very dark specimen which, however, presumably does not belong to *specter* is before me from Blumenau from the Senckenberg Museum.

specter. **Oi. specter** Schs. forms a transition to *kirbyi* and the allied species. Body dark greyish brown, wings the same, scantily scaled. Forewing with a paler grey cross-vein, the space in and behind the cell darker grey, the same at the base at the inner margin. Hindwing dark grey at the inner margin. ♂ 50 mm. Venezuela.

kirbyi. **Oi. kirbyi** Guild. (= *fugurator* H.-Schäffl., *gigantea* Z.) (169 e). Antennae blackish. Body and wings dark red-brown. The cell of the forewing is very dark, also the space behind it as far as the bifurcation of veins 8 + 9 and downward as far as the upper inner-marginal vein. Cross-vein white with feeble outward dents. In the copulation the abdomen of the ♂ is stretched to 2 or 3 times its length. 38—45 mm. Central America

platensis. to Brazil, also in Cuba. — **platensis** Berg (169 e) is somewhat smaller and of a much lighter ground-colour, but the dark places almost just as dark as in *kirbyi*, thus more contrastingly marked. 35—38 mm. Argentina,

mexicanus. Uruguay. — **mexicanus** Heyl. (169 f). I have not seen the description of this form, but only the type in the Berlin Museum. It is allied to *platensis* by the ground-colour being almost just as light, but it differs in the shape of the hindwing which is straight at the distal margin in *kirbyi*, well rounded in *platensis*, distinctly inserted in *mexicanus* as well as in *poeyi*. — **poeyi** Lucas (169 e) is somewhat more slender, still darker than *kirbyi*, the margin of the hindwing is strongly inserted. 36—42 mm. Cuba, Portorico, also from Blumenau. — The bag differs from the smooth conical shape of *westwoodi* and *geyeri*, it is 45—50 mm long, strongest at $\frac{1}{3}$ of its length,

about 15 mm, more pointed towards the end, covered with protuberances. The larva of the form *platensis* is doing much harm in Argentina. It feeds on all the home and imported foliage trees, also on fruit-trees. Only conifers and Eucalyptus are spared.

Oi. abboti Grt. ♂ sand-brown with a hyaline stripe at the cell-end of the forewing, narrowly paler at *abboti*. the distal margin. A blackish streak at the base of vein 1, being absent in *kirbyi* and its forms, and a broad shadow from the cell-end to the distal margin. ♂ 30 mm. Florida. — The bag is about 35 mm long, densely spun with transversal leaf-stalks.

Oi. townsendi Towns. The cell in the forewing "solidly" blackish brown, also without the light cross-vein blackish brown. Veins 8 + 9 stalked, also veins 4 + 5 stalked in most of the specimens. — **bonniwelli** *bonniwelli*. Barnes & Benj., described as a species, is a form of *townsendi* according to JONES. Ground-colour more smoke brown, the marking less distinct. *townsendi* is said to have a pale streak at the anterior edge of the cell on the forewing. According to JONES, both the forms differ little from *abboti*. According to BARNES and BENJAMIN, the body and wings are yellowish brown. Forewing with a black patch at the base of vein 1. The cell is black, more faded behind it, the cross-vein intensely white. Similar to *abboti*, but larger, lighter, the hindwing rounder. 42 mm. From New Mexico, Texas. The cases of both forms are not different; the temperature and other influences decide which form emerges. — The bags are longer than in *abboti*, longitudinally covered with leaves and leaf-stalks.

Oi. dendrocomus Jones (169 e) is the largest species, similar to *townsendi*. The forewing shows veins *dendrocomus*. 8 + 9 stalked, but 4 and 5 mostly not stalked, thus contrary to *townsendi*. Veins 4 and 5 of the hindwing are mostly neither stalked. Only the lower part of the cell on the forewing is intensely blackish brown, not the whole cell. The shadow behind the cross-vein is very short, so that the marginal area is not interrupted by it. Nothing is mentioned about the ground-colour of both wings; it will be similar to that of *townsendi*. 45 to 48 mm. Arizona. The ♀ is 46 mm long, 10 mm strong, dull yellowish white, the head and the thoracal dorsum darker yellow. — The larval bag is enormous, 80—130 mm long, clad with long leaf-stalks, and thereby about 20 mm thick. The bags of the ♂♂ are without these stalks in the lower thirds. On Robinia, Platanus, Tamarix.

Oi. basiger Wkr. The species was described in 1866, since when no more specimen seems to have been *basiger*. found. Body rusty brown. Forewing spotted brown, with black dots at the costal and interior margins. A black spot near the base, next to it a triangular silvery spot and a few silvery dots above the inner margin. The shape of the wings and the long abdomen are mentioned in the description, but owing to the silvery spots it is somewhat doubtful whether the species belongs to the *Psychidae*. 58 mm. Bogota.

The two following species have not completely scaled wings. In *orizavae* the margin is semidiaphanous, in *toumey* both wings are almost quite hyaline.

Oi. orizavae Schs. Forewing smoke grey, almost black at the inner margin, the exterior half of the *orizavae*. cell likewise almost black. A white spot at the cross-vein as in *kirbyi*, but less notched. Distal margin semidiaphanous. Hindwing smoky grey, broadly blackish at the inner margin. The distal margin from vein 2 to the apex semidiaphanous. ♂ 39 mm. Orizaba (Mexico).

Oi. toumey Jones (169 f) is very similar to *Thyr. ephemeraeformis*. Antennae brown, broadly pec- *toumey*. tinated, tips bare. Anterior tibiae with a fine tibial leaf, half the length of the tibia itself. Abdomen long and delicate, projecting far beyond the hindwing. Veins 4 + 5 stalked in both wings, veins 8 + 9 also short-stalked on the forewing. Wings hyaline, the veins yellowish brown, only the inner margin with brown hair, the costal margin of the hindwing with dark scales. 28—32 mm. Tucson (Arizona). — The bags very common on Acacia, 55—60 mm long, exceptionally to 100 mm and 10—12 mm thick on two fifths of their length, then growing thinner, greyish white, irregularly spun with pieces of leaves and stalks.

15. Genus: **Hyaloscotus** Btlr.

Wings broad, vein 6 absent in both wings, by which it is distinguished from *Platoeketicus*. Inner-marginal vein of forewing with a spur to the inner margin. *fumosa* exhibits a long thin thorn on the anterior tibiae, which is not yet ascertained in *pithopoera*.

H. fumosa Btlr. (= *fragmentella* H. Edw., *coniferella* H. Edw.) (169 f). This synonymy is probably *fumosa*. correct according to JONES, but it must yet be ascertained. The name *fragmentella* is prior to *fumosa*. The forewing of *fumosa* shows veins 8 + 9 short-stalked, but 4 and 5 are mostly not stalked. The species is delicately built, originally described as a Lithosiid. Wings rounded, scantily scaled, more densely scaled only at the veins and margins. Body blackish with long white hair. Wings smoky grey, the forewing somewhat darker than the hindwing. 26—28 mm. California. 5 ♂♂ were found by Lord WALSINGHAM. 50 years ago, they are the only specimens known to this day. — The bags are 20—25 mm long, 5 mm thick, longitudinally covered with fine remnants of plants.

H. pithopoera Dyar. Wings scantily scaled, grey, without any marking. 20 mm. From Idaho. Blue *pithopoera*. Mountains (Wash.). — The bag is longitudinally spun with small pieces of grass. Size not mentioned.

16. Genus: **Zamopsyche** Dyar.

Body delicate, wings oblong. Forewing with 11 veins, 8 + 9 stalked, the other veins free. Hindwing with veins 4 and 5 from the same place, all the veins present. Vein 8 connected with the cell by a feeble bar.

commentella.

Z. commentella Dyar. Wings diaphanous, blackish brown, with a bronze gloss. 2 ♂♂ known, from Virginia and South Carolina. — The bag is cylindrical, spun with some bark. Size not stated.

17. Genus: **Fumea** Steph.

This genus has been dealt with in Vol. II, p. 367. It must be mentioned here, too, since a European species has been imported to America.

casta.

F. casta Pall. (Vol. II, p. 368 and pl. 55 i). Since 1931, this species is rather frequently found in Massachusetts and a part of Pennsylvania, where it was evidently imported. It was discovered while combating the *Ocneria dispar* L. Extensive breedings yielded in the ♂♂ predominating 10 by 1. Also in breeding *Eurycytharus edwardsi* and *celibata* it may occur that 30—40 ♂♂ emerge and not any ♀.

Alphabetical List

of the original descriptions of the American forms of *Psychidae*.

* denotes that the form is also figured at the place quoted.

abboti Oik. *Grt. N. Amer. Ent.* 1, p. 52.
alcora Thyr. *Barnes Canad. Ent.* 37, p. 214.
aphaidropa Plat. *Dyar Proc. U. S. Nat. Mus.* 47, p. 253.
apicalis Than. *Hmps. Ann. Mag. Nat. Hist.* (7) 14, p. 180.

basalis An. *Heyl. C. R. Soc. Ent. Belg.* 28, p. 38.
basinigra An. *Fldr. Reise Novara t. 83, f. 22.*
bonniwelli Oik. *Barnes & Benj. Bull. Brooklyn Ent. Soc.* 19, p. 24.
brasilensis Clan. *Heyl. Bull. Soc. Ent. Belg.* 28, p. 40.
burrowsi Dend. *Jones Trans. Ent. Soc. Lond.* 1925, p. 509. *

cacocnemus Eur. *Jones Ent. News* 33, p. 131.
canescens Than. *Bthr. Trans. Ent. Soc. Lond.* p. 8 (1882).
carbonaria Eur. *Pack., Ent. Amer.* 3, p. 51.
casta Fum. *Pall. Psyche* 41, p. 19.
celibata Eur. *Jones Ent. News* 33, p. 130.
chilensis Than. *Phil. Linnaea Ent.* 14, p. 290.
commentella Zam. *Dyar Ins. Insc. Menstr.* 11, p. 4.
confederata Eur. *Grt. & Rob. Trans. Amer. Ent. Soc.* 2, p. 191 (1868).
costaricensis Plat. *Schs. Ann. Mag. Nat. Hist.* (8) 7, p. 634.

davidsoni Oik. *Edw. Proc. Calif. Acad. Sci.* 7, p. 142.
dendrocomus Oik. *Jones Trans. Amer. Ent. Soc.* 52, p. 2. *
diehroa An. *H.-Schöff. Außereur. Schmett.* f. 520.
dimidiata An. *Heyl. C. R. Soc. Ent. Belg.* 28, p. 38.

edwardsi Eur. *Heyl. C. R. Soc. Ent. Belg.* 28, p. 101.
elegans Oik. *Köhler Rev. Soc. Ent. Argent.* 3, p. 351.
ephemeraeformis Thyr. *Haw. Lep. Brit.* p. 72.

fragilis Cochl. *Barnes & Mc. D. Contr. Nat. Hist. Lep.* 3, p. 34. *
fumosa Hyal. *Bthr. Ann. Mag. Nat. Hist.* (5) 8, p. 314.

geyeri Oik. *Berg. Bull. Soc. Nat. Moscou* 53, p. 13.
gloveri Plat. *Pack. Guide study Ins.* p. 291. *

jonesi Plat. *Barnes & Mc. D. Contr.* 5, p. 47.

kirbyi Oik. *Guild. Trans. Linn. Soc. Zool. Lond.* 15, p. 374. *
künckeli Chal. *Heyl. Ann. Soc. Ent. Belg.* 45, p. 97.

lepidopteris Pach. *Dyar Insec. Insc. Menstr.* 14, p. 146.
limpia An. *Dgn. Ann. Soc. Ent. Belg.* 38, p. 241.

macleayi Plat. *Guild. Trans. Linn. Soc. Lond.* 15, p. 375. *
magnicornis Ac. *Bthr. Trans. Ent. Soc. Lond.* p. 8, 1882.
marona Plat. *Schs. Proc. U. S. Nat. Mus.* 29, p. 345 (1906).
meadii Thyr. *Edw. Papilio* 1, p. 116.
mexicanus Oik. (*Heyl. i. l.*), Gaede in Seitz, *Macrolep.* 6, p. 1184.
microptera Thyr. *Schs. Proc. U. S. N. Mus.* 29, p. 345.

nigrita Plat. *Barnes & Mc. D. Contr. Nat. Hist. Lep.* 2, p. 170. *

orizavae Oik. *Schs. Journ. N. York Ent. Soc.* 9, p. 45.

pallidovenata Thyr. *Grossbeck Bull. Amer. Mus. Nat. Hist.* 37, p. 104 (1917).
pithopoera Hyal. *Dyar Insec. Insc. Menstr.* 11, p. 3. *
pizote Chal. *Schs. Proc. Ent. Soc. Wash.* 29, p. 185.
platensis Oik. *Berg. An. Soc. Sci. Argent.* 14, p. 276.
poeyi Oik. *Lucas, Sagra Hist. Cuba* 7, p. 303. *
polingi Eur. *Barnes & Benj. Contr. Nat. Hist. Lep.* 5, p. 186.
pygmaea Proch. *Barnes & Mc. D. Contr. Nat. Hist. Lep.* 2, p. 171. *

rebeli Plat. *Köhler, Fauna Argent.* 2, p. 25. *
rileyi Chal. *Heyl. Ann. Soc. Ent. Belg.* 28, p. 208.
rugosus Plat. *Köhler Rev. Soc. Ent. Argent.* 3, p. 351.

seitzii Thyr. *Gaede Seitz, Macrolep.* 6, p. 1182. *
specter Oik. *Schs. Proc. U. S. Nat. Mus.* 29, p. 344.
surinamensis Clan. *Mschlr. Verhdlg. zool. bot. Ges. Wien* 27, p. 669.
symmieta Plat. *Dyar Proc. U. S. Nat. Mus.* 47, p. 254.

tandilensis Plat. *Köhler Rev. Soc. Ent. Argent.* 3, p. 350.
thoracica Than. *Schs. Proc. U. S. Nat. Mus.* 29, p. 344.
thoracicum Thyr. *Grt. Proc. Ent. Soc. Philad.* 5, p. 249.
toumeyii Oik. *Jones Ent. News* 33, p. 133.
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tracyi Eur. *Jones Ent. News* 22, p. 193.
tristis Chal. *Schs. Journ. N. York Ent. Soc.* 9, p. 45.

vernalis Thyr. *Jones Ent. News* 34, p. 100.
vigasi Chal. *Schs. Journ. N. York Ent. Soc.* 9, p. 45.

watsoni Ps. *Jones Ent. News* 31, p. 101.
westwoodi Oik. *Berg Anal. Soc. Sci. Argent.* 13, p. 217.

zacualpania Chal. *Dyar Proc. U. S. Nat. Mus.* 51, p. 35.

Family: Thyrididae.

Since the beginning of the present century our knowledge of the forms belonging to this strange family has increased enormously, yet we know very little to this day about the habits and the systematic connections of the different genera. The biology is known only of the sole genus occurring in Europe, while all the exotic species are known merely in their imago stage.

In dealing with the latter in Vol. X, p. 743, we had pointed out that there is an extraordinary variety in the habitus of this one, not very large family (WAGNER's Catalogue [by DALLA TORRE] enumerated about 500 species in 1914). A number of the species resemble the *Pyrilidae* not only in their shape but also in their attitude, in flying, in selecting their resting places, in their behaviour on being captured by the lantern etc., and besides they also show similar peculiarities in their anatomy. Others again are of a heavy, unwieldy build, assuming a beetle-like flight so that they might rather be taken for wood-bugs (*Pentatomidae* or *Scutelleridae*). In some (*Hepialopsis sphingipennis*, *Zeuzerodes fasciata*) we even find a Sphingid shape, then again the habitus of *Syntomidae* (*Diphya* [*Gippius*] *sumptuosus*, *Glanycus* etc.), the shape of *Noctuae* similar to the *Eutelia* (such as *Dysodia*), such of a Geometrid exterior as for instance *Rhodogonia miniata* and *Macrogonia*. Besides there are quite a number of species exhibiting most strangely shaped wings and bodies that are unparalleled in the whole lepidopteral kingdom, for instance *Zeuzerodes fumatilis*, *Draconia denticulata*, some *Risama* etc. Moreover, there is often a strange harmony in the outward appearance of some species the habitats of which are sometimes situated in quite a different part of the world, and which exhibit also an entirely different anatomy. This is not so very astonishing in those cases where such species belong to the same genera distributed over several continents, yet it is rather difficult to believe in a very close interior affinity between *Rhodoneura triumphans* from Ecuador and the quite similarly marked *Rhodoneura pudicula* from the Moluccas. But it is rather strange to see how the very same, sometimes quite abnormal coloristic designs are repeated in altogether different genera living in quite different continents. A man meeting a *Morova subfasciata* in New Zealand may imagine to be transferred to Pennsylvania, where he started the common *Herxeris enhydris* from the bushes, showing the very same shape, colour and marking of the wings. Yet it is not astonishing if adaptations to the same objects lead to the same transformations and developments in different animal groups. Thus *Risama falcata* seems to be adapted to the same shape of a leaf as many Geometrids of the genus *Oxydia* are, and since, according to the well known theorem, two objects resembling a third must also be similar one to the other, it would be entirely wrong to presume mimicry in such cases or to regard their geographical separation as a criterion opposed to this theory.

The family has undoubtedly nothing whatever to do with mimicry. On the contrary, as we have just mentioned, it abounds extraordinarily in quite uncommon shapes of the wings and no less in the designs of colouring. We do not exaggerate if we say that the design of *Herdonia*, for instance *Herdonia miranda*, is unknown in the whole other insect kingdom. *Risama picta* and *Draconia peripheta* are in America just as unmistakable lepidopteral forms as *Camptochilus sinuosus* in India and *Psycharium pellucens* or *guttulosa* among the African *Thyrididae*.

Several monographies and catalogues have already been published on the *Thyrididae*, thus in 1892 a monography on the "*Siculidae*" (a name for the group more commonly used by older authors such as LEDERER, GUENÉE) by PAGENSTECHER; besides a Catalogue by HAMPSON in 1897, and Pars 20 of the *Lepidopterorum Catalogus* by DALLA TORRE in 1914. The figures, however, which were at disposal till the corresponding volumes of the "*Macrolepidoptera*" appeared, were extremely scanty; on the one hand because only 1 or 2 specimens have become known of a relatively great number of species, mostly by reason of their being very rare or living in excellent hiding places; on the other hand, many species were represented by badly preserved specimens which made it impossible to supply a precise figure. The privilege of being able to publish for the first time such a vast number of figures (altogether more than 340 figures of *Thyrididae* and 150 for the American

species) we chiefly owe to the kind assistance of the owner of the great Tring Collection from which Dr. JORDAN had the great kindness to get coloured photos made of the types and to lend us double specimens for being figured. We therefore beg to express here our special thanks to Lord ROTHSCHILD and Dr. JORDAN for enabling us to provide more than 70 figures which could otherwise not have been procured. A further part of models for our plates we owe to the collaboration of Prof. Dr. M. HERING who got types painted in the Berlin Zoological Museum and supplied us with double specimens which were copied, an essential furtherance for the illustration of this difficult family.

In looking for the junction of the *Thyrididae* on the pedigree of the *Pyrallidae*, HAMPSON seems to have been correct in ranging them after the *Chrysauginae*. Only in the *Chrysauginae* do we find again the enormous variety of shapes of the *Thyrididae*, the uncommonly clumsy and bulky *Neophrida* and *Idnea*, beside the typically Pyralid-like slender *Bonchis* and the *Alpheias* exhibiting almost the exact shape of *Crambus*. We find the almost just as varied distortion and twists of the wings in the *Zanclodes*, *Itambe*, *Acropteryx*, *Rucuma*, *Oryctopleura* and many others, where the tips and dents of the wing-margins are often bent over the surface in the resting imago which, owing to peculiar bands and folds, is forced to keep its wings in a most strange way. Where we notice vesicular humps at the base of the costal margin in *Risama picta* and *Vadata macroptera*, the *Chrysauginae* *Cadadupa* show lobular pads, the ♂♂ of *Rucuma* and *Casuarina* incumbent bags, the ♂♂ of *Azamora* hollowed cavities. The frequent inclination to hyaline spots exhibited by *Thyris*, *Glanycus*, *Dysodia*, *Risama*, *Rhodoneura*, *Draconia* etc. recurs in the (*Chrysauginae*) *Idnea*, *Itambe*, and in their beginnings as tingy spots in many other genera, while the monstrous development of the palpi of so many *Chrysauginae* occurs in the *Thyrididae* only in very slight beginnings, as for instance in *Hexeris*, *Herdonia* and *Pycnosomia angulata*.

If MEYRICK considers the *Thyrididae* to be an older main branch of the Pyralid tribe, his opinion is contrasted by the great differentiation mentioned just now. All the real Pyralid groups, excepting the *Chrysauginae*, exhibit a much greater consistency, especially also in shape, than the *Thyrididae* do, if we regard each of these branches separately, — the *Myelobiinae*, *Crambinae*, *Hydrocambinae*, *Pioninae* etc. The differentiation of the *Thyrididae* among themselves seems to be due to their phylogenetically inferior age. That they likewise descended from a very old root we have regarded as a fact above and concluded from its worldwide distribution.

Regarding the distribution of the *Thyrididae* over the earth we refer our readers to Vol. X, p. 743. Here we only wish to point out the remarkable scarcity of the nearctic regions in contrast with the neotropical regions where also the largest *Thyrididae* hitherto known occur, i. e. the *Draconia* and *Belonoptera*. Only for the sake of curiosity do we call our readers attention to the strange consistency of habitus between the brown *Draconia mirabilis* and the Geometrid *Macrotis netrix* Cr. (Vol. VIII, pl. 1 a). Marginal tips and a large irregular distal vitreous spot might be connected with this habit in the *Draconia* which, according to CRAMER's statements behaves in repose like a *Lasiocampa quercifolia*, the hindwing projecting over the forewing like a roof, so that the insect looks like a bundle of withered leaves. Such an explanation, however, will hardly prove correct in the Ocnochromine, since it holds its wings raised like those of the Rhopalocera.

1. Genus: **Thyris** Lasp.

This rather small genus has been largely dealt with in Vol. II, p. 371. The 5 species known are distributed over the Old World (3 species) and the New World (2 species), where they live in a temperate climate, confined to the northern hemisphere. No species are known from the Indo-Australian and South American regions. Type: *fenestrella* Scop. from Europe.

maculata.

Th. maculata Harris (= *perspicua* Wkr.) (173 a). Body dark bronze brown, the end of the patagia rusty brown. Wings blackish. Forewing with 3 dull reddish yellow spots at the costal margin. A circular hyaline spot at the cross-vein, from which a feeble reddish yellow line extends inwards to the inner margin. Submarginal line of reddish yellow dots vertical above the anal angle, slightly inserted behind the cell, double at the inner margin, sometimes there is yet a dot between this line and the cell. Median band of hindwing composed of a double spot, with numerous reddish yellow spots scattered behind it. 15 mm. United States. — The larva was described by DYAR only in 1924; it is of a stout and square build, light orange with round black tubercles with a few hairs. Head orange red, neck-shield large, orange edged with black, anal plate black. On Clematis in the turned over edge of a leaf.

lugubris.

Th. lugubris Bsd. (173 a) is somewhat less dark than *maculata*. Black. Thorax with white lateral spots, abdomen with a few white dorsal spots. Forewing with many white dots at the costal margin, median band composed of 2 white spots. Behind them a larger one and 3 smaller ones. Hindwing with a broader median band. A few dots before the margin. 18 mm. United States.

2. Genus: **Diphyia** Wkr.

The genus represents the Indian species of *Glanycus* in the Nearctic Fauna. The only species known exhibits a habitus very similar to that of Syntomids or Arctiids; among the latter group it is also quoted in older catalogues by the name of *Gippius*. Palpi short and thick, antennae of the ♂ tufted. Forewing more oblong than in *Thyris*. The cross-vein of the forewing very feeble. Veins 4 and 5, as well as 7 and 8 very close together at the base, 6 far below the upper cell-angle, 9 + 10 stalked. In the rounded forewing veins 4 and 5 are also near together, the cross-vein is absent, 6 and 7 from the upper cell-angle, 8 fused with the anterior edge of the cell. Only 1 species known.

D. sumptuosus Wkr. (173 a). Body and wings black. Thorax with red lines. Abdomen with red lateral spots and anal tuft. Wings somewhat lustrous brownish. Forewing with rows of lemon-coloured spots in the basal half. Behind them a few more spots at the costal margin and anal angle. Hindwing with but 3 or 4 spots at the margin near the anal angle. 35—40 mm. Mexico. *sumptuosus*.

3. Genus: **Dysodia** Clem.

In the Palaearctic Fauna only a single species penetrates to the confines. In addition there are 3 species from the Indo-Australian Region, while 9 species occur in Africa. HAMPSON, in his monography, enumerates only 3 species from America, but we must consider that he did not yet know the species described later by DRUCE in the Biol. Centr.-Amer. This improbable numerical proportion was greatly changed later on by WARREN and DYAR, who enumerated about 25 species. We follow the statements of DYAR who in dividing the group into such a great number of species is probably going too far, as the separation of *igualensis* Dyar shows. Yet one cannot tell which names of species denote merely forms, without having a number of specimens at hand. The species are frequently found described among the generic names of *Varnia*, *Pachythyris* and *Platythyris*. Type: *oculatana* Clem. from America.

1. Forewing with a whitish hyaline discal spot.

D. oculatana Clem. (= *plena* Wkr., *fasciata* Grt. & Rob., *montana* H. Edw., *aurea* Pagst.) (173 a). The ground-colour is yellow, traversed by fine red-brown lines. The transverse bands are red-brown. An indistinct band at the base. The interior band is uniformly narrow, rectangularly broken in the middle. The median band is broad at the costal margin, with a yellow spot at the costal margin, somewhat broken in the middle and then only half as broad to the inner margin. The submarginal band is bent behind the cell, somewhat narrower than the interior one. The hyaline spot on the hindwing anvil-shaped. Behind it 2 narrow red-brown bands, partly fused. 20 mm. Distributed from the United States to Venezuela, but rare. The larva on the leaves of *Eupatorium*. *oculatana*.

D. vitrina Bsd. differs from *oculatana* in its violettish red colour. The larva is said to mine in the branches of *Phaseolus*, which is out of question in the species of *Dysodia* and *Thyris*. The species has never been discovered any more. Reported from the United States. *vitrina*.

D. summargo Dyar. Ground-colour coppery brown, somewhat yellowish at the base and costal margin. The dense violettish brown reticular lines are inclined to form rings around a central dot. The bands are broad, uniform, rather parallel, dentately edged. The 2 interior bands somewhat bent, the exterior and submarginal ones almost straight. Margin distinctly notched in both wings. Discal spot of forewing narrow, oblique, that of the hindwing large, narrower in the middle. Hindwing darker at the costal margin and anal angle, the striation distinctly ring-shaped. 25—30 mm. Mexico. Rather common. *summargo*.

D. immargo Dyar. Ground-colour also copper brown, only at the costal margin very narrowly yellow. The reticular lines are fine and dense, the light interspaces punctiform. The bands broad, similar to each other, the submarginal band terminating into the margin. The hyaline spots as in *summargo*. Hindwing almost uniformly covered with violet reticular lines. The brown ground-colour is only punctiformly preserved. The submarginal band is especially distinct on the forewing beneath in *summargo*, whilst it is absent beneath in *immargo*. The latter is lilac brown beneath, the following *granulata* is straw-coloured beneath, also without the submarginal band. 21 mm. Mexico. Described according to a single specimen. *immargo*.

D. granulata Neumoegen. Body grey. Forewing greyish brown, with numerous orange red reticular lines forming ellipses, only the distal margin remaining grey. The hyaline spots are irregular. The median band close behind it greyish brown, broad at the costal margin, tapering at the inner margin. 5 straw-coloured spots at the costal margin, 2 before the band, 2 behind it, one in the middle. Hindwing coloured like the forewing. The hyaline spot much larger, indented on its interior side. Straw-coloured beneath with brown reticular lines and a brown median band. 23 mm. Described according to 1 ♀ from Arizona. — **igualensis** Dyar has been described as a species likewise according to but one specimen from Guerrero (Mexico). The differences are the following: ground-colour orange yellow, the body almost the same. The reticular lines form more streaks. Forewing with a broader main band enclosing the hyaline spot, the centre of the cell is crossed by a transverse streak. The hindwing is also marked streak-like. 19 mm. Later on, BARNES and BENJAMIN ascertained from a larger number of specimens from Pima Co. (Arizona) that the species varies from specimens *igualensis*.

still darker than the *granulata*-type to yellowish ochreous *igualensis* in all kinds of transitions, yet each of the forms may occur predominantly or exclusively at the two typical habitats, so that both the names may be maintained.

- monava*. **D. monava** Dyar. The submarginal band being broad in the preceding species is linear in *monava*. Ground-colour of both wings olive grey, strewn with straw-colour at the base, with dense dark reticular lines. The forewing with a small triangular hyaline spot in the cell. The band behind it dark, broad at the costal margin. The distal margin narrowly dark. The large hyaline spot on the hindwing is indented outside. The whole marginal area behind it dark. Submarginal line indistinct, interrupted. 1 ♂ from Zacualpan (Mexico).
- hypothyris*. **D. hypothyris** Dyar. The body is more slender than in the other species. Wings broad, bronze black. Forewing with a few yellow spots at the costal margin and in the centre of the wing below the cell. Similar spots in the dark median band of the hindwing. Both wings with large hyaline white discal spots, that of the forewing oval, that of the hindwing rounded quadrangular. Nothing is mentioned of a submarginal line on the forewing; it will be covered by the dark ground-colour. Violet beneath, the forewing with 2 black bands and scattered streaks. 15 mm. 1 ♂ from Guerrero.

2. Forewing without a whitish hyaline discal spot. If such a spot is present on the hindwing, it is not quite transparent.

- dioxzona*. **D. dioxzona** Dyar. Body partly dark greyish brown. The forewing yellowish with fiery red spots. The basal area fiery red, brown at the costal and inner margins, the interior band behind it, beginning below the costal margin. Reticular lines fine, dense. The main band oblique, broad, united with a first band from before the middle of the costal margin and a second band close at the end of the main band, forming a fork of it. Hindwing with a broad basal band. The hyaline spot narrow, despatching a basal ray from the lower edge. Exterior band broad, running obliquely to the anal angle. 22—24 mm. Mexico.
- nipsa*. **D. nipsa** Drc. (173 a). Body and wings reddish brown, the transverse bands somewhat darker. The interior band and the main band of the forewing are somewhat widened in front, the submarginal band uninterrupted, parallel to the margin. Hindwing with a luniform white spot without a prolongation to the base. Under surface lighter. 30 mm. Panama. I consider *nipsa* to be an *oculatana* without a spot in the forewing. The indistinct dark marking is the same in both the species. I have one specimen each at hand with and without a hyaline spot on the forewing, from Chiapas (Mexico); they would therefore have to be two species from different groups.
- angulisola*. **D. angulisola** Dyar. Ground-colour yellow with some copper red. Forewing with broad violettish brown bands; the interior one broad at the costal margin, filled rather dark. Submarginal band interrupted, the anterior part terminating into the costal margin near the apex, the other part forming a spot above the anal angle. Hindwing dark at the costal margin and in the basal band. The discal spot is angular, divided. The centre of the wing with fine reticular lines, broadly light, without intense lines. 25 mm. 1 specimen from Panama. — Three somewhat different specimens probably belong yet to this species. One specimen each from Costa Rica and Mexico has a darker hindwing; in the former the wing is uniformly dark, in the latter the light median stripe is narrow. The third specimen, from Peru, is more intensely copper red on the hindwing, the costal margin not darker. Both the hyaline spots are larger. DYAR himself thinks that *angulisola* may be identical with the following *thyridina* Fldr., which may be correct.
- thyridina*. **D. thyridina** Fldr. (173 a) was formerly combined with *speculifera* Sepp, but according to WARREN and DYAR they are different. The ground-colour is brownish ochreous, not orange red, the costal margin in both wings is broader dark than in *speculifera*. The reticular lines are finer, forming pale spots between the veins. The cellular spot of the hindwing is shaped as in *oculatana*, its 2 parts being united in the ♀, separated in the ♂. The dark band extends before the hyaline spot, not behind it. On FELDER's figure in his work "Reise der Novara", pl. 117, fig. 20, the anterior part of the submarginal band on the forewing extends near the distal margin, and not into the costal margin as in *angulisola*. This would be only a slight difference. According to 1 ♀ of *thyridina* from the Chanchamayo, which is before me by the kindness of Dr. JORDAN, the figure is wrong. The submarginal band is exactly like that described in *angulisola*. *thyridina* was described from Guiana, it occurs also in Colombia, Peru, Bolivia. 26—30 mm.

In the following species as far as *flagrata* inclusively, the submarginal band of the forewing ends at vein 3 or 4, or it is linearly continued at most. The median band of the hindwing is forked, a feeble branch extends to the anal angle.

- speculifera*. **D. speculifera** Sepp (= *aequalis* Wkr.) (173 b) shows the hyaline spot on the hindwing large, undivided. The median band on the forewing terminates pointed at the inner margin. The species is never recognizably figured. The original work shows an orange yellow insect and a reddish violet one. The main band on the forewing is extremely broad at the costal margin, narrower at the inner margin. An interior band and a basal one are very thickly painted. The costal margin is not darkened. The dark brown band on the hindwing encloses the large hyaline spot. 32 mm. Florida, Tropical America. — HAMPSON takes *flagrata* Wkr. and *thyridina* Fldr. to be synonymous with *speculifera*. According to WARREN, they are 3 different species. There are 5 specimens before me, which may be *speculifera*, because they do not fit to the descriptions of the other

species of this group. Two of them exhibit a large hyaline spot on the hindwing, whereas in two others it is divided by a dark vein. A fifth lacks the submarginal line on the hindwing, the hyaline spot being divided. The latter specimen, however, cannot be *derufata*, since the ground-colour is as reddish as in *speculifera*.

D. pyrsocoma Dyar differs from *speculifera* (173 b) in its broader bands. The wings are narrower, hued *pyrsocoma*, with fiery red. By this different colour it is distinguished from *olivescens* Warr. The discal spot on the hindwing is large in *pyrsocoma* and *olivescens*. 1 specimen from Costa Rica served as the type for the description.

D. confusata Warr. (173 b) has a smaller discal spot on the hindwing. The bands and lines are likewise *confusata*, broad. The reddish or brownish ground-colour is less extensive than in *speculifera*, darker. The broad main band shows at its interior edge in the centre of the wing a projection towards the base almost as far as the interior band. A specimen kindly put at my disposal by Dr. JORDAN shows merely a small angle there, but a dark line extends from there steeply to the inner margin. The same is the case in *olivescens* (173 b). The light places on the hindwing are still more reduced, because the bands are broader. The hyaline spot is small, 8-shaped. 28—30 mm. Ecuador. — The type shows a deep copper red ground-colour, but it may also be olive brown: *olivescens* Warr. (173 b) from the same habitat; it is a dark olive brown specimen without any *olivescens*, light places at all. The hyaline spot is large.

2 b. The hyaline spot on the hindwing is divided.

D. derufata Warr. (173 b) differs from *speculifera* in its ochreous colour, which is sometimes a little *derufata*, reddish yellow, only the abdomen being red. The reticular lines are finer, more regular, more forming short dark brown streaks. Especially distinct on the hindwing, where the dark submarginal line is entirely absent. The cellular spot is composed of 2 contiguous small round spots. 26 mm. Described according to 2 ♂♂ from Parana, but it occurs also in other parts of Brazil. DYAR states that the apex of the forewing is tinged with dark violettish brown as far as vein 6; it is so as far as vein 4. A vertical submarginal line extends from the anal angle upward to vein 4.

D. innubila Warr. resembles a *derufata* (173 b) with a very pale marking. According to the author, *innubila*, it is distinguished from *speculifera* by its darker, more uniformly copper red colour, for which reason the reticular lines are less distinct. The lower half of the broad main band are somewhat narrower. The apical area behind the oblique submarginal streak is broader and darker red, not clouded as in *speculifera* and *derufata*. Hindwing with 2 small dissimilar hyaline spots. 26—28 mm. Bolivia, Peru.

D. acrotoma Dyar. Reddish, the striation blackish. The main band on the forewing narrow, triangularly widened at the costal margin. A straight line through the apex from the costal margin to vein 4. Behind it apparently not dark as in *innubila*. Hindwing with a faint median shadow. The discal spot is composed of 2 small hyaline spots, from where a line extends to the inner margin. The marginal striation is distinct, with wide meshes. 28 mm. Described according to 1 specimen from Zacualpan (Mexico). Differences from *innubila* not mentioned.

D. flagrata Wkr. (= *floridana* Hulst.). According to WARREN, the species is not identical with *speculifera* (143 b) as HAMPSON presumed. The inner margin of the forewing is dark brown from the base to the main band. The latter is not broad, not strangulated in the middle as in *speculifera*, but at the costal margin it forms an almost square spot down as far as vein 5, and from its interior angle a dark oblique line extends to behind the middle of the inner margin, while an irregular line extends from the exterior angle to the anal angle. The cellular spot on the hindwing is divided, bordered outside by the black median line which is widened into a spot above the median vein. Under surface pale brown, the marking olive brown, the interior marginal half of the hindwing broadly yellowish. The reddish yellow ground-colour of the ♂ is covered in the ♀ by dark brown dusting on both wings. 26—32 mm. Venezuela, Colombia, Ecuador.

3. In the following species the median band of the hindwing is not forked. The striation is parallel. The hyaline spot on the hindwing varies in its shape.

D. nomima Dyar. The main band on the forewing is convex outside, distinguishing the species from *nomima*, the two following ones. Ground-colour dull orange slightly mixed with red, with fine reticular lines. The main band is widened at the costal margin. A fine transverse line at the apex and a short vertical one at the anal angle. Also the hindwing shows the median band broader at the costal margin, without any other contrasting lines. Only a single small white median spot. 22 mm. Described according to a single specimen from Vera Cruz.

D. lineata Drc. (169 a). Body and wings olive brown. Forewing with 2 narrow somewhat darker bands *lineata*, in the basal area. The exterior band is twice as broad at the costal margin as at the inner margin. Traces of a subapical band from vein 4 vertically to the costal margin. Hindwing with a large hyaline spot in the middle, a few punctiform ones between it and the inner margin. 24 mm. Mexico.

D. borro Dyar differs from *lineata* in 2 small white hyaline spots on the hindwing. Forewing dark *borro*, violettish brown, copper brown in the middle, reticular lines dark, inconspicuous. Interior line bent, with a

projection at the middle, besides a parallel line before it. The exterior band is broader, especially at the costal margin. A fine transverse line at the apex. Hindwing with a broad median band behind the hyaline spots. 24 mm. One specimen from Jalapa in Mexico.

sica. **D. sica** Drc. (173 a). This species and the following ones have no more a distinct exterior band on the forewing, but a spot at the costal margin, from which a line proceeds to the inner margin. Ground-colour orange. Two fine dark lines in the basal area. A brown postmedian spot at the costal margin, from the edges of which one dark line each proceeds meeting at the inner margin. A distinct apical transverse line terminates at vein 3, and a short line vertically above the anal angle. Hindwing with a faded dark median band, broader at the costal margin, from where a line extends to the anal angle. 26—28 mm. Described according to a series from Tabasco. My only specimen from Panama shows 2 separated hyaline spots on the hindwing, which are not mentioned nor figured by DRUCE.

4. The following species have no transverse line at the apex.

traumatias. **D. traumatias** Dyar. Leather brown, tinged with violet. Forewing with a light red spot behind the cell. Reticular lines fine, spotted. The exterior line is only marked by a dark triangle at the costal margin, without any other lines. Hindwing with a large hyaline spot, deeply indented, followed towards the inner margin by a yellow spot with red reticular lines. 23 mm. One specimen from Jalapa.

remie. **D. remie** Dyar. Reddish like *speculifera*, but the distal margins darker in both wings. The striation is coarse, the lines are thin, the exterior line proceeding from a triangular spot from $\frac{2}{3}$ costal margin on the forewing. Hindwing with a straight fine median line, with 2 small white spots before it. Probably only a form of the following species. 23 mm. Panama.

lusia. **D. lusia** Drc. (169 f). The description of the forewing agrees exactly with that of *remie*. DRUCE mentions also an apical line in his description, but according to the figure this is evidently no oblique line, but one of the numerous parallel lines, which is somewhat more prominent. Hindwing without the dark median line and the hyaline spots. 27 mm. Tabasco.

spissicornis. **D. spissicornis** Warr. (173 b). Yellowish red. Forewing tinged with olive brown at the costal and inner margins, the reticular lines and transverse lines faded, dark brown. The basal line and interior line narrow, the exterior band broader, projecting outward above the middle, darker in the submedian fold. 4 pale spots at the costal margin, one before the middle, the others behind it. Hindwing only with reticular lines, the inner margin somewhat yellower, without any olive brown colour. The cellular spot is divided, forming two fine dots at the two angles of the cross-vein. 28—30 mm. 3 ♂♂ known from Rio de Janeiro.

ingenicula. **D. ingenicula** Dyar. As this species as well as *spissicornis* differ from nearly all the others in their considerable size, it might be only a form of *spissicornis*. Ground-colour copper red with coarse and fine reticular lines. Costal margin and apex of forewing darker. The exterior band is broader at the costal margin, with a projection on both sides. Hindwing with a similar band which is absent in *spissicornis*, but there is only a single hyaline spot present. 32 mm. Venezuela.

callista. **D. callista** Dyar. Body and forewing light ochreous, yellow at the anal angle, the apex broadly violet as far as the middle of the costal margin and to the angle at the distal margin, enclosing 3 pale spots at the costal margin. Before this apical spot a band from the costal margin to the submedian fold, below it two oblique darker bands to the inner margin. Hindwing brownish ochreous at the base, yellow at the margin, the median band violet, broad, forked at the inner margin. The hyaline spot is large, square, indented, yellowish hyaline. 27 mm. Described according to 1 specimen from Venezuela.

4. Genus: **Herdonia** Wkr.

The genus has already been dealt with in Vol. II, p. 372, since one species, the typical one, occurs in India and penetrates into the palaearctic regions. Besides it the genus contains but 4 more species, all from America.

miranda. **H. miranda** Warr. (173 c). Pale brownish ochreous, with some reddish brown here and there. Black double streaks with traces of a green filling at the base of the forewing and also a little at the beginning of the costal margin. Less distinct streaks above the inner margin as far as the base of vein 2. From veins 6 to 1 an oblique dark greenish brown band, edged with white on both sides. A paler brown submarginal stripe, slightly blended below the apex, widened at the anal angle. Hindwing similar. The basal spots numerous, the greenish brown median band in front very broad. The submarginal band is ramified at the apex. The size is most variable in this magnificent species. 35—55 mm. Described according to 1 couple from Fonte Boa (Upper Amazons); we figure a couple (♂ from Tring from Jaragua, ♀ from the Senckenberg Museum from Joinville in Sa. Catharina). — *isoldae* Köhler is said to have a grey oblique stripe, lighter than the submarginal stripe. 50 mm. From Argentina. The slight difference may be merely individual.

thetis. **H. thetis** Drc. (173 b). The contours of the wings on the original figure and the marking on the hindwing agree better with *tristriata* Pag. and *quinquelineata* Warr. which we have dealt with in the genus *Rhodoneura*. *thetis* is very pale and scantily marked. Body and forewing yellowish white. Pale brown double streaks at the base and

a few from there to the distal margin below vein 2, some also at the costal margin. A steep pale brown band from near the apex to the margin at vein 2. Hindwing white, with 3 fine dark brown double lines, an interior one, a median one, and a submarginal one. One specimen (28 mm) known from the State of Vera Cruz.

H. botydana Wkr. Wings pale yellowish. Forewing with 4 oblique double bands, the 3 first of which *botydana*. are incomplete. The dots and spots are blackish. Hindwing with 3 bands the ends of which are incomplete, the third widened at the costal margin and enclosing a white spot there. 35 mm. Brazil. From the description alone nothing could be said positively about it, if HAMPSON had not placed the species here in his List.

H. brixifacies Dyar. Forewing olive grey with dark grey bands and shadows. Interior band bent, in- *brixifacies*. cised in the middle. Exterior band composed of a spot at the costal margin and a band below it, excurved behind the cell. Submarginal band divided in the middle, the anterior part more red-brown, the lower one forked towards a longitudinal row of black spots. Hindwing creamy white with brown bands. The interior one only as a spot, the middle one straight, forked at the costal margin, the exterior branch black. The submarginal band is distally removed in its anterior third, with a black spot in front of it. 17—22 mm. Panama. Described according to two specimens.

5. Genus: **Pycnosoma** Hmps.

Separated from nearly all the other genera by the third palpal joint being long porrected horizontally. Forewing broad, veins 7 + 8 short, 9 + 10 long stalked. On the hindwing veins 6 + 7 on a short stalk. The genus contains but one single species.

P. angulata Hmps. The size and reddish yellow colouring similar to *Rhodoneura furva* (173 e), but *angulata*. without the discal vitreous spot in the forewing. Body reddish yellow. Wings golden yellow, densely striated reddish. Forewing only with an exterior line, obliquely outward at vein 7 almost as far as the margin, then straight to behind the middle of the inner margin. Hindwing with a large dark middle spot with hyaline and brown spots behind it; similar ones towards the inner margin. Exterior line red-brown, bent, ending at the anal angle. 32 mm. Described according to 1 ♀ from Espiritu Santo.

6. Genus: **Mathoris** Gn.

The thin palpi bent up to the frons. Wings broad and short. In the forewing only veins 9 + 10 are stalked. In the hindwing vein 8 is bent so far downward behind the cell that it is fused with vein 7. 5 species occur in South America, besides 2 in Africa; cf. Vol. XIV, p. 497, pl. 75 i. Type: *vocata* Wkr.

M. vocata Wkr. (= *procurata* Wkr., *roseola* Fldr., *crepuscula* Gn.) (173 e). Ground-colour orange, with *vocata*. fine dark red-brown reticulate lines. Forewing with 3 small hyaline dots, one above the base of vein 2 and one above vein 3, the third in the middle between them above vein 1. The brown striation is fused into a median band which is broad at the inner margin, enclosing the two upper hyaline dots, then divided to the costal margin in a narrow interior branch and a broader exterior one. Red-brown spots in the marginal area. The hindwing may exhibit a larger hyaline spot near the base of the cell, with a narrow red-brown band behind it, and a broader one at the margin with spots of the ground-colour. 15 mm. Brazil, Cayenne.

M. mediaria Wkr. Described as a Geometrid, but placed here by HAMPSON. Apex of forewing pointed, *mediaria*. somewhat excavated below it. Ground-colour rusty brown. Both wings with black reticular lines, irregular and interrupted, with a single more prominent straight oblique line. 1 ♂, 28 mm. From the Amazon District.

M. apiceflava Dgn. Ground-colour brownish orange, with more or less regular lemon-coloured spots *apiceflava*. on the forewing below the costal margin and in the submedian fold, and in the distal half of the hindwing. These chessboard-like spots are produced by the veins crossing the transverse lines in the ground-colour. Forewing with a lemon-coloured spot below the apex at the margin, broad at veins 9—7, extending down to vein 5. Hindwing yellow at the margin between veins 7 and 3. 23 mm. 1 ♂ known from Cayenne.

M. multiguttata Hmps. (180 g). Owing to the shape of the wings and the scheme of markings, the species *multiguttata*. looks exactly like a species of *Rhodoneura*; it presumably belongs to the following genus. Body and wings dark red-brown. Thorax yellowish white. Forewing with about 5 yellowish white bands of brown-centred rings, besides a few indistinct bands and single rings. Hindwing with darker reticular lines in the basal area. Behind the middle from $\frac{2}{3}$ costal margin a narrow band of white rings, strongly widening towards the inner margin. ♂ 25 mm. Bolivia.

M. quadrigata Fldr. is placed here by DALLA TORRE, which is surely a mistake. HAMPSON has omitted it.

7. Genus: **Stenocopsis** Warr.

Similar to the preceding genus in its structure and neurulation, but the forewing is stretched, the costal margin straight, slightly bent at the pointed apex, distal margin oblique. Hindwing with a pointed apex and a short inner margin. Only 1 very small species.

albiapicata. **S. albiapicata** Warr. (173 d). Wings ochreous. Forewing dusted black with a dull reddish yellow marking. Costal margin and inner margin reddish yellow as far as the submedian fold. A narrow interior band, then one before the middle of the wing, a broader one behind it, slightly bent inward in the middle, and a narrow undulated submarginal band. An oval white spot with a black central dot, a fine black submarginal line beginning outside at this spot, anal angle whitish. Hindwing with a slight grey hue, with traces of 3 parallel bands; a basal band of black scales, a brown median band, a fine indistinct submarginal shadow. ♀ 16 mm. From the Orinoco R.

8. Genus: **Macrogonia** H.-Schäff.

Palpi thick, projecting beyond the frons. Forewing slightly angular at the middle of the distal margin, not any vein stalked. Hindwing also angular in the middle. Veins 6 and 7 from the upper angle. Type: *igniaria* H.-Schäff., besides two other species.

igniaria. **M. igniaria** H.-Schäff. (173 c). Ground-colour orange with fine pink reticular lines. A blackish line edged with pink on both sides from the middle of the inner margin of the hindwing towards the apex of the forewing, shortly before the latter bent round to the costal margin and indistinct. 25 mm. Brazil. Apparently rare.

major. **M. major** Schs. Thorax pinkish yellow. Forewing yellow with pink reticular lines. Costal margin with dark spots which are more densely arranged in the first part. A fine brown line at the base and an undulated interior line. An indistinct ring at the cell-end. A fine black line from near the apex to the middle of the inner margin, continued on the hindwing as a median line. A few black reticular lines at the margin. Hindwing dark pink, exterior line fine, black reticular lines also at the margin. ♀ 32 mm. Costa Rica.

lucida. **M. lucida** Warr. (173 c). Body brownish ochreous with reddish orange spots. Wings brownish ochreous with reddish orange reticular lines. Forewing with a quadrangular dark brown spot behind the cell between the subcostal vein and vein 5, a line extends from it to an irregular brown oblique line from vein 7 to the middle of the inner margin, which latter line meets another oblique line extending from $\frac{5}{6}$ costal margin to the distal margin. The rest of the wing is covered with reddish orange reticular lines. Hindwing pale at the costal margin. The interior line dark brown from vein 6 to the inner margin, continuing the main line of the forewing. Veins thickly reddish orange, the reticular lines partly brown. 28—30 mm. A few specimens from the Upper Amazon R. — A specimen from the Senckenberg Museum exhibits a somewhat plainer marking. The costal-marginal spot is isolated. The main line from the centre of the inner margin on the hindwing extends towards the apex of the forewing as in *igniaria*, but it is more sharply bent inward to the costal margin than in the figure of *igniaria*; *lucida* is probably not specifically different from *igniaria*.

9. Genus: **Striglina** Gn.

The species of this genus occur in all the Faunae, though only one in the palaearctic Fauna (*scitaria*, cf. Vol. III, p. 373 and pl. 50 f). Most of the species are Indo-Australian, while 8 species are known from the warm districts of America. Type: *scitaria* Wkr. differs from the preceding genus in its feebler palpi. The margins of the wings without angles. All the veins of the forewing free, veins 6 and 7 of the hindwing arise distantly separated. Cf. also Vol. X, p. 746; Vol. XIV, p. 495.

ochracea. **S. ochracea** Mschlr. is very insignificant. Body and wings pale red-brown. The only marking on the forewing above is a white streak at the cross-vein with a small dark spot outside. Forewing beneath reddish, very intensely so in the marginal area. Hindwing dark orange yellow with many rows of indistinct pink streaks. Under surface and legs very much like those of the next species. ♀ 42 mm. Surinam, Amazons.

rufitibia. **S. rufitibia** Fldr. (173 d). Body and wings brownish ochreous with a slight greenish shine and numerous darker brown streaks on the forewing. Traces of an interior line above $\frac{1}{4}$ inner margin. A dark spot at the cross-vein, indistinct in the ♂. The exterior line from the apex to the middle of the inner margin is indicated by the darker distal area. Hindwing with a feeble dark median band and a few dark streaks. The ♀ is more intensely reddened, the cellular spot on the forewing is more distinct. Forewing beneath dark red with an exterior line of thick black spots, hindwing orange, somewhat red at the base, with few dark spots. 38—45 mm. Peru, Amazons, Guiana.

brunneata. **S. brunneata** Warr. Olive brown with few black spots. An indistinct dark line from the apex of the forewing to the middle of the inner margin on the hindwing, where the line is broader, apparently double. Black scales at the apex of the forewing. Ground-colour beneath duller, the striation more distinct, the inner margin of the forewing pale, the oblique line absent. 1 ♂, 24 mm, known from Cayenne.

S. flammans *Hmps.* Body and wings fiery red, only the tips of the patagia and the centre of the abdomen brown. Forewing with numerous brown reticular lines. An almost triangular brown spot behind the cell, from which an oblique line proceeds, which widens below vein 2 and is divided at the inner margin. A brown line from the costal margin behind the middle obliquely outward as far as vein 5, slightly bent inward at vein 4, terminating at the anal angle. Hindwing also with dark reticular lines. A brown spot below the middle of the costal margin, with an adjoining line to the inner margin. Under surface pale brown. ♀ 32 mm. Peru. *flammans.*

S. jucunda *Warr.* (173 d) is of a quite different exterior. Body brown and somewhat red. Forewing brown and more intensely red. Below the margin pairs of large yellow spots and a small one between them. From the first pair at $\frac{2}{5}$ costal margin a finely curved red line extends to $\frac{1}{3}$ inner margin. From the second pair at $\frac{2}{3}$ costal margin and a single dot behind it a yellow straight forked line extends to $\frac{2}{3}$ inner margin, parallel with the distal margin which is reddened below the middle. Round yellow spots at the apex and distal margin, a larger one between veins 4 and 5. Hindwing reddened only at the base as far as an irregular yellow line from which sometimes two similar lines extend to the distal margin below the middle, the lower one being slightly interrupted. The marginal area with large and small yellow spots. Under surface liver-brown, without red patches, the yellow spots strongly developed, the exterior line yellow, the margin behind it brown, with but few spots. ♂ 24 mm. Some specimens known from Peru and the Upper Amazon R. *jucunda.*

S. xanthopera *Hmps.* Body and wings pinkish brown, with thick yellow spots. Forewing with a bright yellow spot at the costal margin before the apex. A yellow, distally dark-edged line from the apex of the forewing to the middle of the inner margin on the hindwing. 1 ♂, 28 mm, from Rio de Janeiro. *xanthopera.*

S. medara *Schs.* Body and wings claret-coloured, densely spotted blackish brown, forming rings and streaks, and strewn with red. Distal margin undulated, projecting in the middle. Forewing finely white at the costal margin. A small dark ring in the cell-end. Hindwing with small hyaline spots, forming an interior row and a middle row. The under surface flesh-coloured with red-brown ring-spots between the veins. ♂ 36 mm. Rio de Janeiro. *medara.*

S. pyrostola *Hmps.* (173 d) shows still more differently shaped wings. The distal margin of the forewing is cut out below the apex, excurved in the middle. Hindwing slightly angular at vein 4. Body fiery red. Forewing densely striated and tinged with fiery red. Behind the cross-vein an oblong black spot from which an indistinct oblique red line extends to the inner margin. A few dark streaks at the end of the submedian fold. Hindwing fiery red with some yellow spots. Base and inner margin pale yellow. An oblique blackish median line with a yellow spot behind it in the cell-fold. Fringes of both wings blackish brown. Yellow beneath with numerous fiery red and a few black strigae. Forewing with black spots behind the cross-vein and in the centre of the submedian fold. ♀ 42 mm. Guiana. — It may be that this species is identical with the previously described *Rhodogonia miniata* *Warr.* (173 d). A specimen from the Senckenberg Museum shows the conspicuous yellow spot of *pyrostola* on the hindwing. The red line on the forewing, however, as well as the median line on the hindwing are absent. The specimen differs only in the yellow spot from a distinct *miniata*. *pyrostola.*

10. Genus: **Hypolamprus** *Hmps.* (*Betousa* *Wkr.*)

The genus contains small species with narrow wings, nearly all of which are Indo-Australian, while 3 species occur in Africa and only 2 in South America. Cf. Vol. II, p. 373; Vol. X, p. 749, and Vol. XIV, p. 494 (*Betousa*). Type: *striatalis* *Swh.* from India.

H. parisignata *Warr.* Similar to *Symphleps ochracea* *Pagst.* from Aru (Vol. X, p. 771), of about the same size, with somewhat narrower wings, paler ochraceous. Both wings with two black spots at the cross-vein, surrounded by black scales, but both wings are without the black marginal dots. Costal margin of forewing somewhat darker. Wings traversed by densely arranged dark lines as in *ochracea*. 22 mm. Described according to a couple from Surinam. *parisignata.*

H. stellata *Schs.* Body and wings greyish brown, with greyish white streaks and spots. The streaks in the basal third of the forewing are divided into spots by the veins, edged darker brown. The middle, exterior and submarginal rows of spots are edged darker, with black dots. The spots are divided into 5 or 6 parts by the transverse lines, those at the costal margin being smaller and less distinct. The exterior row is inwardly bent and almost fused with the middle row. Besides smaller divided spots right at the margin itself. On the hindwing the spots are smaller, whiter at the inner margin, only the exterior and submarginal rows are centred dark. Wings broad, with a bent distal margin. ♀ 40 mm. Costa Rica. *stellata.*

11. Genus: **Letchenodes** *Warr.*

Exactly like *Rhodoneura*, but veins 8 + 9 of the forewing are stalked as in *Hypolamprus*, so that the new genus seems to be really superfluous. Only 1 species.

L. ninniusalis *Wkr.* Body greyish brown, wings violettish brown. Forewing rather pointed at the apex, with short black lines at the costal margin. A group of bluish white hyaline spots in the centre of the wing, *ninniusalis.*

the transverse lines brownish ochreous. Two black spots at the inner margin near the base. Hindwing with black lines of the inner margin and the neighbouring distal margin. The hyaline spots are less numerous than on the forewing. ♀ 28 mm. Amazons. Only this one specimen seems to exist.

12. Genus: **Rhodoneura** Gn.

Only a small number (about 6 species) of the approximately 300 species of this genus occur in the palaearctic regions and also only at the limits of the fauna in China and Japan. A larger number of species occur in Africa, and the rest is divided among the Indo-Australian and American Faunae (77 species). All that is necessary has already been told about the genus in Vol. II, p. 373, moreover in Vol. X, p. 754, and Vol. XIV, p. 491. In both wings there are not any veins stalked. Type: *pudicula* Gn. from Java.

1. Antennae of ♂ pectinnated, of ♀ serrated.

sparsireta. **R. sparsireta** Hmps. (180 h). Pale yellow, the lines red-brown. Forewing with a slightly excurved interior line. The median line somewhat stronger, forked at the costal margin, then obliquely inward, straight, slightly split also at the inner margin. The exterior line straightly outward as far as vein 6, inward as far as vein 3, outward to the submedian fold, where it is broadly forked. The upper angle is almost touched by the inwardly bent oblique apical line. Hindwing with a fine bent median line, the exterior line similar to that of the forewing. Both wings besides with fine reticular lines. Beside the type there is another larger, darker ♂ at hand, densely covered with uniform lines. ♂ 18 to 28 mm. Cuba.

2. Antennae of ♂ only thickened.

terminalis. **R. terminalis** Wkr. Pale reddish grey, with reddish spots, abdomen very long. The narrow forewing is rounded at the apex. A short black bent streak at the cross-vein. Hindwing with a pointed apex, the streak at the cross-vein shorter. 35 mm. San Domingo.

tigridula. **R. tigridula** Gn. (173 e). Forewing with a pointed apex and an angle at the middle of the distal margin, hindwing triangular. Both wings reddish brown, densely covered with lighter lines, not reticularly connected, but forming elongate rings. 32 mm. Cayenne.

acygoniata. **R. acygoniata** Hmps. (180 h). Both wings with a pointed apex and angled at the middle of the distal margin. Pale red-brown with somewhat darker red-brown bands and a few lines. Somewhat darker at the base. Interior band extra-angular below the inner margin, then somewhat inward to the inner margin. Exterior band somewhat more extra-angular below the costal margin, then parallel with the interior band to the interior margin, distally forked above the inner margin. An angled apical band behind it, and a submarginal band beginning from vein 4. Hindwing with a somewhat darker interior and median band, narrower in the middle. Dark at the distal margin, very broad in front, ending pointed at the marginal angle. A feeble submarginal band behind it. ♂ 32 mm. Colombia.

configurata. **R. configurata** sp. n. (173 f). Similar to *acygoniata* in the shape of the wings and the scheme of markings, but larger, darker, more reddish. The angle on the hindwing is somewhat more rounded. Ground-colour somewhat hyaline. The interior band of the forewing projects considerably below the cell, not close under the costal margin. The median band is an oblique wedge ending pointed behind the base of vein 2. The exterior band is very much wider at the costal margin and especially at the inner margin than in *acygoniata*, otherwise similarly shaped. The margin from the apex to vein 4 is narrowly red-brown, then broader, but enclosing light spots of the ground-colour, united with the exterior band at vein 1. Besides there are single red-brown lines distributed over the forewing. Stronger red-brown reticular lines in the basal area of the hindwing. The median band is present only in the anterior part, then broken up into lines. Apex broadly red-brown, similarly extensive as in *acygoniata*. The wing is covered with coarsely reticulated lines behind the median band. Ground-colour beneath yellow, the marking as above. ♀ 45 mm. Brazil. Type in the Senckenberg Museum.

mescememna. **R. mescememna** Dyar shows the much smaller angle on the hindwing below the apex. Ground-colour lilac. Forewing with a few rows of black streaks. White at the apex with a black spot. A quadrangular red spot with black corners is at the cross-vein. Exterior band broadly red, widened at the costal margin. Marginal area with a reddish hue. Submarginal line dark, parted blackish at the angle of the wing. Hindwing dusted black and red in the interior third, divided before the middle by a reddish band which terminates as a white streak at the margin below the angle. 19 mm. Panama. Two specimens were found.

leucosticta. **R. leucosticta** Hmps. Hindwing incised at the margin from the apex to vein 4, then excurved. Body dark brown. Forewing red-brown, dark brown in the marginal area, with a silvery lustre. Four indistinct narrow bands of dark streaks extend through the cell. Short black streaks behind the cell. An oblique dark median band from the cell to the inner margin, adjoining to it small white quadrangles in the submedian fold. The exterior band from vein 6 obliquely to the inner margin, the submarginal line indistinct, bent. Hindwing pale red-brown, densely striated darker, forming reticular lines. Black dots at the base, at the cross-vein and in

the middle of the inner margin. Besides a narrow median band to the anal angle. The apical spot is dark, its interior edge bent. 1 ♂, 30 mm, from British Guiana.

R. ophiographa *Hmps.* Body and wings red-brown with a violet shine and somewhat whitish. Fore-*ophiographa*. wing with darker brown strigae. Interior band oblique, pale, laterally edged with black and white lines, extending to the median vein, a round white spot below it. A similar median band from the costal margin to the inner margin, with undulating edges, widened at the costal margin and enclosing a small red-brown spot at the costal margin. Exterior band forked at the costal margin, broader below vein 2, extra-angular behind the cell. A black spot at the lower cell-angle. Submarginal line fine, black, obliquely inward at the apex, forming oblique pale-centred spots at veins 4 and 3. Hindwing with a basal and median band of white spots edged with dark brown, a small white postcellular spot behind the median band. Exterior band of irregular spots. 38 mm. Peru, described according to two ♂♂.

R. euprepes *Hmps.* Body and wings pale rusty brown. Forewing with a silky gloss, with numerous *euprepes*. uniform indistinct red-brown strigae. Hindwing with an oblique red basal line. ♀ 20 mm. British Guiana.

R. myrtaea *Drury* is preferably Indian and distributed as far as the Sunda-Islands. Cf. Vol. X, p. 755 and pl. 91 k. It seems doubtful whether it really occurs in the West Indies.

R. furva *Warr.* (173 e) may be merely a form of *myrtaea*. Thorax iron grey, abdomen brick-red. Fore-*furva*. wing light reddish brown, lighter at the costal margin, with numerous dark faded short transverse streaks. An indistinct dark spot at the cell-end, a silvery hyaline black-edged spot below it under vein 3. Hindwing slightly darker, redder, the cellular spot black. 26 mm. San Domingo, Cayenne.

R. myrsusalis *Wkr.* (173 e) is also widely distributed, similar to *myrtaea*. It has been treated upon in *myrsusalis*. Vol. X, p. 755 and pl. 91 k, and also figured in Vol. II, on pl. 56 f. Further names given to specimens from the South-American Regions are: *cinereola* *Fldr.*, *radiata* *Pagst.*, *scallula* *Gn.* Body and wings greyish brown with dark strigae. — **flavalis** *Dgn.* is ochreous with much less striation of a pinkish brown. Forewing with *flavalis*. many white spots. A large one below the base of vein 3; besides 4 smaller spots below vein 2, all of which are edged with pinkish brown. Moreover a spot between veins 5 and 6 behind the cell, and 3 at the margin, two of which are in the middle, one at the anal angle. Cayenne. — **immaculata** *Mschlr.*, contrary to *flavalis*, *immaculata*. shows no light spots at all. Porto Rico, Brazil. — We figure a ♀ from Brazil, taken by ZIKAN in the Itatiaya Mts. on the 26th of November 1926.

R. gilva *Hmps.* Body and wings creamy white, slightly tinged with red-brown. Forewing more in-*gilva*. tensely red-brown in the basal area and at the costal margin as far as beyond the middle. A few dark dots at the costal margin. The interior and median lines of brown streaks. A small square hyaline spot below the cell-end, laterally edged with brown. Exterior line of brown double streaks, filled with red-brown between veins 3 and 1. A series of dark brown streaks from the costal margin near the apex to the margin at vein 1. Hindwing with a few red-brown streaks and a curved brown median line. ♂ 14 mm. Sa. Lucia.

R. extravagans *Warr.* (173 e) is also allied with *myrsusalis*. Greyish brown with dense dark strigae. *extravagans*. Forewing with a brownish orange spot in the middle between the subcostal and submedian veins, containing several whitish hyaline spots between the veins, besides a few spots in the submedian fold. Hindwing without markings. ♀ 30 mm. Upper Amazon R.

R. pammicra *Dyar.* Bronze brown with dark brown reticular lines. Forewing with 2 lines forming *pammicra*. an exterior band widening at the costal margin, one of the lines being distinct and straight. Hindwing with stronger reticular lines enclosing a pale elliptical spot which extends to the costal margin, and one at the anal angle. Besides a few fine streaks. 14 mm. Taboga I. (Panama).

R. amethystea *Fldr.* (173 g) seems to be little known and may be identical with *aurifera* *Hmps.* which *amethystea*. was placed far off by HAMPSON. We describe the species according to FELDER's figure. Forewing reddish brown with a violet shine and few dark reticular lines. Yellowish white spots at the costal margin, an oblique rectangular one before the middle as far as the lower cell-angle, adjoining to it inside a narrow spot as far as the base. A flatly triangular spot behind the main spot, and an obliquely cut off apical spot. Hindwing paler, with few and fine reticular lines. ♂ 30 mm. Amazons.

R. nebulosa *Warr.* (= *rotundula* *Pagst.*) (173 f). One of the commonest species. Body and wings in-*nebulosa*. tensely red-brown with ochreous bands and spots of variable extensions. Forewing with a yellow median band, broad at the costal margin, extra-angular below it; then narrower vertical to the inner margin. Yellow spots before it towards the base, almost absent or also in numbers. An exterior band of round yellow spots, often with black scales inside, the band extra-angular at vein 6, mostly interrupted above it, often double below the angle. An isolated spot at the margin below the apex. Hindwing mostly more ochreous, with blackish brown spots and scales behind the cell. Traces of a red-brown median band at the inner margin. 42—60 mm. Brazil, Bolivia, Peru.

- apicalis*. **R. apicalis** Pagst. (= *erythrinalis* Pagst.) (173 e) looks almost like a small lighter *nebulosa* (173 f). The white apex is quite straightly cut off. 30 mm. Peru, apparently not rare in Costa Rica. *hedilalis* Wkr. is also very similar to *apicalis*.
- bullita*. **R. bullita** Hmps. Body and wings dark red-brown. Forewing with numerous small round white spots. The ground-colour forms indistinct interior, median and exterior bands. The median band is widened at the cell-end, a fourfold row of spots behind the exterior band between veins 6 and 2. The apical spot as in *nebulosa* (173 f). Hindwing also with numerous white spots between which the ground-colour forms indistinct bands. Black patches below and behind the cell as in *nebulosa*. 52—56 mm. 2 ♂♂ known from Peru.
- hedilalis*. **R. hedilalis** Wkr. Thorax and forewing reddish brown with an ochreous marking. A bent median band does not always reach to the inner margin. Next to it, partly fused with it, faded below vein 5 as far as the distal margin, brownish ochreous, only in the middle of the inner margin there is yet a more or less isolated notch of the red-brown ground-colour. A sharply cut off light spot at the apex. All the yellow places with fine red-brown reticular lines. Hindwing ochreous, somewhat reddish. The beginning of a red-brown band at the middle of the inner margin. A distinct black dot at the cross-vein. The whole wing with fine dark reticular lines. 26—35 mm. Chiriqui, Peru, Brazil.
- mesosticta*. **R. mesosticta** Hmps. Body pale yellowish brown. Wings whitish, densely striated with pale yellowish brown lines. A somewhat distinct median line, slightly incurved in the cell, then undulate. A brown spot between it and the exterior line above vein 1, then a brown spot at the costal margin; at the ends of the cross-vein 1 black dot each. Exterior line brown, incurved as far as vein 5, where it is extra-angular, more inward as far as vein 3, in the submedian fold near the median line. From the exterior line, at vein 5, a branch proceeds to the submarginal line in the submedian fold. Submarginal line undulated. Two dark spots at the costal margin near the apex. Hindwing whitish with dense yellowish brown reticular lines. Three more distinct lines in the median area from vein 2 to the inner margin. A black dot at the lower cell-angle. ♀ 44 mm. Peru.
- fulviceps*. **R. fulviceps** Fldr. (173 g). Head and end of abdomen yellow, all the rest dark violet. Both wings with numerous dark brown thick and irregular transverse lines. 28 mm. Amazons.
- lunula*. **R. lunula** Fldr. (173 f) is a large, beautiful species with most remarkable dark reticulations. The genus *Belonoptera* H.-Schäff. differs from *Rhodoneura* only in the very pointed apex of both wings. In *lunula* the hindwing is much more pointed than in the other *Rhodoneura*, but as the forewing is normal, the species remains better here, although WARREN places it to *Belonoptera*. Body and wings dark orange, with numerous fine dark brown reticular lines. The forewing besides with an interior line, at first extending outward at the median vein, then bent round and very obliquely inward. Median band formed by a bundle of lines, straight, very obliquely inward, forked at the costal margin and inner margin. Behind it at vein 3 a spot from which a short line extends to the anal angle. A straight line from the costal margin near the apex to the margin at vein 4. Hindwing with a line from the middle of the costal margin to $\frac{2}{3}$ inner margin, a thick silvery spot close behind it at the cross-vein. A spot at vein 3 as on the forewing also with an adjoining line, and an apical line. 65—70 mm. Brazil.
- trigoniphora*. **R. trigoniphora** Hmps. HAMPSON ranges this small species after the gigantic *lunula*, though it seems to be more allied to *anastomosalis*. Wings red-brown, with a golden gloss, with darker reticular lines. Forewing with 3 grey triangular spots at the costal margin, and grey at the apex. Of the numerous transverse lines there are two exterior ones more prominent, distantly separated at the costal margin, united close above the inner margin. Besides an oblique submarginal line. Hindwing with two white spots at the cross-vein and a dark spot above the middle of the inner margin. ♂ 22 mm. Brazil.
- oxydata*. **R. oxydata** Jones (173 e). Body dark brown. Forewing lighter brown, silvery spots at the costal margin are formed of hair-lines, and a few similar ones at the inner margin in the basal area connected by some silvery scales. A dark red-brown oval spot, divided by bluish, situate above $\frac{3}{4}$ inner margin, extending to the upper cell-edge. Three yellow metallic spots behind the cell, a larger one at the anal angle. Small silvery blue spots at the margin. Hindwing brown. Fine blue lines at the base, blue dots and rings also in the apical area. A red-brown band from the middle of the inner margin almost to the costal margin, a black spot behind it in the submedian fold, the anal area behind it brass-coloured. Near the apex a large red-brown spot and a few small ones. 26—30 mm. Type ♂ from Santos. We figure a ♀ from the Itatiaya from the Senckenberg Museum.
- albipunctula*. **R. albipunctula** Pagst. (180 g). By the long abdomen it resembles the two following otherwise quite different species. Body and wings brown with a slight reddish lustre. The only marking on both wings are two black dots at the cross-vein, beside dark dots distributed over the wings and somewhat less dark fine lines. Hindwing with a rather pointed apex. ♂ 22 mm. Peru.
- gracilis*. **R. gracilis** Mschlr. (173 g). This species and the 3 following ones differ besides from the others in their very narrow forewings. The type from Surinam is not very well preserved, for which reason my description refers to another specimen from Bolivia. Body light red-brown. Forewing also red-brown as far as a line vertically on the middle of the inner margin. Exterior band somewhat darker, slightly inward, somewhat

wider at the inner margin, more than twice as broad at the costal margin, where it is inwardly fused with the basal area. Inside of the exterior band golden yellow, broader in the type than in the second specimen in which also the inner margin is brown there. This area well as the whole marginal area with fine dark lines, the second specimen with a distinct subapical line. Hindwing golden yellow with a strong red-brown median line and reticular lines. 17—19 mm. Surinam, Bolivia; from Goyaz (Brazil) a faded marked specimen without any light median area.

R. ferruginea *Pagst.* (173 f). Body and wings rusty red. Forewing violettish red behind a line from *ferruginea*. the apex to the lower cell-angle and to $\frac{1}{3}$ inner margin. Hindwing narrowly red in the lower half at the distal margin. The rest of both wings without any marking. ♂ 22 mm. Chanchamayo, Goyaz.

R. sectilinea *Warr.* (173 g) is remarkable for its extremely pointed forewing. Body brown, wings straw- *sectilinea*. coloured. Forewing with fine brown reticular lines. Small brown triangles at the costal margin and an oblong spot at $\frac{3}{4}$ costal margin. Apex broad, brown, triangular, as far as the middle of the distal margin, edged with dark inside, connected at vein 5 with a straight brown line from the middle of the costal margin. Slightly brownish at the middle of the inner margin and at the anal angle. Hindwing with a feeble brown median band with a black spot at the cross-vein. ♀ 24 mm. Upper Amazon R.

R. semierma *Schs.* Body olive brown, wings reddish brown. Forewing grey and olive brown at the *semierma*. costal margin as far as into the cell. Interior line dark brown, introangular in the cell, with opalescent scales. irregular fine brown lines behind it. A large black shadow behind the cell-end, narrowest between veins 6 and 9, fused below vein 6 with a dark exterior line from the costal margin. A brown shadow below vein 3, ending pointed at the inner margin. The exterior line is edged with grey and silvery white on both sides at the costal margin, a dark longitudinal streak is behind it above vein 8. Distal margin brown from the costal margin to vein 3, bent inward at the veins, grey before it. Hindwing spotted brownish and black, especially in the basal area. Near the inner margin a large black spot in the middle and behind it. ♀ 44 mm. Costa Rica.

R. umbrata *Schs.* Body and forewing dark brown. A pale yellowish red shadow below the cell as far *umbrata*. as the submedian fold and the distal margin, densely spotted dark as far as the middle, then less so. A similar broad shadow at the distal margin between veins 6 and 4, with indistinct dark lines. Hindwing broadly dark brown at the costal margin, edged below by an undulate white line. Lilac towards the anal angle with fine brown spots. ♀ 32 mm. Costa Rica, described according to a single specimen like *semierma*.

R. thiastoralis *Wkr.* This species has already been dealt with in Vol. X, p. 764. Bright chocolate brown *thiastoralis*. with darker lines. The forewing with traces of a subapical line and 5 or 6 transverse lines. The hindwing besides with a dark spot at the cross-vein. Described from Brazil. 16 mm. Specimens from Jamaica and Cuba, according to WARREN, are larger, browner, the forewing more excurved at the distal margin in the middle. Specimens from Ecuador, according to SCHAUS, typical, also those from Panama. Specimens from Costa Rica have also a normal shape of the wings, but they are as large as Cuban specimens.

R. spurcatula *Warr.* (173 g) is somewhat similar to the preceding species, but without metallic scales *spurcatula*. beneath. Ground-colour reddish yellow with black reticular lines. On the forewing they are united into 2 interrupted bands shortly before and behind the middle. Costal margin with small black squares, with brown spots between. More densely arranged black reticular lines at the apex and distal margin. Hindwing with a black basal band and a double row of black spots through the centre. 1 ♂, 19 mm, from Paraguay.

R. punctum *Fldr.* (173 g) is scantily marked. Body and wings pale brown. Forewing somewhat darker *punctum*. near the base, the margin in both wings very pale. Both wings with few black scales, hindwing with a large black central spot. 20 mm. Amazons.

R. guttulosa *Warr.* Body and wings pale reddish ochreous. Forewing darker at the distal margin, the *guttulosa*. costal margin olive with small white spots followed by short white streaks which are then continued from the submedian fold to the inner margin. A dark shadow close before the distal margin. Hindwing traversed by white striation. An interior and exterior white line more distinct, the enclosed median band somewhat green, with fine white dots. 24 mm. Described according to 1 ♀ from Cayenne.

R. carneola *Fldr.* (173 h). Body reddish ochreous, wings whitish. Forewing broadly pale at the costal *carneola*. margin, reddish ochreous, densely covered with parallel undulate lines, somewhat darker brown. Hindwing the same, the costal margin not darkened. 22 mm. Amazons.

R. guttula *Pagst.* (180 h) has been omitted by HAMPSON in his Monography, while WARREN mentions *guttula*. the similar species *Symphleps ochracea* *Pagst.*, but not *guttula* itself. In the wing-contours and the scheme of markings, *guttula* resembles a large *Symphleps suffusa* *Warr.* (Vol. XIV, pl. 75 i, not 76 k) from Africa, as well as *carneola*. Body and wings pale brownish, with a silvery gloss. The silvery spots of the forewing are especially at the costal and inner margins, the distal margin is narrowly dark brown, darker and broader at the apex. No other marking. Hindwing more profusely covered with band-like silvery scales which are only absent on the narrow dark distal margin. ♀ 26 mm. Amazons.

- xanthina*. **R. xanthina** *Fldr.* (173 h). Judging from the figure in the Novara work, t. 134, f. 15, it is quite uncommonly marked for a *Thyridida*, but this is only due to the figure being badly drawn. We are indebted to Dr. JORDAN for supplying us with a sure specimen from Cayenne, which we figure here. The body is reddish ochreous. Both wings yellow. Forewing densely and finely striated reddish ochreous, the most densely in the basal area. A triangular area without striation at the apex, its point reaching down to vein 5. Hindwing reddish ochreous at the inner margin. The streaks darker, somewhat reticular with wide meshes. Uniformly broad dark brown at the distal margin, only the veins remaining yellow. 24—27 mm. Described from the Amazons.
- rhomboidea*. **R. rhomboidea** *Warr.* (= *laevigata* *Pagst.*) (173 h) reminds us of *anastomosalis* by the long abdomen and the similar marking. Body and forewing reddish brown with paler bands. A narrow indistinct interior band bent obliquely inward. The median band as narrow at the inner margin as the interior one, much broader at the costal margin with a blackish brown spot at the costal margin in the middle. A narrow submarginal band, likewise widened at the costal margin and with a spot, obliquely outward as far as vein 7, then narrower, more extinct, parallel with the margin. The light colour predominates somewhat on the hindwing, the dark colour forming the bands, an interior band, a median and a marginal band, very irregular, of a variable extent, a light spot at the apex is mostly cut off. 25—30 mm. Chiriqui, Peru, Amazons.
- changuinola*. **R. changuinola** *Schs.* Thorax dark grey, abdomen pale brown. Forewing pale brown, with a large white median and exterior shadow at the costal margin and a narrower submarginal shadow, the inner margin somewhat grey. The interior line more excurved than the basal line. Median line oblique, excurved above the submedian fold. Exterior line obliquely excurved from the white costal-marginal spot to the inner margin near the anal angle. The submarginal line stronger, from the costal margin to vein 4 at the distal margin. The interior line on the hindwing somewhat angular, the median line fine, a dark spot at the cross-vein. The exterior and submarginal lines distinct, with a feebler line between them. ♂ 15 mm. Costa Rica.
- nubila*. **R. nubila** *Hmps.* Body dark greyish brown, wings dull red-brown. Forewing dark violettish brown at the base and in the marginal area behind the cell, owing to dense striation. Hindwing with such striation especially at the base, behind the cell and at the apex. 1 ♂, 28 mm, from British Guiana.
- aurifera*. **R. aurifera** *Hmps.* (173 h). Thorax red-brown, abdomen darker. The forewing red-brown, grey at the inner margin, the distal margin violettish grey, with numerous blackish reticulated lines. A triangular golden yellow spot from the middle of the costal margin to the lower cell-angle, and a less conspicuous one, slightly tinged with red-brown, from the apical part at the costal margin to vein 5. The first with few reticular lines, the other one with more numerous ones. The hindwing pale red-brown, with more distinct dark reticular lines. ♂ 24 mm. Described from Paraguay. In the Senckenberg Museum 2 ♂♂ from Alto da Serra and Viannapolis. I consider it possible that the species is identical with *amethystea* *Fldr.* (173 g).
- lilacina*. **R. lilacina** *Warr.* Lilac brown. Forewing with a brownish ochreous, dark striated large triangle each at the costal margin before the middle and behind it as far as the apex. Hindwing with a somewhat brownish ochreous median area, the whole rest of the wing lilac. A distinct dark spot at the cross-vein. ♀ 26 mm. Rio de Janeiro.
- quinquelineata*. **R. quinquelineata** *Warr.* (175 f). Body and wings whitish ochreous. Forewing with dense brown reticular lines, partly united into bands. Hindwing with 5 nut-brown lines, parallel with the distal margin, the 3 first being double. The first at the base is short, the second bent, the third broad, ending at the upper edge of the cell. The exterior and submarginal lines are thick, with reticular lines between them. ♂ 34 mm. Described according to a damaged specimen from Bogota. We figure a specimen of the Tring Museum from Cayenne. However similar *quinquelineata* is to the following species, yet it seems to be different from it.
- tristriata*. **R. tristriata** *Pagst.* has already been mentioned in dealing with *Herdonia thetis* (p. 1192). Body and forewing yellowish. Short white horizontal patches at $\frac{2}{5}$, $\frac{1}{2}$ and $\frac{3}{5}$ costal margin; they may also occur in *quinquelineata*. From vein 7 to a little below vein 4 a submarginal oval white spot with undulate vertical yellow lines. The continuation to the inner margin is basally removed by the width of the spot, less sharply edged, different from *quinquelineata*. Narrowly brown behind it. Hindwing somewhat lighter, with 3 bands. The interior one is narrow, straight, not compressed in the middle, the second of *quinquelineata* is absent, the third is angled, not rounded in the anterior part. The next line is absent, the submarginal one is straighter in its anterior part. 1 ♂, 28 mm. Montevideo.
- multifasciata*. **R. multifasciata** *Warr.* (173 h). Creamy white. The forewing with numerous pale ochreous bands, parallel with the distal margin, darker and more distinct below the median vein; the postmedian bands between vein 4 and the submedian fold greyer, forming a somewhat triangular spot. Costal margin paler, the distal margin narrowly brownish ochreous, paler before it. The hindwing with 6 more distinct dark bands, the light interspace also band-like. Apex pale in both wings. ♂ 22 mm. Ecuador.
- colorifera*. **R. colorifera** *Warr.* (173 i). Body greyish green. Forewing ochreous, with a pink tint extending beyond the middle, with fine reticular lines and a few black scales. The basal area with 2 or 3 greyish green bands. A straight black band from $\frac{3}{5}$ costal margin to $\frac{3}{4}$ inner margin, behind it two bent rows of black spots and a dark

spot at the anal angle. Hindwing pink with irregular lines of black dots. The black line of the forewing is continued on the hindwing. ♀ 22 mm. Peru.

R. polychloralis Pagst. (173 h). Wings greyish brown with a violet shine. Forewing with a broad golden brown stripe below the costal margin almost as far as the distal margin. Besides short red-brown transverse stripes laterally edged with black. A basal stripe, an interior and a median stripe, extending to the submedian fold. Behind it two short stripes and one oblique subapical stripe. Hindwing with quite faded stripes, at the base, in the middle and outside. ♂ 26—28 mm. Chiriqui. — *rosenbergi* Warr., from Peru and Ecuador, is identical with *polychloralis*.

R. triangulifera Warr. (173 i). Wings greyish ochreous, with darker brown reticular lines, the marking dull red-brown. Base of forewing greyish ochreous, obliquely cut off. Interior band narrow, bent, nut-brown at the costal margin. Exterior band broad, rectangular, its interior edge from $\frac{2}{3}$ costal margin to the middle of the inner margin, the exterior edge obliquely outward as far as vein 6, then parallel with the interior edge, undulate; this band is nut-brown also in front. Marginal band from near the apex outward, then along the margin, its interior edge ending at the anal angle. All these bands finely striated. The light band of the ground-colour before the exterior band strangulated below the middle and containing some fine hyaline spots there. Hindwing with a red-brown interior, exterior and marginal band with undulating edges, the median area lighter. ♂ 30—35 mm. Rio de Janeiro and Upper Amazon R.

R. anastomosalis Pagst. (173 i). Forewing not particularly narrow, as the author states. Wings lustrous light yellowish brown, with darker brown bands on the forewing and with reticular lines. An indistinct bent interior band and one at the base, quite indiscernible in the type. Exterior band very broad at the costal margin, almost linear in the submedian fold and much darker inside, somewhat widened towards the inner margin. At the costal margin outside a broad light triangle is cut off in the band, the costal margin being narrowly whitish also towards the base between the median and exterior bands. Margin broadly dark, bent inward at the costal margin, besides an oblique subapical line. Hindwing with a feeble median band, shaped exactly like the exterior one on the forewing, enclosing a relatively large hyaline spot in the cell. An irregular dark line from $\frac{3}{4}$ costal margin to the anal angle. Both wings besides with dense reticular lines. ♂ 20—25 mm. Chiriqui, Novo Friburgo, Itatiaya.

R. subtransversalis Warr. (173 i) is said to resemble *anastomosalis*. Forewing pale yellowish brown with fine dark incomplete reticular lines. No bands present. Hindwing more reddish. A faded reddish stripe extends from about $\frac{1}{3}$ inner margin towards the apex of the forewing, not reaching it. 24 mm. 1 ♂ from Central Surinam.

R. rufigrisea Warr. (173 i). Forewing dull brick-red with dense violettish-grey reticular lines leaving free only the costal margin before and behind the middle and a spot below the cell-end. The grey lines are densest at the base, behind the cell and at the distal margin; pale rings between them are mostly grey, some also reddish. Two dark spots at the base of veins 4, 5 and 6. On the hindwing the colours are exchanged. The anal angle dull red, the rest greyish violet with feeble red lines. 24 mm. 1 ♂ from Venezuela.

R. curvistriga Warr. (174 a). Reddish yellow with dark brown reticular lines. Forewing with a square at the middle of the costal margin, bordered by the dark reticular lines, filled with brown, from its lower exterior angle a bent brown line extends to the apex. A dark subapical line cuts off a triangle at the apex. A fold in the cell and behind it. Hindwing with brown reticular lines without bands. The fold is less strong. ♀ 24 mm. Surinam, Cayenne.

R. rufidorsata Warr. (173 i). Chocolate brown. Forewing reddish at the costal margin, with vertical pale lines. The basal and interior lines parallel, somewhat inward, the exterior one running to the anal angle. Submarginal line from the costal margin to the distal margin below the middle. Finer lines between them. Hindwing with an interior and exterior line, besides finer ones. The marking is very indistinct in both wings. 1 ♂, 20 mm, from Surinam.

R. molecula Dyar. Creamy white. Forewing with fine grey lines. In the interior third of the wing there is a grey round spot in the middle, an irregular band in the exterior third, broader at the costal margin. A red-brown subapical band to vein 5 at the margin, forked below, and a short band at the anal angle. Hindwing with a narrow grey interior band, the median band broad, extending in front as far as vein 7, narrower at the inner margin, grey. The submarginal band narrow, red-brown in front. 20 mm. Panama.

R. neapolitana Warr. Forewing creamy white, with ochreous flesh-coloured strigae. Costal margin spotted light and dark. 4 or 5 indistinct rows of dark spots, interrupted; only the submarginal band is entire, with dark horizontal streaks above the middle, ending in white spots outside. The exterior band between veins 5 and 1 greenish, spindle-shaped, edged with white. Hindwing whitish, with 6 parallel dark bands, the two middle ones of which are green. 1 ♂, 17 mm. Surinam.

R. violalis Pagst. (173 i). Ground-colour pale reddish brown, tinged with violet. Forewing with numerous fine dark brown reticular lines, streaks and dots. Some specimens show 2 or 3 parallel lines, vertical above the inner margin, bent round towards the base before the costal margin. The darker margin is narrow, black dots in the marginal area. Hindwing paler at the base, with numerous blackish dots. 14—21 mm. Mexico,

arcuata. Costa Rica. Ecuador, Bolivia, Rio de Janeiro. — *arcuata* Pagst., from Chiriqui, which was not at hand, may be only a more distinctly marked *violalis*, in which the striation of *violalis* is united into interrupted lines.

The following species, detached by WARREN as the genus *Siculodes* Gn., are all more or less white, the marking consists of dark lines, more rarely of dark spots. The antennae are long.

pulchelloides. **R. pulchelloides** Pagst. (174 a). White, lustrous, the hindwing somewhat diaphanous, more opalescent than the forewing. The latter with numerous rows of pale violettish brown dots in the basal area and in the centre, larger spots near the anal angle, variably shaped in the individual specimens, few fine streaks in the apical area. Hindwing with small spots only at the margin, without any other marking. 24—30 mm. Panama, Colombia, Peru, Brazil.

triumphans. **R. triumphans** Warr. (174 a) is much larger than *pulchelloides*, distinguished by a pink marginal line and yellow fringe. Very similar to *pudicula* Gn. from the Indo-Australian Region. Ground-colour silky white. Forewing olive grey at the costal margin, striated dull reddish brown, with 4 oblique oblong red-brown spots at the apex. Basal half with black lines, fused into a spot below the middle of the wing. An oblique black band before the middle of the inner margin, somewhat reddish below the costal margin, divided between the veins by yellowish white horizontal streaks, and with a large white spot behind the cell, almost interrupting them. A black band at $\frac{3}{4}$ inner margin extends to vein 4. Black spots at the anal angle, forming a divided band above vein 2, which reaches vein 6. Marginal area pink. Hindwing with irregular olive brown streaks at the base, a round dark spot at the anal angle, 6 black submarginal spots. 1 ♀, 50 mm. Peru.

perlula. **R. perlula** Gn. (174a, b). Both wings strongly iridescent, sometimes the costal margin of the forewing somewhat brownish. The brownish reticular lines of the forewing mostly with rather wide meshes. The lines of the hindwing are not so reticular, only irregular. Forewing beneath often red-brown in the basal and median areas in front, as well as at the costal margin, mostly quite lustrous silvery without any red-brown marking, and even if a brown subapical line is present, the silvery lustre from the apex extends yet beyond it. 26—30 mm. Peru, Bolivia, Brazil, Cayenne.

paullula. **R. paullula** Pagst. (174 b) is mostly much smaller than *perlula*. The wings are white. Forewing with many tiny brown streaks which are more densely arranged at the middle of the inner margin and form part of a median band. The streaks on the hindwing rather form lines. The ♀ is larger, especially the forewing somewhat brown, tinged with violet. The basal area and a median band widening anteriorly are darker, but all the borders faded. Hindwing as in the ♂, slightly browner. Forewing beneath with a sharply cut off silvery apical triangle, vein 7 remarkably red. 17—26 mm. Guatemala, Chiriqui, Peru.

sterna. **R. sterna** Fldr. (= *virginula* Gn.) (180 g). Wings purely white only in the external parts, the rest pearl-coloured, with numerous black streaks inclined to form lines. No distinct bands recognizable. Forewing beneath yellowish, the veins also yellow, only close at the margin they turn red. 34—40 mm. Bogota.

intermedia. **R. intermedia** Warr. (174 b) is in size between the two similar species *paullula* and *sterna*. Remarkably separated from them beneath. On the forewing of *intermedia* all the veins are uniformly pink. Two faded reddish yellow spots in the submedian fold and one at the distal margin. In *sterna* the spots are hardly visible, in *paullula* they are dark red-brown. 26—30 mm. 3 ♂♂ from Peru.

figurata. **R. figurata** Warr. (174 b). Forewing chalky white with light and dark brown reticular lines, the costal margin bronze brown at the base, from where brown double lines proceed. The reticular lines before the distal margin between the veins 4 and 7 are filled with brown and form an oblong spot. Hindwing paler, with fine red-brown reticular lines. Both wings beneath with thicker, reddish grey streaks. Black metallic scales in the cell and at veins 8 and 9, and a pale red-brown streak below the costal margin. 22—30 mm. Peru.

rufifimbria. **R. rufifimbria** Warr. (174 c) is somewhat similar to *figurata*. Forewing chalky white, with numerous brown reticular lines, darkest at the inner margin. A brown streak at the cross-vein. Costal margin pale reddish yellow, darkest at the base. Regular brown streaks at the costal margin. Hindwing similar, but white at the costal margin, with thick transverse lines. Forewing beneath with black metallic scales at the base and upper cell-end, besides a red subcostal streak and a similar spot below the cell-end. ♀ 30 mm. Panama.

stigmatophora. **R. stigmatophora** Warr. (174 a). White. Forewing with numerous grey reticular lines, with a slight grey tinge in the interior two thirds, proceeding from 6 pairs of dark grey lines at the costal margin, 3 each before and behind the middle. A large black spot at the cross-vein. The reticular lines at the distal margin with wider meshes, browner, separated from the others by a white, scarcely marked submarginal band. Hindwing with a grey median band of 3 or 4 reticular lines, enclosing a black cellular spot, a white band before it and 2 blackish basal lines. The marginal area as on the forewing. 44 mm. 1 ♀ from Peru.

sublivescens. **R. sublivescens** Warr. (174 c) resembles a better marked *lacteguttata*. Wings hyaline white, opalescent. Forewing uniformly covered with olive brown reticular lines, broadly greyish brown at the costal margin, reddish

bronze towards the apex. An oblique dark line at the cross-vein. Hindwing the same, but without a dark costal margin. Costal margin of forewing beneath broadly, of hindwing narrowly olive bronze. The ♀ more opalescent. Forewing with 8 or 9 reddish bronze spots at the costal margin. Two reddish olive spots at vein 1 and a similar submarginal one behind the cell. 45—50 mm. Described according to a couple from Peru.

R. lacteguttata Warr. (174 c). White, semidiaphanous, opalescent, with numerous greyish green reticular *lacteguttata*. lines, so that the ground-colour is reduced to round white patches. The larger spots at the veins form an exterior band, the submarginal row consists of smaller round spots. Costal margin dark iron grey with white spots. Hindwing similar, but lighter. 45 mm. 1 ♀ from Peru.

R. ferrugata Warr. (174 c). Creamy white. Forewing with irregular branched brown strigae and dark *ferrugata*. rusty red reticular lines. The costal margin dark brown at the base, with dark brown strigae behind it. A straight brown line extends from the middle of the inner margin obliquely upward to the upper cell-angle, from there inward to the middle of the costal margin. United at the bend with a line from the costal margin to the anal angle. Two widely ramified lines in the interior half from the costal margin, the third of them divides the straight oblique line below the middle. Three ramified finer lines near the apex. Hindwing with a strong brown median line, with 2 or 3 more lines behind it, stronger only near the anal angle. Forewing beneath with an orange subcostal streak, black metallic scales at the upper cell-edge. ♂ 28 mm. Peru.

R. ferreiceps Hmps. Body brownish, wings silvery white. Forewing strongly tinged with brown, the *ferreiceps*. median area with undulate brown lines, the marginal area with a few black streaks, the costal margin dark iron brown at the base, predominantly white behind it. Hindwing with brown reticular lines and brown veins. Somewhat reddish yellow at the base, the median band brown, enclosing white spots, excurved around the cell. The margin reddish brown except at the apex. Forewing beneath fiery red-brown in the cell and its surroundings. A triangular fiery brown spot below the cell-end, a square black spot above the anal angle. 1 ♀, 40 mm. Guiana.

R. viriditincta Warr. (174 b). White, not hyaline or opalescent, the dull olive brown reticular lines *viriditincta*. rather thick. The median vein and veins 1—4 on the forewing dark olive brown, and a similar streak below the costal margin. The costal margin with distinct olive brown streaks. A dark spot at the cross-vein, similar spots at the ends of the veins. An olive brown oblique spot above the middle of the inner margin. All the lines of the hindwing are almost parallel with the distal margin, fewer lines at the base. Beneath slightly tinged with olive. Black and yellow streaks in the base of the cell, also at its upper edge towards the end. ♀ 45 mm. Ecuador.

R. postponens Dyar. Whitish. The marginal half of the forewing tinged with violet, numerous blackish *postponens*. grey lines, the 5 interior ones interrupted, the 4 exterior ones more continuous, bent. A red shadow behind the cell-end, a black spot below it. A white spot with a black dot at the apex. Hindwing whitish in the interior area, violettish grey at the apex, median band grey, blackish violet inside. 23—26 mm. Panama.

R. roseobrunnea Warr. (174 c). White with a violet shine. Forewing with numerous pink and brown *roseobrunnea*. lines proceeding from olive brown spots at the costal margin. The lines are more densely arranged in the median and marginal areas, separated by a lighter area. Hindwing with more equably distributed pink lines, somewhat thicker at the inner margin, the costal margin pale. Forewing beneath olive brown, without lines, hindwing lighter than above, with pink lines. 24—28 mm. Peru, Bolivia.

13. Genus: **Zeuzerodes** Pagst.

Chiefly separated from *Rhodoneura* by the shape of the wings. Forewing very oblong, the costal margin bent before the apex, distal margin very oblique. Hindwing relatively still more oblong, with a very pointed apex, somewhat prominent in the ♂ at the anal angle. The genus is represented only in South America. Type: *leuconotula* Pagst.

Z. leuconotula Pagst. is very similar to *Meskea dyspteraria* (175 h). Body dark wood-coloured brown. *leuconotula*. Forewing yellowish brown, darker brown through the cell towards the apex, lightest in the submedian fold in the basal part. A white dot at the costal margin close before the apex, a white, black-centred spot at the distal margin close below the apex. Black spots chiefly radially accumulated in the median area. Hindwing much darker brown, lighter only at the apex. A broad white spot extends from the anal angle for some distance along the margin, then forming a long point towards $\frac{3}{4}$ costal margin, the anal angle itself somewhat yellowish. 40 mm. Chiriqui.

Z. fumatalis Pagst. (174 d). Dark violettish brown. Forewing with indistinct light round spots with *fumatalis*. a dark central dot. These spots are most distinct in the centre of the wing and at the anal angle. Hindwing horizontally divided from the middle of the inner margin. In front coloured like the forewing, darkest at the border-line, yellowish white at the anal angle, purely white towards the border and undulate. Forewing beneath with an indistinctly yellowish apex and a black double dot at the apex. 30—36 mm. Chiriqui, Brazil.

- nigrata*. **Z. nigrata** Warr. (174 d) is somewhat lighter than *fumatilis*. Forewing dark smoky brown, ochreous only at the inner margin behind the middle, enclosing two short oblique dark stripes, the interior one broad, the other one narrower. In a specimen at hand from the Tring Museum, the forewing is uniformly parallel striated dark. Hindwing the same. The anal triangle whitish with a brownish ochreous line. Described as *Meskea*. 32—40 mm. Amazons, Cayenne, Colombia.
- castanea*. **Z. castanea** Warr. (174 e). Forewing flesh-coloured ochreous, somewhat rusty brown. Costal margin broadly violet, narrower violet at the distal margin, the inner margin dark brown. A dark brown spot in the middle of the cell, a larger one behind it. From its inner side a long bent streak extends to the apex below the costal margin. The spot is connected outside with the distal margin between veins 3 and 4 by a violet shadow, a brown band extending from its inner side to $\frac{3}{4}$ inner margin. Hindwing rusty brown with few brown reticular lines, violettish brown at the apex and margin. ♀ 38 mm. Peru, Colombia. — **caenosa** Dgn. Forewing earth-brown, the lines dark brown, especially at the costal and distal margins. A large brown spot at the cell-end and behind it. A submarginal row of 4 brown streaks behind it, the upper ones penetrating into the dark marginal band. Besides there are brown dots replacing an interior, a median and an exterior line. Hindwing also with rows of dark dots forming faded lines at the anal angle, the distal margin dark. ♀ 36 mm. Cayenne.
- maculata*. **Z. maculata** Warr. (174 d). Forewing black, iron grey at the costal margin with dull red-brown scales. Whitish, grey-centred spots in the cell and behind it. A large white spot in the submedian fold before the margin. Fine grey lines at the apex. Hindwing greyish black in the anterior half, the anal triangle creamy white with two reddish yellow pale undulating lines. ♀ 36 mm. Peru and São Paulo. Presumably a form of *fumatilis*. It chiefly differs in the distinct edges of the white spot in the submedian fold of the forewing.
- fasciata*. **Z. fasciata** Warr. (174 d) is brownish ochreous with darker brown streaks. The latter are arranged band-like on the forewing, parallel with the distal margin, those at the margin itself being broader, more distinct, darkest at the anal angle, lighter at the apex and bent over to the costal margin. Before them there is a distinct light band and before this a dark median band, broader at the costal margin, extra-angular behind the cell. 3 or 4 indistinct dark bands at the base, a black blotch in the cell. Apex whitish. The brown median and marginal bands of the hindwing very distinct, the light interspaces with reticular lines. Not white at the anal angle. ♀ 40 mm. Peru.
- The following species of which only the ♀ is known differs somewhat in the shape of the hindwing. An obtuse projection is at the apex, the distal margin projecting below the middle in a broad pointed dent, the inner margin is rather short, ending in a small lobe.
- argentistriata*. **Z. argentistriata** Warr. Pale wood-brown, somewhat reddish. The costal and distal margins of the forewing paler, brownish ochreous, with scanty black scales. The redder part of the forewing with irregular black streaks. A dark cloud from the middle of the inner margin to the space behind the cell. A light, black-centred spot at the apex. Hindwing with a darker marking forming a blackish median band which is angled outside. Apical area dark. A fine red-brown streak at the middle of the distal margin. 1 ♀, 30 mm, from Venezuela.
- subfulvata*. **Z. subfulvata** Warr. (174 d). In the author's opinion the species is similar to *Loxiorhiza cervinalis* and *Zeuserodes nigrata*, so that it may not belong to this genus. Greyish ochreous. Forewing densely striated dark brown, without any recognizable marking. Hindwing similar, with traces of an exterior band of 3 or 4 dark lines. Costal margin of forewing inserted in the middle, the distal margin of the hindwing straight. 40 mm. 1 ♀ from Ecuador.

14. Genus: **Loxiorhiza** Warr.

Wings shaped like those of *Zeuserodes*. Costal margin of forewing slightly inserted in the middle, the distal margin very oblique, the anal angle very much rounded. The inner margin of the triangular hindwing is very short. Veins 4 and 5 of the forewing above the lower cell-angle, 6—9 close together at the upper angle. Only 1 species.

- cervinalis*. **L. cervinalis** Pagst. (180 h). Forewing pale reddish brown, covered with dark dots and streaks, not forming distinct lines. Hindwing the same, broadly darker red-brown at the anal angle. Paler beneath, the cross-vein prominently black in both wings. The striation is as insignificant as above. 28—38 mm. Peru, Brazil.

15. Genus: **Macropota** Warr.

Forewing long and narrow, straight at the costal margin, bent before the apex. Hindwing undulated at the margin, apex obtuse, with a dent at vein 7, cut out below it, the inner margin short. Only one species described as *Siculodes*.

- eupithecula*. **M. eupithecula** Gn. (*eupitheciata* Warr.). Wings lustrous greyish yellow, strewn with black scales, without any other marking. Beneath at the apex of the forewing there is a white spot with a black dot. The veins with silvery blue scales. 23 mm. Cayenne.

16. Genus: **Rhodogonia** Warr.

Forewing straight at the costal margin, bent before the apex, apex pointed, distal margin with a small dent at vein 7, excurved at vein 4, oblique below it. Hindwing with a round apex, the margin angled at vein 4. Palpi erect, long. Neuration as in *Rhodoneura*. The first species, *miniata*, is only known as ♀, the other species, *subfusca*, was described from a ♂. WARREN, however, is convinced that they are two different species.

R. miniata Warr. (173 d). Wings yellowish ochreous with dense red reticular lines and a few dark brown *miniata* spots, a larger one of which behind the cell is more prominent on both wings. The specimen figured, however, is red with fine dark striation. On the hindwing a brown shadow extends from this spot to the inner margin. Forewing beneath with traces of a median band which, however, is absent in the specimen figured. ♀ 36 mm. British Guiana.

R. subfusca Warr. Reddish yellow with an olive brown shine, striated dark between the veins. Red *subfusca* scales at the base and in the costal-marginal area. The costal margin itself snow white with 5 red dots in the basal half and 2 red blotches in the distal half, reddish brown at the apex. A dark spot at the cell-end. The fringe in the incurvations snow-white. Hindwing somewhat brick-red at the base, the distal half tinged with olive brown. A dark shadow from the cell-end to the inner margin. The costal and inner margins somewhat yellowish. Beneath dark olive brown, more brownish ochreous on the hindwing. The inner margin broadly whitish on both wings. ♂ 35 mm. Cayenne.

17. Genus: **Hexeris** Grt.

Beside *Risama Wkr.*, this is the only Thyridid gems in which the long palpi project horizontally. Antennae of ♂ feebly serrate. Forewing with a slightly inserted costal margin, the distal margin slightly excurved at vein 3, all the veins free. Hindwing likewise somewhat excurved at vein 3. The genus contains but one species.

H. enhydria Grt. (= *reticulina* Beut.) (174 e). The determination of the genus has caused great difficulties *enhydria* to the two authors, and GROTE fully describes the origin of the frenulum, but he does not mention anything about the family to which he would like to have his new genus placed, except the remark that it is very similar to the *Geometridae*. The wings are pale cinnamon brown with numerous dark reticular lines. Among them a median line on the forewing is more conspicuous, despatching a branch from the lower cell-angle to the costal margin towards the base. It is continued on the hindwing to the middle of the inner margin, a feebler branch extends from its apex at the costal margin dentately to the anal angle. 25—33 mm. A few species known from Florida, also from California.

In the following genera the forewing is more or less distorted, sometimes also the hindwing.

18. Genus: **Hepialodes** Gn.

Palpi short, porrect. Forewing inserted at the middle of the costal margin, irregularly cut off at the apex. Distal margin bent. Hindwing with 2 excisions at the costal margin near the apex. Neuration as in *Rhodoneura*. Only 1 species.

H. follicula Gn. (174 e). Reddish brown, more or less tinged with violet, the intensity and number of *follicula* the dark reticular lines being also variable. Forewing with a straight somewhat oblique median line, slightly forked at the costal margin. The cross-vein on the hindwing is distinguished by a fine silvery line, traversed by the dark somewhat bent median line. The reticular lines are just as variable as on the forewing. 55—75 mm. Guiana, Brazil.

19. Genus: **Belonoptera** H.-Schöff.

Both wings with a more or less pointed apex, the distal margin below it cut out. Type: *phyllula* Gn. The species differ from one another in the shape of the wings and the marking as much as the species of *Draconia* do. The two genera might be united.

We begin with the two species in which the distal margin is rather much notched in both wings, as in the *Draconia*-species.

B. nervicula Gn. (174 f). Ground-colour dark yellow with fine red-brown reticular lines none of which *nervicula* is particularly prominent in my only specimen; there are only traces of one somewhat darker small triangle each marked by bifurcation at the inner margin, before and behind the middle. The lines which are rather fine everywhere are somewhat more densely arranged in the basal third. Hindwing with somewhat more prominent interior, median and submarginal lines. At the median line there is a large white spot in somewhat darker surroundings at the cross-vein. Distal margin notched at the veins in both wings. Anal angle of forewing projecting far. Hindwing with a long apex at vein 7, another angle at vein 8, which is not so very prominent in the specimen figured from the Senckenberg Museum. The transverse lines are strong on both wings in this specimen. ♂ 62 mm. Peru, Brazil.

cancellata. **B. cancellata** Warr. (175 f). The shape of the wings is not described by the author; judging from a specimen kindly placed at our disposal by Dr. JORDAN, it resembles *nervicula*, but the denticulation is stronger on both wings. Wings brownish ochreous. Forewing with a blackish brown stripe below the costal margin proceeding from the base, broader outside, extending into the apex. Dark streaks at the costal margin, larger spots before the apex. The wing is traversed by 9 parallel vertical brown lines at equal distances, only the seventh line being somewhat more bent. Besides fine brown reticular lines. A white streak at the margin above vein 7. Hindwing with 5 parallel lines in the basal half and a very much ramified one from $\frac{1}{2}$ costal margin. 1 ♀, 50 mm. Peru.

In the following species the apex is very pointed in both wings, the distal margin not or hardly notched. The anal angle of the forewing is angled, but not projecting. Hindwing without an angle at vein 8, faint traces of it only in *phyllula*.

phyllula. **B. phyllula** Gn. (174 e ♀, f ♂). Wings somewhat more oblong and somewhat lighter than in *nervicula*. The fine and stronger lines are just as irregular. A straight median line on both wings may be worth mentioning at most. This species also shows the conspicuous white spot on the hindwing, which HERRICH-SCHÄFFER has omitted on his figure 403. The resemblance of *phyllula* and *nervicula* is considerable, yet they are probably different species. A tiny specimen with an expanse of 38 mm is before me from the Senckenberg Museum. 55—60 mm. Brazil.

patercula. **B. patercula** Pagst. (174 g). Ground-colour pale yellowish, somewhat diaphanous, the marking red-brown. Costal margin of forewing red-brown as far as the apex, a subapical band terminates at the margin at vein 4. The median band from $\frac{3}{5}$ costal margin to the middle of the inner margin, where it widens and encloses light dots. A large irregular spot in the middle of the marginal area above vein 2, with a side-branch extending to the anal angle. Hindwing with an equably broad median band enclosing a white dot at the cross-vein. A large square spot at the costal margin near the apex, a just as large anvil-shaped spot between veins 2 and 4. Besides both wings are densely covered with red-brown reticular lines. The description refers to the type. All the other specimens which I saw are less intensely marked, so also the specimen from the Senckenberg Museum, which we figure. In most of the specimens the median bands are only median lines; the same is the case with the subapical line. The last spot on the hindwing is almost invariably absent. A tiny specimen of 30 mm is before me from the Senckenberg Museum. 45—55 mm. Brazil. — **fratercula** Pagst. (174 f), according to the description, might be a very feebly marked *patercula*. We figure such a specimen from Blumenau in the Senckenberg Museum. The habitat stated to be California is improbable. ♂ 42 mm.

arachnidia. **B. arachnidia** Warr. (174 g). Pale greyish yellow, with dense dark reticular lines, the lines and shadows red-brown. Forewing darker at the base, bordered by an irregular bent line. The median line is just as irregular. The exterior line from $\frac{2}{3}$ costal margin to the middle of the inner margin, oblique, thick, forked at the costal margin, with a red-brown shadow behind it, which is narrow in front and reaches the margin at vein 2. A black streak below the costal margin in the last quarter to the apex, from its beginning a red-brown stripe extends to the margin at vein 4. Hindwing with a long light streak at the cross-vein, fadedly darker behind it. Darker also at the apex. ♀ 68 mm. Peru.

sanguinea. **B. sanguinea** Warr. (175 a) shows the apex of the forewing very much produced, but the apex of the hindwing broadly cut off. As it is somewhat similar to the following *frondicula* Gn., we place it here, although *Drac. peripheta* is still more similar. Forewing brownish ochreous, diaphanous, the marking dark red-brown, hemochrome at the distal margin between veins 2 and 5. The inner margin dark red at the base as far as the submedian fold, where it meets a band proceeding from the median vein at the base of vein 2. A broader oblique band from the middle of the inner margin to the cell-end encloses a round pale spot. Both the bands are branched towards the costal margin, prolonged to the apex as a costal stripe, containing a few pale spots. A few oblique lines at the apex. A red-brown spot at the anal angle, pointed above, extending to vein 4. Before this spot two more as far as the median band and some above vein 5. The whole wing with reticular lines. Hindwing dark red. Paler near the base before the broad interior band, a larger light spot at the costal margin behind the middle, a smaller one behind it, two at the anal angle. ♀ 60 mm. Cayenne, Amazons.

frondicula. **B. frondicula** Gn. (= *matricula* Gn.) (174 g). In both wings the apex does not project quite so much as in the preceding species. Ground-colour reddish yellow, somewhat diaphanous. Forewing red-brown at the base. As the beginning of the interior line there is a spot at the costal margin. Median band broad, divided at the costal margin, bent somewhat basad. A spot at the anal angle may be connected by irregular lines with the median band at vein 3. A triangular preapical spot the lower point of which is prolonged to a subapical line or row of spots. The costal margin is not throughout red-brown, by what it is well discernible from *patercula*. Hindwing with a basal and median band, the latter enclosing a white central dot. An irregular spot at the apex, interrupted and irregularly prolonged towards the anal angle. Besides the red-brown bands there are dense fine reticular lines on both wings, here and there blackish, the others red-brown. 55—70 mm. Brazil.

B. reticula Gn. (= *mediovincta* Warr.) (174 f). Placed to *Risama* by HAMPSON, but probably better *reticula*. ranged here. Forewing as pointed at the apex as in *frondicula*, hindwing pointed at the apex, but not projecting. Ground-colour yellowish hyaline with a red-brown marking. Costal margin of forewing somewhat paler red-brown. The interior band vertical, ending at vein 1. The median band very broad at the costal margin, very narrow from vein 3, somewhat outward as far as vein 1, containing a round spot of the ground-colour above it and widened. A dark reticular line from the anal angle upward almost to vein 4. The red-brown colouring at the costal margin gets narrower towards the apex. Hindwing with dense reticular lines at the margin and the same from $\frac{2}{3}$ inner margin to the cross-vein. 55–60 mm. Brazil. — **mediovincta** Warr. (175 e) differs *mediovincta*. very slightly in the reticulation, the margin of the hindwing is quite linear, as if it were cut off with scissors. It does not deserve a special denomination.

B. purpureofasciata sp. n. (175 a) has more stretched wings. The distal margin of the forewing with the pointed apex and the angle at vein 3 resembles the following species, but the margin is very oblique below *purpurco-fasciata*. vein 3, and the hindwing is much more pointed at the apex. The marking is somewhat similar to *selenioides*. The body is dark pink. Forewing yellow, densely covered with reddish brown little strokes. The transverse bands dark violet. A short vertical band from the costal margin to the base of vein 2. A band from the middle of the inner margin to $\frac{2}{3}$ costal margin, much broader from vein 3 and extended from the middle of the costal margin almost to the apex. From its exterior point a straight submarginal band extends to vein 2, where it is indistinct and broader. Hindwing with a double interior line. Median band extra-angular between veins 4 and 5, broader above it, straight below it to behind the middle of the inner margin. Hindwing with fine dark streaks, somewhat reticular. Ground-colour beneath lighter, the marking distinct. ♂ 45 mm. Type in the Senckenberg Museum (Frankfort on the Maine).

The two following species exhibit a rounded apex on the hindwing. The marking is somewhat variegated.

B. selenioides Pagst. (175 a). Wings yellow in the distal halves. Forewing olive brown in the basal *selenioides*. area. The median band very broad at the costal margin, occupying almost $\frac{1}{3}$ the length of the costal margin. Its distal margin uniformly bent from $\frac{3}{4}$ costal margin to the middle of the inner margin, the interior edge outward as far as the base of vein 3, then inward parallel and close at the exterior edge; the band is darker in its lower part. The costal margin is spotted greyish white as far as the end of the median band. From its exterior angle a subapical band extends to vein 3 and a fine line to the anal angle. Hindwing with a broad olive brown median band, somewhat broader at the costal margin. A line from its angle to vein 3 at the margin, where the latter is somewhat excurved. 40 mm. 2 ♀♀ from the Chanchamayo.

B. excessiva sp. n. (175 a). Costal margin of forewing more undulated than in *selenioides*, somewhat *excessiva*. more projecting at the middle of the distal margin, but uniformly bent at the distal margin of the hindwing. Body and base of forewing somewhat red-brown. Wings brownish ochreous, the marking red-brown. The median band of the forewing shaped like that of *selenioides*. A triangle close behind it at the costal margin as far as the apex from which, below at vein 6, two lines proceed, ending at vein 3 and at the anal angle. Besides numerous finer parallel lines. The median band is continued on the hindwing in the same width. Also here numerous parallel lines. The same beneath. ♀ 22 mm. Rio de Janeiro. Type in the Senckenberg Museum.

20. Genus: **Risama** Wkr.

Palpi horizontally porrect. Forewing very deformed in the typical species and the following one. widely excurved behind the base at the costal margin, inserted in the middle of the costal margin, the apex projecting pointedly, the distal margin cut out above the anal angle. In the other species the anal angle is not cut out, the apex projects much like a sickle. No veins stalked on the forewing. Veins 6 + 7 of the hindwing on a short stalk. Type: *picta* Wkr.

R. picta Wkr. (= *aurorula* Gn.) (175 b). Forewing pink in the convexity at the base of the costal margin, *picta*. moreover in a triangle from the base of vein 2 along the latter and the distal margin almost to the apex, the rest glaringly light yellow. Dark brown circles, forming a band near the base, two of them replacing an interior line, a ring above the middle of the inner margin. small spots at $\frac{3}{4}$ costal margin and at the excision of the anal angle. Hindwing light yellow at the base. Median band broad, brown, with yellow dots, enclosing a large round hyaline spot. The inner margin behind it broadly yellow, the distal margin narrowly brown at the anal end, the rest of the wing pink. 40–44 mm. Brazil.

R. satellifera sp. n. (175 b). Costal margin of forewing less convex at the base, but the anal angle still *satellifera*. cut out. Ground-colour brownish pink. Forewing densely covered with rows of dark brown streaks, somewhat darker at the anal angle. A dark brown short double streak extending obliquely outward from $\frac{3}{4}$ costal margin is the only marking on the forewing. The striation on the hindwing is somewhat less distinct in the marginal area, somewhat darker only at the anal angle. Median band similar to that of *picta*, marked only like a shadow. The hyaline spot as in *picta*, close beside it towards the anal angle 3 small accessory spots. Beneath similar to *picta*, except the absence of the yellow colouring. The median band extends farther in front on the forewing, it is broad and distinct on the hindwing. 36–38 mm. Minas Geraes, type in the Senckenberg Museum, taken by Prof. SEITZ in March 1930.

straminula.

R. straminula *Pagst.* The author was doubtful as to the position of this species; DALLA TORRE placed it here later on. Both wings dingy straw-coloured, with numerous dark transverse stripes extending parallel and almost vertically and being connected reticularly. Costal margin of forewing whitish, a dark brown oblique line before the apex. The dark stripes are continued on the hindwing. 33 mm. Described according to a damaged specimen from Brazil.

The following species have no excision at the anal angle of the forewing.

transversa.

R. transversa *Wkr.* (175 c). Pale greyish brown, with few dark scales. Traces of the beginning of an obliquely outward band at the middle of the costal margin. A radial row of 3 black dots at the apex. Two similar ones at the anal angle and a few more indicated above them. Hindwing with a somewhat oblong hyaline spot, surrounded by a somewhat darker median band. Beneath similar to the two preceding species. 46 mm. Brazil.

eurymenana.

R. eurymenana *Wkr.* (= *subchalybea* *Wkr.*) (175 c). Reddish brown, lustrous, with few dark little strokes. Forewing with a very indistinctly marked median band, extra-angular below the costal margin, then straight, somewhat inward. A narrow band from the apex very obliquely inward, then steeper, from vein 2 vertically to $\frac{3}{4}$ inner margin. Hindwing only with a small hyaline spot at the middle of the cross-vein, without any other marking. Under surface lighter. Basal area of forewing only with a few dark rings. The median line and the line from the apex more distinct, the space between below the cell filled darker, darker also at the anal angle. Hindwing with traces of a broad dark median band. Described according to two specimens in the Berlin Museum, which were thus labelled. 32—40 mm. Brazil.

falcata.

R. falcata *Fldr.* (= *serpula* *Gn.*) (175 e). Dark pinkish brown. The forewing lighter at the costal margin. A somewhat darker interior band from $\frac{1}{3}$ inner margin vertically to the base of vein 2. A band from the apex obliquely to the middle of the inner margin, divided near vein 4 and despatching a branch to $\frac{3}{4}$ inner margin. A darkening also vertical on the anal angle. One large black spot each in the centre of the cell and at the cell-end. Hindwing with a hyaline spot at the cross-vein, an indistinct band before and behind it as on the forewing. Blackish spots near the anal angle. Forewing beneath with but few dark streaks, the apical band more distinct. Hindwing uniformly dotted darker. 34—60 mm. Brazil.

substrigata.

R. substrigata *Wkr.* (175 c). Forewing pale pinkish ochreous, densely dusted dark brown, especially near the inner margin, the dusting at the distal margin united into indistinct parallel lines. A somewhat more distinct line from the middle of the inner margin, forked at vein 2, vanishing at vein 6, continued with 2 blackish spots at vein 8 and below it, and with a dark blotch to the apex. Besides two submarginal rows of brown spots. Hindwing darker, intensely spotted brown, without a hyaline spot, with 3 transverse bands which are only distinct at the inner margin, especially the interior one. Paler beneath. On the hindwing a band and the spots are distinct. On the forewing the band does not extend beyond vein 2 in front. According to WARREN, the specimen denoted by PAGENSTECHER as *falcata* from Massanary and the specimen denoted as *serpula* belong to this place here. As the latter is too much damaged, we figure the former indistinctly marked specimen. 56 mm. Described according to 1 ♀ from Costa Rica.

avicula.

R. avicula *Gn.* (= *macropterana* *Drc.*) (175 d). Judging from DRUCE's figure, (the older) *avicula* differs but little from *substrigata* *Warr.* The colour is almost the same. The band on the forewing extends straightly from the middle of the inner margin to the apex, where it is darkest, without the least trace of a bifurcation near the inner margin. A dark spot is traceable below the middle of the costal margin, and a few submarginal spots near the anal angle. The median band on the hindwing is rather somewhat darker than on the forewing, a few dark rings above the anal angle. The hyaline spot is also absent here. Marking beneath as above, the bands paler. 45—55 mm, Brazil. Costa Rica.

21. Genus: **Vadata** *Wkr.*

Similar to *Risama picta* by the distorted shape of the wings. The forewing, however, shows veins 9 + 10 stalked. The palpi which are rather long in *Risama*, are shorter here than usual. Only 1 species.

macropterana.

V. macropterana *Wkr.* (*maculata* *Pagst.*) (175 c) is uniformly lustrous brown with a violet reflection. Both wings covered with yellow dots. Only the forewing lacks them at the costal margin as far as below the cell. 35—40 mm. Brazil.

22. Genus: **Draconia** *Hbn.*

The wings are more or less angular and notched in all the species, though in very different degrees in the single species. All the veins of the forewing free. Veins 6 and 7 of the hindwing from the upper cell-angle. Separated from *Belonoptera* by somewhat shorter palpi. In the Senckenberg Museum at Frankfurt on the Maine there is a large specimen of *peripheta* preserved in its natural position of repose, as it is described in CRAMER's Work (Vol. II, p. 54). The forewings are flat, but lowered, and the costal margin of the hindwing projects far beyond the costa of the forewing. Type: *peripheta* *Cram.* Excepting *denticulata*, all the species seem to be rare.

I. Hindwing without an excision at the apex, the distal margin rather uniformly notched. Both wings with two points at the apex.

D. denticulata *Pagst.* (175 g). The forewing somewhat extra-angular at veins 3 and 4, with 2 excisions *denticulata*. at the anal angle. Ground-colour yellow, the marking red-brown, of a variable extent, dull. Forewing mostly with a narrow interior band, the median band very broad in front, often extinct between the middle of the cell and vein 2, then narrowly to the inner margin. Submarginal band very narrow in the middle, broadly triangular at the costal and inner margins. Besides numerous fine reticular lines. Hindwing only with a rather indistinct median band, narrower in the middle. The bands are more distinct beneath. 40—45 mm. Chiriqui. — **crassiorata** *form. nov.* (175 g) is much more intensely and contrarily marked. The ground-colour with its *crassiorata*. reticular lines is not different, but the bands are broad, dark red-brown. The whole costal margin of the forewing is red-brown as far as vein 7, and so is the inner margin as far as the median band. The interior band is distinct, narrow, the median band strangulated above vein 2, the submarginal band interrupted, its apical part situate a little farther outside. Hindwing likewise with a very distinct median band. Beneath only the forewing is paler, red-brown at the costal margin, the bands less distinct than above. ♀ 40 mm. South Brazil. Type in the Senckenberg Museum, no particular habitat mentioned; another specimen from Brazil in the same Museum.

II. Hindwing with an excision or truncate at the apex above vein 7.

D. peripheta *Cr.* (175 e). Forewing only with a slight excision at the anal angle, the margin undulated *peripheta*. in both wings. Wings red-brown with yellow hyaline spots partly crossed by red-brown reticular lines. A few separated spots at the base of the forewing. A very distinct median and exterior band, and one at the middle of the distal margin. Hindwing with predominating hyaline places. An irregular red-brown median band, more or less interrupted. More extensively red-brown enclosing hyaline spots at the apex and anal angle. With an expanse of 85—90 mm it is the largest Thyridid known. Chiriqui and in the West Indies.

D. accipitrina *Warr.* (175 d) is likewise very large. Both wings with a pointed apex, the distal margin *accipitrina*. undulated. Ground-colour whitish yellow, veins and reticular lines pale brown, the bands dark brown. The base of the forewing is faded brown. A broad oblique band proceeds from the middle of the inner margin, and a coniform spot from the anal angle, both uniting above vein 5, from where they extend as a broad band to $\frac{2}{3}$ costal margin. The whitish transparent ground-colour is therefore reduced to a narrow oblique band between the basal spot and the median band, it extends to below the costal margin. Besides a broader light postmedian band, extending to vein 5, and 3 round hyaline spots between veins 4 and 7. Apex whitish. Hindwing narrowly brown at the base. The double band like that of the forewing. The central area narrower, numerous hyaline spots at the apex. A brown streak from $\frac{3}{4}$ costal margin to a brownish cloud at the middle of the distal margin. 70 mm. Described according to 1 ♂ from Bogota.

The following species exhibit a larger excision at the anal angle of the forewing, and a smaller one above it.

D. mirabilis *Stgr.* (175 d) is the strangest Thyridid. Distal margin undulated only on the hindwing. *mirabilis*. Wings somewhat oblong. Forewing pale red-brown. Costal margin interrupted narrowly light in the distal half. Broad hyaline spots at the inner margin as far as the cell and vein 3, one near the base, one each before and behind the middle. Marginal area pale brown. Hindwing with a hyaline spot behind the cross-vein. A somewhat darker band behind it. The exterior band light, distinct only at the inner margin. Darker red-brown spots at the light costal margin. ♂ 70 mm. Peru.

D. rusina *Drc.* (175 f). Distal margin not undulated in both wings. Dull red-brown with hyaline spots. *rusina*. An interior and median spot in the submedian fold, one above them at the cross-vein, divided by dark lines. A larger group of spots in the marginal area upwards as far as vein 5, small ones also above them. Hindwing with a group of spots at the base at the inner margin and a stripe from the anal angle to the middle of the costal margin. In my only specimen the costal margin of the forewing is not nearly so distorted as it is on DRUCE's figure, and the little tail on the hindwing is quite inconspicuous. 52—56 mm. Guatemala, Panama, Venezuela.

D. angulipennis *Dgn.* Forewing with 2 excisions at the anal angle, then straight as far as beyond vein 3, *angulipennis*. where it is well angled or bent, the apex somewhat prominent. Hindwing straight from the anal angle to the apex, slightly angled at the veins. Ground-colour chocolate brown with a lilac gloss, with fine black irregular lines. Costal margin of forewing fine white. In spite of this short description, the species will be recognized by the straight distal margin of the hindwing. ♀ 38 mm. Colombia.

D. stenoptila *Warr.* (175 h). Distal margin undulated in both wings. The shape of the wings is oblong. *stenoptila*. Forewing brownish ochreous, the marking dark brown. Irregularly dull brown at the costal margin. Inner margin dark brown in the middle, from where two dark oblique bands proceed; one of them in the middle to a quadrangular subcostal spot behind the cell; the other one forked, from the anal angle and before it, united above the middle and extending to a broad triangular subcostal spot near the apex. The rest of the wing with numerous brown reticular lines. Hindwing with a spot at the base and a broad interior band, the rest with brown reticular lines. ♀ 32 mm. Trinidad, Honduras. *stenoptila* resembles a small light *denticulata*.

III. Both wings cut out below the apex and thereby angled at the middle of the distal margin. The hindwing of *annuligera* with another angle at the margin at vein 8.

annuligera.

D. annuligera Wkr. Wings greyish red with darker transverse lines. Forewing with black, light-edged circles arranged band-like below the cell and at the margin. On the hindwing these circles are distributed at the inner margin and distal margin, the latter ones partly connected in pairs. 45 mm. Brazil. — *Siculodes mediula* Gn. is presumably the same species.

oleigutta.

D. oleigutta Fldr. (175 f). Distinguished in the contours of the wing from *annuligera* by the undulated distal margin on the hindwing between the angle and the anal angle. Forewing with a slight excision at the anal angle. Forewing hyaline white. The basal area red-brown, somewhat extra-angular at the median vein. Exterior band broad, extending to the base of veins 3—5, then interrupted and narrowly continued from vein 2. The apical area is broadly red-brown, extending down to vein 4, the costal margin behind the exterior band red-brown as far as vein 7, a spot at the anal angle also red-brown. Hindwing red-brown. A large round hyaline spot at the base, a similar one at the costal margin near the apex. Both wings with parallel linear streaks in the hyaline spots. 45—50 mm. Brazil, Surinam.

vitrea.

D. vitrea sp. n. (175 g). A larger excision at the anal angle in both wings than in *oleigutta*, the hindwing not undulated at the margin, the angle smaller than in *oleigutta*. The thorax and the costal margin of the forewing dark red-brown, narrower towards the apex. Red-brown also at the base. Close behind it the interior band, broad in front, bent inwards, ending narrower. A square spot behind the centre of the wing between vein 2 and the inner margin. A discal streak from the anal angle to vein 4, somewhat inwards, blurred on both sides at vein 2. A thick line from the costal margin near the apex to the margin at vein 5. Besides numerous fine reticular lines. Hindwing only with red-brown reticular lines which are close together at the inner margin, more widely meshed elsewhere. ♀ 40 mm. Itatiaya. Type in the Senckenberg Museum in Frankfurt on the Maine.

basiplela.

D. basiplela Warr. The marking and the reticular lines are red-brown. The base of the forewing as far as $\frac{2}{5}$ inner margin and the stripe at the costal margin red-brown. Two dark brown quadrangles below the stripe at $\frac{2}{5}$ and $\frac{1}{6}$ costal margin. A line extends from the interior angle of the first quadrangle to an urn-shaped spot at $\frac{2}{3}$ inner margin. Another line from the interior angle of the second spot to a triangular spot at the anal angle, a thick line from the exterior angle to the middle of the distal margin. The base of the hindwing is narrowly red-brown, a quadrangular spot at the cross-vein and one at the end of the inner margin are also red-brown. Both wings with many reticular lines. 40 mm. Described according to 1 ♀ from British Guiana. *vitrea* may be similar, since it also has a red-brown vein 2 on the forewing.

dismutata.

D. dismutata Warr. (175 g). Similar to *basiplela*. All the brown marking paler, more rusty brown. The basal spot on the forewing covers one third of the length of the wing, the costal-marginal stripe is broader. The second spot below the costal margin is nearer to the apex and not connected with the distal margin. Vein 2 is not red-brown. Hindwing not with a line from $\frac{2}{3}$ costal margin to the distal margin, but only with a short oblique streak near the apex. The pale ground-colour is slightly reddened. Hindwing with red reticular lines. 40—50 mm. Upper Amazon R.

lineigera.

D. lineigera sp. n. (175 h). Wings shaped as in *vitrea*, but the margin of the hindwing is straight below vein 4. Body and wings brownish ochreous. The costal margin of the forewing narrowly lighter, with small dark brown spots from which irregular lines proceed. The interior and median lines straight, somewhat nearer together at the inner margin. The exterior line somewhat undulate, ending at the anal angle, the submarginal line almost vertical from the distal margin at vein 3. Besides a few less distinct lines. Hindwing with a straight median line, an undulated exterior line from the anal angle to $\frac{2}{3}$ costal margin, a submarginal line parallel to it, from vein 3 at the margin. The lines on the forewing beneath are more distinct, on the hindwing only the median line is distinct, the others reticular. ♀ 33 mm. Molinar, Paraguay, FR. SCHADE leg. Type in the Senckenberg Museum.

albiapicata.

D. albiapicata Warr. (175 b). Both wings undulated at the distal margin below the excision. Forewing rusty brown, the lines and spots darker. The costal margin of the forewing dark brown, somewhat lighter at the apex. Brown streaks in the base of the cell with a rusty brown spot at $\frac{1}{3}$ costal margin. An oblique rusty brown line close behind the middle, forked at the costal and inner margins, the lower fork filled with rusty brown. A line extends from the upper fork to a large oval spot between veins 2 and 3, below it a projectile-shaped spot at the anal angle, and a round one above it. Distal margin darker rusty brown, white at the apex. Hindwing with a bent rusty brown line at $\frac{1}{3}$. A small white spot at the lower cell-angle. Spots below the costal margin are confluent outside, a round spot between veins 2 and 3. Apex white. Similar to *frondicula* Gn. (174 g), but with differently shaped wings. ♂ 60 mm. Peru. — We figure a specimen from Ecuador (in the Senckenberg Museum), which slightly differs from the type. The forewing lacks the triangular spot at $\frac{1}{3}$ costal margin. The lower fork of the median line is shaped like a vase below vein 2. The two spots at the anal angle are more fused, another smaller spot is above vein 3, and a few dots are above it. Forewing with veins 8 + 9 stalked, but this may be only abnormal. 56 mm.

timida.

D. timida Warr. (175 g) is the smallest species. Whitish. The veins and fine reticular lines are brown. The costal margin and the basal third tinged with brown. An exterior and submarginal narrow brown band

extend inwards, both thickened at the inner margin. Narrowly brownish at the distal margin. Hindwing with all the transverse bands and lines somewhat connected longitudinally. 1 ♀ 22 mm. Upper Amazon R.

D. fenestralis C. d. Lima has unfortunately remained unknown to us, since there was no access to the original description.

23. Genus: **Meskea** Grt.

Similar to *Zeuzerodes* Pagst. in the shape of the wings, but veins 8 + 9 of the forewing are stalked. There is also a specimen at hand, in which veins 9 + 10 are stalked. For a long time the type *dyspteraria* Grt. was the only species of the genus. Two more species have become known only very much later.

M. dyspteraria Grt. (175 h) resembles *Z. leuconotula* Pagst. (p. 1203) so much that PAGENSTECHER has *dyspteraria*, partly confounded them. Ground-colour of forewing greyish brown, the median vein more intensely white than in *leuconotula*, but the same white apical spot with a black dot. Hindwing more blackish than in *leuconotula*. The broad white submarginal band reaches the costal margin and extends somewhat basad in the submedian fold, it may contain fine black dots. 28—34 mm. Florida, Texas.

M. horror Dyar. Forewing reddish yellow, blackish in the cell, greyer at the margin, with black dots *horror*, which are only absent at the costal margin and more densely arranged in the marginal area. Thus it only differs from *dyspteraria* in the absence of the apical spot. Hindwing also similar to that of *dyspteraria*, but the margin grey with dark dots. In *dyspteraria* it is brown, and the black dots are on the white band. 30—43 mm. Mexico.

M. subapicula Dyar. Greyish yellow. Forewing dusted grey, forming indistinct curved bands in the *subapicula*, distal part. A black longitudinal streak below the exterior part of the cell. Hindwing with a long apex, striated and dusted grey, forming broad bands through the centre and at the distal margin. 19—21 mm. Mexico. The larva does much harm to cotton.

24. Genus: **Endolophia** Hmps.

Palpi long, erect. Abdomen long. All the veins of the forewing free, vein 8 absent. Veins 6 and 7 of the hindwing separated, long hairs beneath at the inner margin. Only 1 species.

O. hypohaemia Hmps. Body and wings glaringly red-brown, somewhat grey and brownish ochreous in *hypohaemia*, some places, striated darker red. Forewing with a dark spot at the cross-vein. Both wings with a bent greyish-ochreous exterior band and a narrow submarginal band. Under surface intensely reddened. ♂ 16 mm. Surinam.

25. Genus: **Hepialopsis** Warr.

Forewing very long, straight at the costal margin, slightly excurved at the inner margin at the base. No veins stalked. Hindwing smaller, oblong, its inner margin very short. Veins 6 and 7 from the same base. Abdomen of ♀ long, legs short and strong. Only 1 species, characterized by its name.

H. sphingipennis Warr. (175 h). Forewing yellowish grey, dusted darker. These scales form rows of *sphingipennis*, indistinct spots, which are larger and more distinct in and below the cell. Less dusted and more yellow at the distal margin. Hindwing dark grey with a reddish reflection. A thick red-brown submarginal line proceeds from the anal angle, with 2 parallel lines or a broad band above it. The hindwing is said to be somewhat similar to that of *Sphinx ligustri*. 60 mm. 1 ♀ from Peru.

26. Genus: **Orneostoma** Warr.

Forewing with an undulated costal margin, projecting in the middle, cut off before the apex. Distal margin bent, incised above the lobate anal angle. Inner margin lobate at the base, then bent inwards. Veins 9 + 10 stalked, 5 and 6 from the angles of the cross-vein. Hindwing bent forward at the base at the costal margin, the distal margin straight. Type: *subpulchra* Warr.

D. subpulchra Warr. (175 h). The forewing with a pale brown subcostal stripe, quite straight from the base to *subpulchra*, the apex. Whitish below this stripe with dark reticular lines. A dark band at $\frac{1}{4}$ of the length of the wing, slightly strangulated in the middle. A dark grey triangular postcellular cloud, connected at the apex with a quadrangular spot at the middle of the inner margin. The marginal area is broadly dark greyish brown, bordered by a white area inside, which bends narrowly round to the apex and is broad at the inner margin. Hindwing entirely dark brown, indistinctly darker between the veins. The description is not quite correct. 1 ♀ 35 mm. From Peru.

D. albitessellata Hmps. is somewhat more marked. Body and wings grey with dark brown little streaks, *albitessellata*. Forewing with a reddish brown stripe with dark brown streaks below the base of the cell and in the upper cell-end. An oblique triangular white spot with red-brown streaks from the base of vein 2 to the inner margin. A small spot at the middle of the inner margin, an exterior spot from vein 4 to the inner margin and a white

streak at the middle of the costal margin with red-brown little streaks. A spotted band from the costal margin near the apex to the distal margin at vein 4. The interior line of the hindwing is replaced by a white spot in and below the cell, with small black streaks. A black spot with a reddish yellow centre is below the middle of the cell, and a small similar one at the lower cell-angle. Another one at $\frac{2}{3}$ costal margin and an elliptical one between veins 4 and 1. Striated red-brown at the apex. 30 mm. Also described according to a single ♀ from Peru.

Alphabetical List

of the original descriptions of the forms of the American *Thyrididae*.

* signifies that the form is also figured at the place quoted.

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Family: Aegeriidae.

The *Aegeriidae* are a well defined family apparently allied to the *Cossidae*, since they have the same larval habits. But this is also the only link connecting them with the wood-borers, for the wings and neurulation of the *Aegeriidae* are quite differently shaped from those of the *Cossidae*. At any rate it is certain that the family has originated from an old tribe, which is proved by its slight variation and, above all, by its rather equable distribution over the various zones. They are generally assumed to have developed from the *Tineidae*; but this development must be supposed to have been far extending, as the *Tineidae* are primitive, nocturnal insects, whereas the *Aegeriidae* are throughout insects loving the sun and flowers and very much inclined to mimicry. FORBES presumes them to be closely allied to the *Yponomeutidae*, while in PACKARD's opinion they originate directly from the *Thyrididae*. That is why they are also ranged among the Microlepidoptera in all the latest treatises, but future research must decide whether this is quite correct.

The general habitus is almost invariably the same. Small to medium-sized species, the greater part at any rate rather small, most of them being rarely encountered; some of the species, however, may occasionally do much harm. Their rareness is not only due to the difficulty of discovering them, but also to their enormous resemblance to Hymenoptera, by which they are most excellently protected against persecution. The German name of "Glasflügler" (clearwings) distinctly shows that most of the species have narrow, elegant and hyaline wings. Some, of course, have the forewings entirely or partly scaled, but few also the hindwings; but even in these cases there are some hyaline places to be noticed. In addition to this resemblance to wasps or bees, the black ground of the abdomen is also frequently striped yellow or orange, in any case vividly striped; in some species there is even yet a sham sting, as in the *Alcathoe*-species. Owing to their frequently long legs and their strikingly hymenopterous flight they are only to be discovered by expert collectors from among the crowds of insects visiting blossoms. Only the persevering collector who has much practice in discovering and capturing these insects which are often very shy besides, becomes aware that the majority of the *Aegeriidae* are not at all so very rare, especially if one examines their regular feeding-places, and a more thorough experience will also be rewarded with better success. Species which, as a rule, are but rarely found and in single specimens, can mostly be obtained in greater numbers by breeding, as soon as the food-plant of the larva has been found. It is generally easy to obtain pupae from the adult or almost adult larvae; according to the circumstances of the habitats, the insects which always live an endophagous life must be accommodated if possible according to their natural conditions, those occurring in branches and trunks of higher trees for instance *Sphecia*, *Aegeria*, *Paranthrene*, many *Synanthedon* etc. must be kept dry, others again such as *Dipsosphecia*, *Chamaesphecia*, *Bembecia*, certain *Melittia* living in roots or the parts of plants growing above them, must accordingly be kept damp, if possible together with the whole root-stock; many prefer carcinoid places or galls produced by Hymenoptera.

The larvae, like all the insect larvae living in retreats or in the dark, are bone-coloured or whitish, only the intensely chitinized mandibles and the head are darker, — from brown to black; the dorsal receptacle often shines through the thin, not very bristly or sometimes quite smooth skin, the three pairs of pectoral legs are well developed, but above all the false feet and anal legs by which they can immediately be distinguished from the larvae of capricorn beetles frequently living at the same time in similar places. Most of the species have a larval stage of one year only, some of them of two or even three years. When they are small they penetrate into injured parts of the attacked plant and, in their first stage, bore irregular passages below the bark, proceeding as far as the inner bark. After hibernating many living in colder regions go deeper into the wood. Some few prefer dry, withered wood, most of them however like fresh wood. The passage of the adult larva is invariably circular, whilst the capricorn beetles according to their shape leave almost oval passages and loopholes. When the time of pupation sets in, all the Aegeriid larvae remaining in the passages bore themselves as far as the

outermost part of the bark, only leaving a cuticle as thin as paper, which can be easily pierced by the advancing pupa. Some pupate out in the passage, others shut off the passage above besides with a small finely spun lid, very many make from the nibbled fragments of woody fibres and faecal remnants a cocoon which is as soft as silk inside and which is slightly closed near the head or can be lifted like a lid, so that the emerging insect devoid of any biting jaws may be able to get out; others leave even the trunk and spin themselves a cocoon in the soil. On its abdominal segments the pupa has coronae of short hard chitinous bristles enabling it to climb within its burrow and to bore itself out while emerging; the empty chrysalis shell then protrudes from the burrow long after the pupa has emerged. In spite of their concealed habits many species are much infested by parasites, so that it frequently occurs that instead of the expected lepidoptera a large number of parasitic Hymenoptera appear. The development of the emerged lepidoptera mostly (in the smaller species invariably) proceeds very quickly, sometimes in a few minutes, and as soon as the insect is able to fly, the desire for copulation springs up. Most of the *Aegeriidae* are fond of visiting flowers. In dull weather the lepidoptera are often found, like the *Zygaenidae*, resting on blossoms or on stalks and trunks, where they are easily captured by collectors.

If the outlet-tube is made, one can easily crush in or blow off the thin cuticle by brushing the trunks with a wire brush and thus lay open the passage by chiselling it out or sawing it off. First condition, however, is that the pupa remains enclosed in the passage; every pupa that is taken out will perish without exception. Low plants, when attacked, almost invariably show a sickly exterior, yellow leaves, less developed blossoms etc., so that it is likewise easy here to get hold of the larva or pupa by pulling these plants out or by breaking them off. — When catching them with the net, one must go to work very quickly and carefully, as the nimble little insects whirl about, and both the scales and fringes being but loosely fitted, it is very difficult to obtain quite undamaged specimens in this way. The legs are likewise very loosely attached and easily break off, which is all the more regrettable since the determination of a species is frequently rendered difficult by their absence, because the species are more easily distinguished by the spines, the hair and often also the colouring of the legs. Especially striking is the fur-like hair, which resembles the coating on a bee's legs, on the tibiae and tarsi of the *Melittia*-species which are especially common in tropical and subtropical regions and of which considerable number of species are already known. The *Aegeriidae* copy bees so well that a *Melittia* sucking blossoms not only exhibits mostly bright-coloured hair on the hindlegs but also the habit of the copied bee of keeping still with its wings folded up, when creeping into the blossom, and then stretching its legs hindways with the fictitious velvet trousers.

Contrary to other faunistic regions, America harbours an enormous number of *Synanthedon* species, as nearly half of all the species known from there belong to this genus. Although we must admit that some of them are not properly grouped at present, as for instance *S. animosa*, *behrensi*, *geliformis*, *fragariae*, *sapygaeformis*, *polygoni*, *achillae* etc., yet a considerably larger number of *Synanthedon* remains for America than for the rest of the world. As the *Synanthedon* species in other regions, and as far as is known in America too, are without exception tree and shrub inhabitants, the vast forests of the north, as well as the primeval ones of the south have favoured the development of this genus. The species mentioned, and a few more besides, will have to be classed among *Chamaesphecia* and *Dipsosphecia* for which also their "swarming over the steppes of the earth" speaks. Besides these two genera are unnaturally sparsely represented otherwise in the American Fauna.

Without doubt, only a part of all the existing species is known, even in North America which is comparatively well combed through, here and there new species constantly come to light, while Central and South America supply a great many more. The estimate that to the 300 or so known species there will come in the course of time a half or at least a quarter as many again, before an approximate close of new discoveries can be spoken of, is very probably correct. On the other hand, it must be said that many a single specimen described as a species will turn out to be a missing sex of another or a synonym.

The preparation and keeping of the *Aegeriidae* is particularly difficult because the insects, above all the ♂♂, very soon get oily and besides also cause verdigris to form on the needles, so that it is best to use black or still better Krupp steel needles from the first. Specimens which have flown are less subject to this appearance, which is attributed by many to diminished moisture and the using up of certain juices and the corrosive fatty acids contained therein. The well-known method of breaking off the abdomen is hardly possible on account of the many loose scales and the possible damage when sticking them on again. It is therefore better to put the specimens so attacked right into deoiling liquid, as the whole body is generally affected. Light-petrol cleans fairly well, but better is sulphuric ether and carbonic disulphide; the vessels must be tightly closed as the substances mentioned evaporate quickly and are inflammable. 24 hours are usually sufficient, stubborn cases need a second treatment. After having been used several times the liquid must be renewed, as too much of the extracted fat will have collected, shown by the slightly yellow tint. Very finely powdered bole deoils quite well otherwise, but cannot be used for *Aegeriidae*, as the extremely sensitive, fragile legs and antennae do not permit

dusting. After taking them out of the bath and the drying which lasts only for a short time, the hair on the thorax and abdomen as well as the fringes of the wings can be smoothened with a small soft hair-pencil.

In the classification we have followed JUNK's Catalogue Pars 31, as was done in the African and Indo-Australian Faunae, too; the grouping is very natural and affords an easy perspicuity. Concerning the figures we have often preferred copies of good figures from BEUTENMÜLLER's "Monograph of the Sesiidae of America" and OBERTHÜR's "Études de Lepidopterologie comparée" to figures from nature according to damaged or badly discernible specimens in collections, especially since the mostly delicate insects, as we mentioned above, easily become oily and inconspicuous.

1. Genus: **Lepidopoda** Hmps.

Palpi erect, reaching the frons. Proboscis present. Antennae of ♂ ciliated, plain in the ♀. Middle tibiae hairy, hind tibiae and the two first tarsal joints densely haired. All the veins present in the forewing, 7 + 8 stalked. Hindwing: 3 + 4 stalked, 5 absent, 6 arising close at 7. Type: *L. heterogyna* Hmps. from India.

L. infera Meyr. Head, palpi, antennae, thorax, and abdomen violettish black; hind tibiae with violettish black hair, an orange hair-tuft at the apex. Wings hyaline, with black veins and margins, the anterior half of the forewing mixed with yellow, the costal part blackish, except a short yellow streak between 9 + 10 at the base, the cross-vein black. Hindwing transparent, with black veins and margins. Only 1 ♂ known. 16 mm. Para. Brazil; taken in July.

L. homotropa Meyr. (176 a). Head, thorax and abdomen dark bluish green; face and palpi white; antennae dark brown; hind tibiae with dark purple hair, a whitish central spot, the anal hair mixed with orange; wings hyaline, with black veins and margins and dark grey fringes, the forewing in front mixed with yellowish, the costal area as far as the cell and vein 9 dark brownish, a very fine whitish ochreous line at vein 11, the cross-vein finely edged with reddish, hindwing hyaline, margined with black. Described according to 1 ♂. 14 mm. Brazil, Manaos, November. We figure the species according to a specimen collected by Dr. SEITZ in South Brazil.

2. Genus: **Pseudoalcathoe** Le Cerf.

Palpi normal, proboscis present, antennae finely dentate. Legs long and thin, abdomen long and delicate, ending in the ♂ into a very long and thin tail-like continuation which is scaled as in *Alcathoe* Harr. and *Cryptomima* Hmps. Vein 1 of the forewing short, not parted at the base, 2 + 3 from the interior angle of the cell, 7 + 8 on a very long stalk, 10 from the upper angle of the cell, 11 very thick, its last third united with 10. Hindwing: 1 a present, 2 from the interior angle of the cell, 3 + 4 from the cell itself, on a short stalk, 5 from the angle, 7 absent. Type: *Ps. chatanayi* Le Cerf.

Ps. chatanayi Le Cerf (176 a). Head and face greenish black, palpi black, the third joint white beneath. Antennae yellowish orange, at the base black above, brown below. Collar and thorax blackish green with a bronze reflection; abdomen blackish green, the last joint with a bluish reflection outside, the tail-shaped appendage blackish green, of about $\frac{3}{4}$ of the length of the abdomen. Forewing blackish green excepting the distal parts which are black warming into brown. Hindwing purple black, the base and costa blackish green, the fringes of all the wings blackish brown. Legs blackish green. 33,5 mm. Only 1 ♂. From the Volcano of Chiriqui in Costa Rica, May. An entirely isolated Aegeriid resembling wasps from the genus *Sirex* or also *Ephemeridae*.

3. Genus: **Parasesia** Le Cerf.

Medium-sized. The first palpal joint rather long, the second bent, the third oblique and longer than half of the second. Antennae relatively short and thick. Tongue well developed, eyes small. Body long, anal tuft like that of a *Tinthia*, slanting when seen from above downward. Wings transparent, vein 2 of forewing arising from 3 far before the interior angle of the cell, 7 + 8 are stalked, 10 is absent; vein 1 of the hindwing is obsolete, 2 + 3 arise from the same place, the posterior angle of the cell, 7 absent; besides there is a small, but well visible anal lobe. Type: *P. cristallina* Le Cerf.

P. cristallina Le Cerf (176 a). Face blackish brown, white before the eyes. Palpi and antennae black. Collar, thorax, abdomen and anal tuft black, the 4th segment with a line of whitish yellow scales, the 4th, 5th and 6th segments edged with whitish yellow. Anterior hips brownish black, mixed with yellow scales outside and above, femora brownish yellow, yellow inside, tibiae and tarsi yellow. (Middle and hind legs absent.) Forewing transparent, the veins, a fine marginal line and the discal vein dull brown, some scales between veins 8 + 9 dingy yellowish red, the interior margin and the outside of the discal vein the same, the base of the wing black; hindwing transparent, the veins and marginal line dull brown, the interior margin reddish yellow from the middle of the anal lobe to vein 1. Beneath all the wings are dusted with a more glaring yellowish red, the

fringes greyish bronze. 24 mm. Brazil, Prov. of Rio de Janeiro. August till September. Only 1 ♀ known hitherto. — The type is without the middle and posterior legs. nevertheless LE CERF considers it necessary to establish a new genus for this species.

4. Genus: **Synanthedon** Hbn.

Tongue well developed. antennae thickened shortly before the end with a small hair-bristle at the end, mostly feebly ciliated in the ♂. The forewing always with all the three hyaline areas, veins 10 + 11 extending parallel with the distal margin. Hindwing with veins 3 + 4 on the same short stalk. — Type: *S. respiiformis* L. from Europe.

- giliae*. **S. giliae** Hy. Edw. (= *vitrina* Neum., *deceptiva* Beut.) (177 a). ♂: head black, face pale yellow, palpi yellow, with black hair outside, collar yellow in front. Antennae black, thorax black with a few yellow hairs at the end of the patagia. Abdomen black with yellow bands on the 2nd, 4th and the last two segments, the under surface also with bands or sometimes quite yellow. Anal tuft yellow, black above. Legs yellow with black bands on the tibiae. Forewing transparent with narrow black margins and a strong cross-vein, the latter outwards frequently with red. Hindwing transparent with narrow black margins. — ♀: head black, face and palpi yellow. Wings with brown margins, the discal mark brownish orange outwards, quite orange below. Abdomen with three yellow bands on the 2nd, 4th and 6th segments. Under surface with traces of a band on the 5th segment. Anal tuft yellow mixed with black. 20—25 mm. Colorado, Montana, British Columbia, Huachuca Mts., Arizona.
- rileyana*. **S. rileyana** Hy. Edw. (176 a). ♂: head black, face and palpi yellow, black outside. Collar yellow in front and behind. Thorax black, patagia yellow behind, a yellow transverse streak and yellow spots at the base of the forewing. Antennae black, distinctly pectinated. Abdomen black with six lemon-coloured bands, the basal segment without a band or with traces of it. Anal tuft black and yellow. Legs yellow with black bands. Forewing transparent with narrow black margins, the discal mark broadly red, beneath as above, but the costa yellowish. Hindwing transparent with narrow brown margins, the cross-vein finely red. ♀: similar to the ♂, but with only five yellow bands, the anal tuft black. Forewing with a broad brownish bronze costal margin, a very broad distal margin, so that the transparent spot in the distal area becomes very small. Cross-vein strong, brown, red outside. Beneath the costal and inner margins yellowish. The distal areas between the veins red. Hindwing with broader margins than in the ♂, beneath more or less reddish. 20—30 mm. —
- hyperici*, *brunneipennis*. var. **hyperici** Hy. Edw. shows a very thin costal -marginal streak of the forewing. — In var. **brunneipennis** Hy. Edw. (176 a) the margins of the forewing are so broad in the ♀ that very little remains transparent.
- mimuli*. **S. mimuli** Hy. Edw. Head black, face white, palpi dingy white, outside mixed with brownish hairs. Antennae black, thorax black, all the yellow markings of *rileyana* being dingy whitish yellow here. *S. mimuli* may be a local variation of *S. rileyana* (176 a). Only 1 ♂ known. 21 mm. Colorado.
- bibionipennis*. **S. bibionipennis** Bsd. (= *chrysidipennis* Bsd. ♀, *aureola* Hy. Edw., *hemizonae* Hy. Edw., *lupini* Hy. Edw., *perplexa* Hy. Edw., *impropria* Hy. Edw., *rutilans* Hy. Edw., *washingtonia* Smith, *madariae* Smith) (176 b). ♂: head black, palpi yellow, with black stripes outside, the collar and the underside of the thorax yellow. Antennae and thorax black, patagia feebly yellow. Femora black, tibiae black outside, yellow inside, tarsi yellow. Abdomen black with rather broad yellow bands on the 2nd and 4th segments, sometimes with a yellow dot on each side. Anal tuft black, yellow beneath. Forewing with broad brownish black margins, yellow in the distal margin between the veins, the rest transparent. Discal mark broad, black. Under surface golden yellow. Hindwing transparent with brownish black margins and a yellow base along the inner margin. — ♀: head black, palpi and collar with yellow bands on the 2nd, 4th, 5th and 6th segments. The band on the 5th segment may occasionally disappear. Anal tuft yellow, black in the middle above. Legs more yellow than in the ♂. Forewing blackish brown, broadly bordered with orange, so that still less is transparent than in the ♂. Under surface deep golden yellow. Hindwing transparent, distal margin blackish brown, before it a more or less prominent dark yellow line. 13 to 22 mm. June, July. Nova Scotia, Northern New York, Minnesota, Utah, Nevada, Colorado, Idaho, Texas, California, Oregon, Washington, Vancouver, British Columbia. — The larva is common and does much harm, especially in the Pacific States, to the roots of the pine-strawberry, also to blackberries and raspberries.
- arctica*. **S. arctica** Beut. (177 b). Head, palpi and thorax quite black. Abdomen black with a narrow white band on the posterior edge of the 2nd and 4th segments, anal tuft black. Legs black, hind tarsi dingy white. Forewing transparent with black margins and a broad black cross-vein. Hindwing the same with narrow black margins. Forewing beneath dusted with golden yellow basally. 20 mm. Only 1 ♂ known. Kodiak, Alaska, July.
- neglecta*. **S. neglecta** Hy. Edw. (176 a). Head black, dingy yellow in front, palpi yellow, antennae black. Thorax black with narrow yellow lateral and dorsal stripes. Abdomen black, the 2nd and 4th segments edged with

pale yellow behind. Anal tuft black. Legs yellow and black. Forewing purple brown, the hyaline area and distal area strewn with transparent golden yellow, the under surface more or less golden yellow. Hindwing transparent, distal margin purple, dusted more or less golden yellow, especially at the base; fringe dark. 15 to 17 mm. California, Washington. Only the ♀ is known.

S. refulgens Hy. Edw. (177 a). ♀: head and antennae black, palpi and collar yellow. Thorax black *refulgens*, with a yellow transverse band on the posterior part, and with yellow hairs at the posterior end of the patagia. Abdomen black with yellow bands on the 2nd, 4th and 6th segments and traces on the 5th segment. Anal tuft black with upper yellow sides. Legs yellow and black, femora black, tibiae yellow with black bands, tarsi yellow. Forewing violettish brown with orange scales on the otherwise transparent parts, the cross-vein orange outside. Hindwing transparent with violettish brown margins. 18 mm. The ♂ and the early stages are unknown. Georgia.

S. bassiformis Wkr. (= *lustrans* Grt., *eupatorii* Hy. Edw., *infirmata* Hy. Edw., *imitata* Smith) (176 b ♂, *bassiformis*. 177 b ♀). Head metallic blackish bronze, the orbita white, collar and palpi yellow. Antennae black with a blue reflection. Thorax metallic blackish bronze with a feeble yellow line on each side and a posterior yellow edge. Thorax below with yellow scales on each side. Abdomen slender, violettish brownish black with narrow yellow rings on the 1st to 4th and 6th to 7th segments. Anal tuft like a broad fan, brownish black, yellow beneath on each side. Abdomen beneath yellow along the middle. Legs yellow, more brown inside. Forewing transparent with narrow bronze brown margins, distal margin rather broad with yellow scales between the veins, the cross-vein strong. Beneath yellowish. Hindwing transparent with narrow brown margins. The ♀ is stronger and has only 5 yellow margins on the abdomen. Anal tuft yellow with few brownish black hairs. Antennae with a long white preapical spot. 18—26 mm. New York, Massachusetts to the south as far as Texas and to the west as far as Nebraska and Colorado. — var. **sexfasciata** Hy. Edw. (= *bollii* Hy. Edw.) has only four *sexfasciata*. hyaline cells, and broader distal margins. — var. **consimilis** Hy. Edw. has the 5th and 6th segments without *consimilis*. any yellow. The larva lives in the stalks of *Eupatorium purpureum*).

S. corni Hy. Edw. Head black, palpi orange, the orbita white. Collar dull orange, antennae black, *corni*. yellowish white before the tips in the ♀. Thorax deep black with narrow yellow stripes on each side, with a posteriorly yellow transverse streak. Abdomen slender, deep purple or bluish black with very narrow rings on the 2nd and the last 3 segments, pale yellow beneath. Anal tuft black above, bright reddish orange below, quite red in the ♀. Legs bluish black, tibiae and tarsi with yellow rings, anterior coxae yellow. Forewing transparent with a narrow bluish black inner margin, a broader costal and distal margin and a strong cross-vein of the same colour. Hindwing transparent with narrow black margins. 18—21 mm. Massachusetts, New York, Pennsylvania, Ohio. The larva does not live in *Cornus*, as might be assumed, but in *Doellongeria umbellata* (a white aster), in damp, swampy places in the stalk and the lower parts; in May it eats a few inches upwards and constructs a pupal window which can be easily pierced by the imago after the three weeks' pupal stage. From the middle of May to the middle of July, the ♂♂ fly to the blossoms in the sun in the morning, while the lazy ♀♀ can be easily taken away with the killing-bottle, as they remain sitting on the food-plant or close by. In looking for them, the stalks occupied by them easily break off; larvae not yet having pupated in May are sure to be infested by parasites.

S. asema sp. n. (176 b). Antennae black, broadly white preapically. Head and thorax black, the thorax *asema*. with yellow lateral lines. Abdomen black, the 1st segment yellow in the middle, the following ones finely edged with light yellow behind. Anal tuft orange. Forewing hyaline, the margins, veins and the relatively broad distal margin black; hindwing hyaline, the veins black; the margins of all the wings blackish grey. Legs black, yellowish at the joints. 15 mm. Itatiaya Mts. in the State of Rio de Janeiro. ♂ type in the Coll. MARTEN (Königstein i. T.).

S. wagneri Le Cerf (176 b). Forewing hyaline, the transparent areas developed as usual, the veins and *wagneri*. fringes black, the distal area traversed by 5 veins, a few yellow scales at the discocellular vein, beneath the inner margin and the margin before the distal area yellowish. Hindwing hyaline, with black veins and fringes. Head black, face bronze-coloured and yellowish white. Antennae long and fine, black, shortly ciliated. Thorax greenish black, edged on each side with a somewhat oblique yellow line. Palpi black, the first joint and half of the second mixed with white. Abdomen black, sprinkled with yellowish beneath, the first segment with traces of a yellow median line, on each side a yellow lateral line which is strongest at the base. Anal tuft long, black with a few white hairs. Legs blackish blue, the femora of the middle and hind legs yellow inside, the tibiae yellow in the middle and outside at the end. 18.5 mm. Mistol Paso, environs of Icaño, Argentina. November, December.

S. surinamensis Mschlr. (176 b). Size of *tipuliformis*, but with narrower wings and a much longer and *surinamen-* more slender abdomen. Antennae long, black above below, white towards the apex. Palpi blackish brown *sis*. above and outside, light yellow inside and at the tips. Eyes snow-white in front. Head blackish brown, face metallic green, collar finely edged with yellow. Thorax blackish brown, patagia broadly edged with brimstone colour in front, then more narrowly so, the posterior edge of the thorax likewise brimstone-coloured. The sides of the breast broadly brimstone-coloured. Abdomen blackish brown, the ♂ with yellow longitudinal spots on the middle segments, the ♀ with all the segments finely edged with yellow. The underside in the ♂ with a whitish

yellow longitudinal stripe, the ♀ beneath blackish brown, only the first and the three penultimate segments dusted band-like with whitish yellow, small golden yellow spots on the sides. The broad anal tuft black, whitish yellow on the sides in the ♂, in the ♀ at the end all round golden yellow, hairy, whitish before it. Abdomen of ♂ longer than that of the ♀. Legs blackish blue mixed with whitish yellow. Forewing transparent, the costal margin, distal margin and transverse band narrow, black. The marginal area with 5 veins in the ♂, the two last forked, with only 4 veins in the ♀. Hindwing, margin and veins finely black, costal margin delicately golden yellow. 18—19 mm. Paramaribo and in Rio de Janeiro; figured according to a specimen collected by Dr. SEITZ in the Itatiaya Mts. in February.

whitelyi.

S. whitelyi *Drc.* Head, antennae and tegulae black, thorax brown. Abdomen black, each segment with yellowish brown rings, a broad yellowish brown spot on the 2nd segment. Anal tuft brown and black. Legs yellowish brown. Forewing hyaline, costal margin, veins and apex black, a black streak at the end of the cell, the inner margin strewn with yellow. Hindwing hyaline, veins and distal margin black. 25 mm. British Guiana.

laticraspedontis.

S. laticraspedontis *sp. n.* (176 b) is allied to *wagneri* *Le Cerf* (176 b), but it has quite yellow palpi. Thorax black, posterior margin yellow. Abdomen black, slightly dusted with yellow, the posterior margin of the 4th and 6th segments yellow. Anal tuft dull black, yellow below, the 2nd, 4th, 5th and 6th segments on the ventrum broadly edged with yellow. Legs yellow, femora and the end of the tibiae black. Forewing transparent, the veins, the discal vein and the very broad distal margin black, the inner margin broadly dusted with yellow; beneath the costal and posterior margins as far as the discal vein are broadly yellow, the discal vein and distal area black, the latter powdered with white. Hindwing transparent, the veins and margins black, the last part of the discal vein colourless. The fringes of all the wings yellowish brown. 19.5 mm. Brazil, Itatiaya, January. 1 ♀. Type: Coll. MARTEN.

xanthoneura.

S. xanthoneura *sp. n.* (177 a). Head black, with yellow hair behind. Palpi yellow, the 1st and 2nd joints very hairy, the 3rd short, pointed and blackish. Antennae black. Thorax black with medium strong yellow lateral stripes. Abdomen black with a yellow lateral line. Anal tuft black, yellow below. Forewing hyaline, the transparent areas normally developed; the costal margin, distal margin and discal vein black, the most extensively black in the apical angle. Inner margin, the margin before the distal area and the veins yellow. Hindwing hyaline with normally black margins and yellow veins. Femora of all the legs black, tibiae yellow, the posterior ones with long light terminal and middle spurs, the tarsi with yellow and black rings. 19 mm. 1 ♂. Villarica, Paraguay. — It belongs near to *S. wagneri* *Le Cerf*, from which, however, it is above all easily discernible by the entirely yellow veins, besides the differences mentioned above. Type: Coll. ZUKOWSKY.

guyanensis.

S. guyanensis *Le Cerf* (? = *surinamensis* *Mschlr.*) (176 c). Head blackish blue, the face bronze-coloured, broadly white before the eyes, the 1st joint of the palpi black, the 2nd yellow below, black laterally at the base, above and outside, the 3rd black above, yellow below. Antennae blackish blue. Collar lustrous blackish bronze, thorax blackish blue, laterally edged with yellow, spotted yellow below. Abdomen blackish blue, the 2nd, 4th and 6th segments edged with yellow, the anal tuft black, a few yellow hairs laterally. Ventrums black, the 1st segment partly yellow, the 1st, 2nd and 3rd laterally yellow and the margin of the 4th quite yellow. Legs black and whitish. Forewing transparent, the margins, veins and discal mark chiefly blackish blue, the discal vein is very narrow, the distal margin broad, the exterior hyaline area quadrangular, traversed by 5 veins, the costal vein and distal margin beneath yellowish. Hindwing transparent, the veins, margins as well as the fringes of all the wings purple black. 18—20.5 mm. French Guiana. Only ♀♀ are known so far. — var. **clara** *Le Cerf* (177 a) is distinguished by a much narrower distal margin which appears concave at the apex at the previously forked veins 7 + 8, where it bends round and becomes broader. 19 mm. French Guiana. — Though the species seems to be closely allied to *surinamensis* *Mschlr.*, *Le Cerf* considers *guyanensis* to be a separate species.

anomaliformis.

S. anomaliformis *Wkr.* Blackish purple. Face white, palpi yellow, the 3rd joint only of half the length of the 2nd. Antennae ochreous, plain, thickened before the end. Thorax with three yellow stripes, breast yellow. Abdominal segments with yellow posterior margins, underside and the long anal tuft yellow. Legs yellowish. Forewing transparent, with a purple reflection, the margins and the cross-vein coppery brown, fringe the same. Hindwing transparent, fringe coppery brown. 17—18 mm. Specimens are also reported with more or less black antennae. Tapajoz, Villa nova. Only ♂♂ known.

basalis.

S. basalis *Wkr.* (176 c). ♂: golden yellow. Face silvery white like the orbita. Proboscis very short. The 3rd palpal joint pointed, half as long as the 2nd. Antennae long, black, with an apical hook. Thorax coppery with three yellowish stripes. Abdomen above purple, the posterior margins of all the segments silvery. Anal tuft very long, black, silvery beneath at the base with projecting hair-tufts on the sides. Legs long, hind femora blackish, hind tibiae black at the base. Forewing transparent, the veins, the margin and the transverse line purple, hindwing transparent with purple margins. ♀: palpi longer, antennae shorter, thorax with two broad coppery stripes. Abdomen long fusiform. Legs quite golden yellow. 24—25 mm. Ega. — It resembles *anomaliformis* and *dinetiformis* (p. 1223), but it is especially distinguished by the compressed body.

flavipectus.

S. flavipectus *Le Cerf* (176 c). Head blackish green, bright, face white with a bronze central spot. Palpi yellow mixed with black hairs at the end of the 2nd and 3rd joints. Antennae, collar and thorax blackish blue. Breast below almost entirely yellow, near the hips silvery white. Abdomen blackish blue, the 1st and 2nd seg-

ments yellow on the sides, the 2nd, 3rd and 4th segments with indistinct yellow rings, the anal tuft black, yellow below. Ventrums black, the two first segments whitish, the middle of the five following segments and the outsides of the last golden yellow. Legs black, mixed with yellow. Forewing transparent; margins, veins and discal vein black. Distal margin broad, straight inwardly, so that the exterior hyaline area becomes quadrangular. Dusted yellowish beneath. Hindwing transparent, veins black, discal vein absent. Fringes of all the wings black. 12.5–15 mm. Parana.

S. pittheis Drc. Head, thorax and antennae black, front of the head and thorax beneath yellow. Tegulae black with yellow stripes. Collar yellow. Abdomen brownish black, each segment with yellow stripes, alternately one broader than the other. Anal tuft brownish yellow. Legs yellow. All the wings hyaline, forewing with a brown costal margin and apex, a black streak at the end of the cell, the veins and distal margin brownish yellow. 19 mm. Amazons, Ceará.

S. peruviana Drc. Head, palpi, antennae, collar, tegulae, and thorax black. Abdomen black, the two first segments dark brown. Legs pale yellowish brown. All the wings pale yellowish hyaline, veins dark brown, fringe brown. 25 mm. Peru, Chanchamayo. La Mercede 1000 m. Only 1 ♂.

S. guatemalena Drc. (176 c). Forewing transparent, scantily scaled yellow near the base, costal margin and apex brown. Hindwing hyaline, fringe brown; all the wings strongly iridescent. Head, palpi and antennae below pale yellow, above black. Abdomen black, with yellow bands, below quite yellow. Legs yellow, the ends of the tibiae black. 28 mm. Guatemala, San Geronimo.

S. helena Drc. All the wings clearly hyaline, the costal and distal margins brownish black. Head, thorax and abdomen purple black, anal tuft orange. Antennae black from the base to the middle, then orange, the tips again black. The undersides of the head, thorax and abdomen as well as the legs orange. 32 mm. Mexico, Amula, Guerrero, 2000 m. August.

S. senta Drc. (176 c). Forewing hyaline, costal margin, discal mark and distal margin black; a diffuse black spot near the apical angle in the distal hyaline area. Hindwing hyaline, fringe black, antennae, head, thorax and abdomen black, palpi black above, white below. Collar white. Legs black, hair-tufts on the tibiae of the hindlegs. 15 mm. Guatemala, Panzos.

S. hela Drc. (176 c). Forewing black with a very narrow hyaline spot at the end of the cell. Hindwing hyaline with a broad black distal margin and black fringe. Head and antennae black, the latter with a narrow white ring near the tips. Front of thorax and the tegulae yellowish brown. Thorax, abdomen and legs dull black, thorax beneath yellowish. 16–18 mm. Mexico. Atoyac, Vera Cruz. April; Teapa, Tabasco, January.

S. harti Drc. Head, antennae, collar, thorax and tegulae black, the latter edged with yellow. Palpi black, white below. Abdomen lustrous bluish black, the base, the 2nd and 4th segments with yellow rings. Anal tuft bluish black. Legs black with yellow rings. Both wings transparent. Veins and margins quite black. 20 mm. Trinidad (Port of Spain).

S. sciophilaeformis Wkr. Dark purple. Head golden yellow with white orbita. Palpi black, white below. Antennae black, rust-coloured at the base, somewhat longer than the thorax which is somewhat buff sideways. Posterior margins of the abdominal segments and anal tuft dingy yellow. Tarsi and ends of the tibiae golden yellow. Wings transparent with golden yellow veins. Forewing along the costa and the discal vein purple, distal area golden yellow. 18 mm. Pará. Only 1 ♀ known.

S. deceptura Btlr. Wings hyaline, veins black. The costal margin of the forewing purple black, inner margin, discal streak and the broad distal margin bronze brown. Hindwing with a bronze brown margin, fringe pale brown. Head black above, green in front, silvery white below. Palpi creamy white, rust-coloured towards the tips. Antennae clay-coloured with black tips. Thorax above dark green with lateral golden yellow streaks, cream-coloured below. Femora of the first pair of legs creamy, tibiae and tarsi absent, of the second and third pairs steel-coloured with a purple reflection, tibiae and tarsi of the second pair creamy, of the third purple blue with creamy bands. Abdomen dark green above and beneath, banded with three light golden yellow rings at equal distances, two indistinct coppery bands between them, one slanting yellow lateral stripe each at the base. Anal tuft brownish, white laterally. 16 mm. Santa Marta.

S. porizoniformis Wkr. Purple. Head blue above, palpi white below. Thorax with three white stripes, pectus white. Abdomen with white bands on the posterior margin of each segment, white beneath. Legs with white bands. Wings transparent. Forewing with golden yellow margins, distal area and discal band. 15 mm. Pará, Tapajoz, Villa nova.

S. chea Drc. Head, antennae, thorax, palpi, abdomen and anal tuft black. Legs yellow with black bands. Forewing and hindwing hyaline, costal margin of forewing and the veins of all the wings black. 14 mm. Amazons.

- peltastiformis*. **S. peltastiformis** Wkr. Black, head in front silvery, behind with yellow hairs, palpi dingy yellow, with black hairs at the base. Antennae club-shaped, rust-coloured, and rough below, somewhat longer than the thorax. Pectus on each side with a yellow spot in front and another one at the base of the forewing (shoulder-spot), the abdominal segments with yellow posterior margins, the anal tuft with a few yellow hairs on each side below. Femorae with yellow stripes. Anterior tibiae and tarsi dingy yellow, middle tibiae with a yellow band, hind tibiae with yellow hair at the base and end, as well as a white place below between the spurs. Wings transparent with a yellow reflection, fringes short. The 2nd interior vein of the forewing somewhat nearer to the 1st. than to the 3rd, the third nearer to the 4th than to the 2nd, the 2nd upper vein bifurcates before half of its length. 18 mm. Villa nova. Only 1 ♀ known.
- panurgiformis*. **S. panurgiformis** Wkr. Purple black. Head white and lustrous, with pale yellow hair behind. Palpi whitish, oblong, darker to the end. Antennae club-shaped, longer than the thorax, rust-coloured below, the apex remains dark. Thorax with three yellow stripes. Pectus mostly covered with yellow hair. Abdominal segments with yellow bands, beneath with a yellow streak. Anal tuft with a few yellow hairs on each side. Legs with yellow bands, hind tibiae rather thickly haired. Wings transparent, margins blackish coppery. Forewing with a blackish coppery transverse band. 16—17 mm. Pará, Santarem, Tapayoz, Villa nova. Only ♂♂ known so far.
- opiiformis*. **S. opiiformis** Wkr. Bluish black. Orbita white, palpi whitish below. Antennae very much longer than the thorax. Posterior margins of the abdominal segments whitish, anal tuft golden yellow. Legs with silvery white bands, anterior coxae silvery. Wings transparent; forewing with purple blackish fringe, costa and cross-vein. 12—14 mm. Pará. 1 ♀ known.
- le moulti*. **S. le moulti** Le Cerf is a not quite certain species which is said to be similar to *benoisti* Le Cerf and *cater-naulti* Strd. (p. 1230). Chiefly black with few white markings. South America.
- benoisti*. **S. benoisti** Le Cerf (176 d). ♂: face blackish blue, edged white before the eyes. Palpi purely white below, black above. Antennae blackish blue, with a small white preapical spot above. Collar and thorax blackish blue, with fine yellow streaks sideways, pectus below with a round whitish yellow spot on each side. Abdomen long and thin, blackish blue, the 2nd and 3rd segments edged with pale yellow; anal tuft long, blackish blue with a few white hairs laterally; ventrum white, the last segment blackish blue. Legs blackish blue and white. Forewing transparent, with black margins and veins, the distal margin and the discal vein purple black, the distal margin traversed by five veins, pale yellow between them, beneath the costal and posterior margins and the main veins are yellowish. Hindwing transparent, all the fringes bronze purple. LE CERF sees in a damaged specimen from Guiana the ♀ of *benoisti*. It is larger, the 2nd and 3rd abdominal segments edged with whitish yellow. Anal tuft white on each side, ventrum white as far as the 4th segment, the last segments black. Forewing with a broader distal margin, the distal area correspondingly smaller, almost twice higher than broad, the discal vein much thicker. ♂ 14 mm, ♀ 19 mm. French Guiana, Gourdonville; October.
- germaini*. **S. germaini** Le Cerf (176 c). ♂: head black, face white, palpi whitish yellow, antennae black above, brown below, especially before the apex. Collar and thorax blackish blue, abdomen black, the 4th segment with yellow rings, anal tuft black, with yellow traces laterally and in the middle, the 4th, 5th and 6th segments yellowish white beneath. Legs yellow and black. Forewing transparent, margins, veins and discal vein blackish blue, hindwing transparent, veins and margins black, fringes of all the wings black. ♀: separated from the ♂ by a black face, white around the eyes, the anal tuft being black only in the middle and slightly outside, only two white abdominal rings beneath, and a smaller transparent distal area. 12.5—19 mm. Brazil, Novo Friburgo, Nova Teutonia; Sa. Catharina (PLAUMANN), February.
- plagiophleps*. **S. plagiophleps** sp. n. (177 a). One of the very common South-American species which are marked bluish black and yellow and are evidently all very closely allied, as for instance *germaini* Le Cerf, *peltastiformis* Wkr., *flavipectus* Le Cerf, *flavostrigata* Le Cerf etc. The species is easily distinguished from among all the others by the discal vein of the forewing being very obliquely inclined inwards and the relatively narrow distal margin, which is broadest at the apex, getting extremely fine towards the interior angle and exhibiting no marking. Antennae and head black, white before the eyes, the palpi and collar yellow, thorax blackish blue with two distinct marginal lines. Abdomen and anal tuft black, the 1st, 2nd and 4th segment finely edged with yellow behind, quite yellow beneath. Legs predominantly yellow, the end of the tibiae above black. Forewing hyaline with the marks mentioned; hindwing hyaline, margins and veins blackish brown, fringe greyish brown. 16 to 17 mm. 1 ♂, 2 ♀♀. Bolivia, Rio Songo. — Types in the Berlin Museum.
- myrmosaepennis*. **S. myrmosaepennis** Wkr. Bluish black, face and orbita white. Palpi white, striped black. Antennae rough below, twice as long as the thorax which exhibits yellow stripes on each side. Metathorax yellow. Abdomen blackish blue, yellow on the posterior margin of each segment. Anal tuft rather long and black. Tibiae and tarsi with white bands. Wings transparent with short fringes; forewing blackish blue along the costa, the distal area as well as the spot on the discal vein likewise blackish blue. 18—20 mm. Pará. 1 ♂.
- glyptaeformis*. **S. glyptaeformis** Wkr. Purple coppery, face silvery. Palpi yellow. Antennae dark, yellow below, with

a broad yellow band in the middle. Thorax in front with a yellow marking on each side. Posterior margins of the abdominal segments and underside yellow. Anal tuft with a few yellow hairs. Legs yellow, end of the tibiae and at the joint at the tarsi purple. 13—14 mm. Villa nova. Only ♂♂.

S. croesiformis *Wkr.* Abdomen purple black, strong; face silvery. Palpi whitish with black tips, erect. *croesiformis*. Antennae longer than the thorax, rust-coloured below. Abdomen with a narrow whitish band on the posterior margin of the 4th segment. Legs dark blue, tibiae and tarsi sometimes coppery; tibiae, especially the hind tibiae, very strongly ciliated. Anal tuft interspersed with red. Wings transparent, costa and fringes coppery. ♂ 14—15 mm. Pará, Villa nova.

S. cladiiformis *Wkr.* Blackish blue, robust. Head silvery on each side and with white hair behind. *cladiiformis*. Antennae rust-coloured, black towards the end, slightly longer than the thorax. Abdomen with a white hair-tuft on each side at the base, only somewhat longer than the thorax. Anal tuft with a few white hairs. Legs strong, tibiae and tarsi whitish, lustrous below. Forewing transparent, veins black, dingy yellow from the base to the discal vein, fringe short; hindwing transparent. ♀ 14—15 mm. Santarem.

S. ceropaliformis *Wkr.* Blackish. Head white in front. Palpi not very long, whitish like the chest. *ceropaliformis*. Antennae bristle-shaped, densely pectinated. Abdomen rusty brown, anal tuft short. Legs rusty brown, anterior femora whitish, hind tibiae very thickly ciliated. Forewing transparent, rusty brown along the costa; hindwing transparent. ♂ 14—15 mm. Pará, Villa nova.

S. cerceriformis *Wkr.* Purple. Head black, face silvery, with yellowish hair behind. Palpi yellow. *cerceriformis*. Thorax blue, pectus silvery. Posterior margins of the abdominal segments yellow, anal tuft dingy yellow with a few brown hairs. Legs ochreous, coxa and femora yellow. Forewing transparent, purple along the costa, like the discal vein which is still edged with yellow, distal area with yellow streaks, fringe rather long and yellow; hindwing transparent. 15 mm. Pará.

S. panisciformis *Wkr.* Dingy yellow. Head in front white on each side, vertex dark green. Antennae black, filiform, brownish yellow and rough below. Thorax dark green. Abdomen dark green, especially at the base and towards the apex, anal tuft composed of long partly black hair. Wings transparent. Forewing with the usual transverse band and margins brownish yellow, very narrow. ♂ 18—20 mm. Valley of the Amazon R. *panisciformis*.

S. hippolyte *Drc.* (176 d). Forewing yellowish hyaline, veins black, apex and distal margin golden brown; hindwing hyaline, fringes of all the wings black. Head, thorax and abdomen black, base of thorax and anal tuft yellow. Legs black with yellow bands. Antennae black. 26 mm. Mexico, Cuernavaca, Morelos; June. *hippolyte*.

S. dinetiformis *Wkr.* Brownish yellow. Face white, palpi yellow. Antennae black, rust-coloured below. *dinetiformis*. Thorax with a black dorsal stripe, yellowish laterally, posterior margins of the abdominal segments yellow. Anal tuft moderately long. Legs yellowish. Wings transparent with a purple lustre and coppery black fringes. Forewing with a rust-coloured line above the discal vein. 16—18 mm. Pernambuco. ♂.

S. armasata *Drc.* (176 d). All the wings transparent with a yellowish reflection, the costal, distal and inner margins of the forewing scaled yellowish brown, the veins and fringes of both wings darker brown. Wings beneath light yellow. Palpi and face yellow, antennae dark brown, yellow at the base. Thorax and abdomen blackish brown with a yellow line at the base of the abdomen. Anal tuft yellowish brown. Legs orange with black bands. 37 mm. Mexico, Durango. *armasata*.

S. hermione *Drc.* (176 d). Forewing hyaline, yellowish at the inner margin, shaded, costal and distal margins yellowish brown. Hindwing hyaline, the fringes of all the wings brown. Thorax and abdomen black, collar and tegulae yellow, abdomen with yellow bands. Antennae black, broadly yellowish brown before the tips. Legs yellow with black bands. 25 mm. Mexico, Teapa, Tabasco, Atoyac, Vera Cruz; February—May. *hermione*.

S. corporalis *Meyr.* Head deep blue, orbita white, collar pale yellow. Palpi whitish. Thorax dark blue, the inner margin of the tegulae yellowish. Abdomen deep blue, the 3rd and 5th segments with indistinct yellow posterior rings, anal tuft deep purple mixed with white. Forewing hyaline, iridescent, costal margin, a moderately broad distal margin, discal vein and veins dark purple blue, anal margin with traces of yellow, fringe dark grey. Hindwing iridescent-hyaline, veins and margins black, costal margin yellow, fringe dark grey. 17 mm. Taperinha; July. ♂. *corporalis*.

S. aequalis *Wkr.* Brownish black. Eyes edged with white. Palpi yellow with a coppery brown streak outside, white below, the 3rd joint pointed, half as long as the 2nd. Antennae gradually thickening, yellow before the tips below. Thorax with a yellow spot in front, laterally striped yellow. Pectus silvery, with a yellow spot on each side. Abdomen tapering, yellow in front, with narrow yellow bands on the posterior margins of all the segments. Anal tuft greenish black, half as long as the abdomen, yellow laterally, yellow below at the end. Legs yellow. Forewing transparent, fringe purple, costa, transverse line and distal margin purple. Hindwing transparent, fringe purple. ♂ 20 mm. Pará. *aequalis*.

mardia. **S. mardia** Drc. (176 d) is allied to *tryphoniformis* Wkr. (177 b) from which it differs as follows: forewing and hindwing quite hyaline, discal spot and the spot at the apex beautifully reddish orange instead of yellowish brown. Head, thorax and abdomen black instead of yellow as in *tryphoniformis*. Anal tuft broad and bright reddish orange. Antennae black, palpi orange. 18—19 mm. Mexico: Durango.

pallene. **S. pallene** Drc. (176 d). All the wings hyaline, veins black, apex and distal margin of forewing broadly golden brown. Head, thorax and abdomen black. Collar, base of thorax and the last abdominal segment orange. Underside of the head, thorax and abdomen yellowish brown. Legs and antennae black, the antennae white near the tips. 13 mm. Mexico: Teapa, Tabasco; March, April.

tryphoniformis. **S. tryphoniformis** Wkr. (177 b). ♂: coppery black, face silvery white, palpi yellow. Antennae black, dark rust-coloured below. Thorax with four yellow stripes, the sides and pectus yellow. Abdomen compressed at the base, the posterior margins of the segments whitish, yellowish laterally, white beneath. Anal tuft rather long with a few dingy yellow hairs. Legs dingy yellow, femora black above, tibiae black at the base. Wings transparent, iridescent, fringes coppery and very short. The doubtful ♀ shows the antennae scaled below at the base. Posterior margins of the segments dingy yellow. Legs pale dingy yellow, tibiae partly brownish at the ends. Wings with longer fringes. Forewing purple with dingy yellow streaks in the distal area and a yellow streak right across the discal vein. 20 mm. Pará: Villa nova. — According to BUTLER it is said to be synonymous with the following *ischniformis* Wkr. and *plectisciformis* Wkr.

plectisciformis. **S. plectisciformis** Wkr. ♂: purple. Head green, face white. Palpi yellow. Antennae black, rust-coloured below. Thorax with two yellow stripes on each side. Abdomen with a yellow band on the posterior margin of each segment. Anal tuft with very few yellowish hairs. Legs dingy yellow, striped black. Wings transparent, fringes very short. Forewing purple with a yellow streak along the costa, distal area striated yellow, discal vein purple. 18 mm. Pará.

ischniformis. **S. ischniformis** Wkr. ♂: purple. Face and orbita white. Head yellow behind. Palpi yellow, strongly haired. Antennae slender, very much longer than the blue thorax. Abdomen with yellow bands on the posterior margins of the segments. Underside and anal tuft below yellow. Legs yellowish, anterior coxae white, hind tibiae and joints on the posterior tarsi with purple bands. Wings transparent, forewing with purple golden margins, distal area and discal vein! 12—13 mm. Pará.

santanna. **S. santanna** Kaye (177 b). (Described as *Aegeria*.) Collar white. Head and thorax bronze blue with two narrow yellow segmental bands (not discernible on the figure). Legs bronze blue, with narrow yellow bands. Forewing beyond the cell, thus the whole distal area, entirely bronze blue, also along the costa; discoidal vein darker blue. Hindwing transparent with narrow black margins. 19 mm. — The species is well discernible from other *Synanthedon*-species by the completely dusted distal area. Trinidad, St. Ann's; December.

martenii. **S. martenii** sp. nov. (176 f) is somewhat similar to *pallene* Drc. (176 d). Antennae, head, thorax and abdomen blackish blue. Palpi yellow, white before the eyes. Thorax with two yellow lateral stripes. Abdomen with traces of yellow rings on the posterior segmental margins, anal tuft black. Pectus yellow, ventrum distinctly belted yellow, anal tuft yellow below. Legs blackish above, yellow beneath. Forewing transparent, costal vein, margins, the broad discal vein and the veins black. A narrow distal area, higher than broad, remains transparent, behind it towards the distal margin a beautifully copper-red band which is only bordered by the black distal margin and traversed by 5 black veins. Hindwing transparent, veins and margins black. The rather long fringes of all the wings greyish brown, the anal region of the hindwing hairless. 20 mm. Brazil, Rio de Janeiro? October. Type in the Coll. MARTEN.

tetranoma. **S. tetranoma** Meyr. Head dark purple reddish, in front and the collar orange, face whitish. Palpi orange, black at the base. Antennae black, dingy yellow below. Thorax bluish black, median line, margins of the tegulae, posterior margin and pectus orange. Abdomen bluish black, segments 1—4 with narrow orange posterior rings. Ventrums orange. Anal tuft broad, dark blue, white above, mixed with yellow on the sides. Legs quite orange. Forewing iridescent hyaline, anal margin yellowish, veins and costal margin dark brown beyond the cell, red lines at the basal part on 12 and between 9 and 10, cross-vein edged with red, a narrow reddish distal band, the veins in it thickly black. Hindwing hyaline, veins and margin dark brown. 23 mm. Peru: Iquitos; March. 1 ♂.

sallustiformis. **S. sallustiformis** Drc. (176 e). Forewing whitish hyaline, costal margin, apex and veins black, hindwing hyaline, fringe and veins black. Head, antennae, thorax and abdomen bluish black, the abdomen with yellow bands, anal tuft brownish at the apex. Palpi white below, black above. Tarsi with white bands. 17 mm. Mexico: Coatepec; Panama. Bugaba. 300—500 m.

producta. **S. producta** Wkr. (177 h). Forewing hyaline, costal margin, apex, discal mark and veins black. Hindwing hyaline, fringe and veins black. Head, antennae and thorax bluish black. Abdomen bluish black, all the

segments finely edged with yellow, a strong black anal tuft. Legs black. tarsi with white bands. 15 mm. Mexico: Oaxaca; Panama, Bugaba.

S. anthracipennis Bsd. Head and antennae black. Palpi yellow beneath, the last joint black at the apex. Abdomen and legs brownish black, abdomen with 4 yellow rings, anal tuft black, with few yellow hairs laterally. Forewing brown with a small orange spot at the cross-vein or beyond it. Hindwing transparent with broad black margins and veins. Georgia. It is said to live on a species of willow and to look like *S. asiliformis*. — It belongs to the doubtful species which, as BEUTENMÜLLER already regretted in 1894 (in Bull. Americ. Mus. Nat. Hist.), have never been discovered again; ENGELHARDT likewise deals with the species in Bull. Brookl. Ent. Soc. 1928 and promises a publication at a later period. He succeeded, however, in clearing up the synonymy of BOISDUVAL's *S. bibionipennis chrysidipennis* as *rutilans* Hy. Edw. and *nomadaepennis* as *Memythrus* (Albana) *pyramidalis* Wkr.

S. fasciculipes Wkr. Jet-black. Head silvery white behind, eye-rings the same. Palpi erect, silvery white below. Antennae short and delicate. Pectus silvery. Abdomen pointed, anal tuft deep coppery. Legs slender, tibiae densely haired on their whole length, especially the posterior pair, tarsi silvery white basad. Wings transparent, veins and fringes black. Forewing with a black line right across the end of the discal vein. 15—16 mm. Ega.

S. fulvopyga Le Cerf. All the wings hyaline, veins and margins black with a bluish green reflection, distal area crossed by four veins. Hindwing hyaline, the veins, margins and fringes of all the wings black. Head black with short whitish hairs at the margin, orbita white. Palpi, antennae, thorax, abdomen and legs black with a bluish green reflection. Anal tuft pale yellow. 24 mm. Brazil. 1 ♀.

S. flavostrigata Le Cerf (176 e). Head blackish blue, neck yellow. Face white, with bronze scales above. Palpi yellow, with a short black line outside on the 2nd and 3rd joints. Antennae blackish blue, white above before the tips, brown below, yellow at the base. Collar purple black. Thorax blackish blue, laterally with yellow stripes, its posterior margin with yellow hair, scaled yellowish below. Abdomen black, scantily strewn with yellowish white, all the segments finely edged with yellow, the 7th broadest. Anal tuft black, yellow in the middle and on the sides. Ventrums black, almost entirely scaled yellow. Legs black and yellow. Forewing transparent, margins and veins black, the distal margin between the veins 3 and 8 scaled yellow, the outside of the discocellular vein slightly yellow. Beneath almost entirely yellow excepting the veins. Hindwing transparent, veins, margins and fringes black. 15—16 mm. Mexico: Tabasco.

S. tipuliformis Clerck (Vol. 2, pl. 51 d). Head purple black, orbita white. Palpi yellow below, black above. Antennae black, yellow below like the collar, too. Thorax blackish brown with a narrow yellow streak on each side, yellow below. Abdomen purple black with narrow yellow rings on the 2nd, 4th and the two last segments. Anal tuft black. Legs blackish with two yellow bands on the tibiae, tarsi yellow. Forewing transparent with golden purple margins, the broad distal margin with golden yellow streaks between the veins. Cross-vein strong, brownish black. Hindwing transparent, narrowly margined. 15—22 mm. North America, Australia, New Zealand, Europe, and Asia. A very common and well known species, everywhere imported with the currant and gooseberry from the Old World, in which way it also came to America. The larva lives in the plants mentioned, hibernating in their twigs until May; imago from the end of May to July.

S. flava Hy. Edw. is said to be *S. tipuliformis*. Panama: Colon. *flava*.

S. laticincta Burm. Wings transparent, forewing with a broad black distal margin, the other margins narrower, discal vein feeble. Palpi, thoracic sides, metathorax, the 1st, 5th and 6th rings of the otherwise black abdomen bright yellow. Anal tuft yellow. Legs black, the joints of the forelegs and hindlegs and a great part of the hindlegs yellow. Tarsi at the base and the inner margin of the hindwing yellow. 15 mm. Rio de Janeiro.

S. albicalcarata Burm. Ground-colour black, wings transparent, margins and cross-vein thin and black. Metathorax and the 1st and 2nd rings of the abdomen yellow, warming into whitish. Legs black, the spurs of the middle and hind legs black, of the forelegs white. Tarsal joints black and white, femora yellow. The 3rd abdominal segment white beneath, palpal tips white, too. Antennae brownish 15—20 mm. Buenos Aires. *albicalcarata*.

S. albociliata Engelh. Antennae absent, those of the ♀ are black. Palpi black above, snow-white below, the coxae of the forelegs snow-white. Thorax black with two narrow yellowish white lateral stripes, with rough hair in the ♂. Abdomen black, the 4th segment above, the 4th, 5th and 6th beneath yellowish white. Anal tuft black, mixed with white in the ♂ beneath. Legs black and white, with rough hair. The broad costa and the discal mark black like the veins, fringe whitish. Hindwing transparent, the veins and the narrow margin black, fringe white. The ♀ shows almost entirely black forewings, whitish along the inner margin and before the discal mark. Hindwing transparent with a broader black margin. 18—20 mm. Kerrville, Texas; October. — ENGELHARDT presumes the food-plant to be a species of Eupatoria. *albociliata*.

S. auritincta Engelh. ♂: antennae black, white near the apex. Palpi black above, yellow below, the last joint here also black. Head black, white around the eyes. Collar golden yellow above, white on the sides

and below. Thorax black with two broad lateral stripes, golden yellow behind. Coxae of forelegs white, middle and hindlegs violettish black with white rings and spurs. Forewing transparent, costa, the broad apical margin and the broad discal vein black, fringe dull black. Hindwing transparent, veins, fringe black, whitish at the base. Abdomen black, the 2nd, 3rd, 4th, 6th and 7th segments narrowly yellow. Anal tuft steel-blue, laterally white. The 1st and 2nd segments beneath with white scales, a narrow band on the 4th and 5th, and lateral spots on the 7th. 14—15 mm. ♀: antennae black, the tips more rarely white. Palpi golden yellow above, pale yellow below. The middle and hind legs golden yellow with violettish black markings. Forewing like that of the ♂, but marked yellow in the apical area, the discal mark outside also yellow. Hindwing like that of the ♂, yellowish at the base. Abdomen violettish black with narrow yellow rings on all the segments, except on the 5th and 7th which are quite yellow. Beneath intensely scaled yellow. Anal tuft golden yellow with a black base and black sides. 12—21 mm. Arizona; August.

arizonae. **S. arizonae** *Bent.* (177 b). Head black, orbita white. Palpi yellow. Collar edged with yellow. Antennae black. Thorax black with a yellow streak on each side and a strong posterior transverse streak, beneath likewise yellow on each side. Abdomen black with narrow yellow bands on the 1st, 2nd, 3rd, 5th and 6th segments, the 4th very broadly yellow. Anal tuft yellow, laterally black. Legs yellow, tibiae with black bands. Forewing transparent, the costal margin and fringe blackish, the inner margin, cross-vein and distal margin beautifully golden orange, veins black. The under surface with still more orange. Hindwing transparent with a narrow margin, partly orange at the apex, fringe brown. 23 mm. Arizona, Texas. Only ♀♀ are known so far, the ♂♂ and the early stages are unknown.

morula. **S. morula** *Hy. Edw.* (177 b). Head and antennae black. Palpi dingy white. Thorax brownish black with a very narrow white lateral line. Abdomen deep brownish black with a narrow dingy white band on the 2nd, 4th, and the two last segments. Anal tuft black, impurely white beneath. Legs black, spurs, and tarsi beneath white. Forewing, veins and cross-vein broadly black, the transparent places slightly scaled white, white beneath, the rest black. Hindwing transparent with a narrow black margin. 20 mm. Texas.

novaroënsis. **S. novaroënsis** *Hy. Edw.* (177 c). Head, palpi and collar beautifully reddish orange, antennae black. Thorax black, patagia and a round spot at the anal margin beautifully reddish orange, thorax beneath quite orange. Legs orange with black bands. Forewing transparent with bluish black margins and a strong cross-vein, beneath orange at the base. Hindwing transparent with narrow bluish black margins. 30—35 mm. This pretty species has been found so far only in California and Washington.

brunneri. **S. brunneri** *Busck.* is very closely allied with *S. novaroënsis* (177 c), but distinguished by the somewhat more slender shape, the blue ground-colour and less red on the abdomen. Palpi reddish orange with a broad black exterior streak. Face dark metallic blue. Head black, antennae bluish black. Thorax bluish black, speckled red in front, patagia dark reddish orange. Forewing transparent in both sexes with broad purple blue margins and a broad transverse streak at the end of the cell, a narrow orange costal margin, the apical and especially the costal margins beneath strewn with reddish orange. Hindwing transparent with narrow blackish blue margins and veins, the costal margin here also red, especially beneath. Abdomen dark metallic blue with distinct red transverse streaks on the 2nd and 4th segments and sometimes with red traces on the other segments. Anal tuft black in the middle, brick-red laterally and below. Legs dark blue with red bands and spots, tarsi blue. 24—27 mm. The larva lives in *Pinus ponderosa*. Camas, Montana.

laeta. **S. laeta** *Wkr.* (176 e). Deep black. Palpi strong. Antennae plain, almost twice as long as the thorax, with black tips, before them almost to the middle white. Thorax with white lateral stripes, pectus white. Abdomen red with black dorsal spots occupying the whole surface towards the base, each of them containing a white spot. Legs white, femora and tibial tips bluish black. Wings transparent with short black fringes. Forewing with a coppery black distal area and a black streak across to the end of the discal vein. 20—22 mm.

hemigymna. **S. hemigymna** *sp. n.* (176 e). Antennae terminating pointed, scarcely thickened before the ends, black. Head and thorax black, the anterior edge dusted dull yellow. Abdomen delicate and narrow, thinnest in the middle, the 1st, 2nd 3rd segments black, the 4th laterally yellow, the following segments greyish yellow. Anal tuft strong, bluish violet above in the middle, the margins and especially the sides and below deep reddish orange, which colour is slightly continued beneath on the 6th and 5th segments. The rest of the under surface whitish, the 3rd segment darker. Femora black, tibiae bright yellow, the posterior ones black before the end, tarsi black. All the wings brownish yellow hyaline, the costal margin intensely brownish, the forewing with a brown discal vein, brown narrow margins and veins, a black base, slightly yellow behind it. A very beautiful species, apparently allied with *S. laeta* *Wkr.* 29 mm. Brazil, Itatiaia. 1 ♂, flying in the sunshine on a forest-glade. Type: Coll. MARTEN.

rubrofascia. **S. rubrofascia** *Hy. Edw.* (177 c). Head, palpi, antennae and thorax black, with a metallic gloss. Abdomen black, the 4th and 5th segments quite red. Anal tuft black. Legs black, tarsi dingy white. Forewing transparent, the costal and inner margins and the cross-vein narrowly, the distal margin very broadly black. The cross-vein is remarkably long, widening at its termination into the costa. Hindwing transparent with very narrow purple brown margins. 20 mm. Only known from Georgia.

S. rubricincta *Beut.* Head bluish black. Collar black, orange in front. Palpi orange, the last joint above *rubricincta*. black. Antennae bluish black. Thorax greenish black or bluish black, metallic. Patagia with reddish orange hair. Abdomen black, bright red along the sides. Anal tuft metallic greenish black, red in the middle. Thorax orange below. The 1st and 2nd joints of the abdomen beneath bluish black, the others red. Legs steel-blue. Forewing bluish black, purple outside, red between the veins, fringe brown, basal area narrowly transparent, the transparent distal area likewise small, discoidal vein purple with a broad red streak. base of the wing red. Hindwing transparent, distal margin narrow, purple, fringe brown. Forewing beneath less distinctly marked, with an orange costa. 17.5 mm. Cochise County, Arizona; August.

S. bolteri *Hy. Edw.* (= *rubrofascia Beut. nec Hy. Edw.*) (177 c). Head and thorax from deep steel- *bolteri*. blue to blackish, orbita white. Palpi above black, orange below. Antennae black, the last third before the apex yellowish. Abdomen blackish steel-blue, the 4th and 5th segments above and beneath broadly scarlet, also the 6th in the ♀ beneath. Anal tuft black with some white. Legs bluish black, tibiae with whitish hair-tufts, tarsi pale yellow. Forewing transparent, the costal and inner margins the same, the cross-vein blackish blue, distal area broadly scarlet or copper-red, veins black, fringe violettish brown. Hindwing transparent with a narrow black margin, fringe violettish brown. 12—20 mm. New York, New Jersey, Illinois, Manitoba. Larva in branches of willow. — Apparently closely allied to the palaearctic *S. formicaeformis*.

S. buprestiformis *Wkr.* Blue, head in front white on each side, palpi black, rather long, hairy, antennae *buprestiformis*. black. Thorax with a red streak on each side, pectus beneath also spotted red. Abdomen with a broad red band at the base. Legs black, woolly below, white. Forewing purple red with a transparent basal streak and a broad-golden yellow subapical band. Hindwing transparent with purple red margins. 22 mm. Amazon Valley. 1 ♀.

S. fulvipes *Harris* (177 c). Head, antennae, thorax and abdomen deep black with a metallic blue re- *fulvipes*. flection. Palpi reddish orange below, black above. The 1st, 2nd and 3rd segments of the abdomen beneath orange. Legs beautifully orange, femora bluish black. Thorax below with a large orange spot on each side. Forewing transparent with narrow deep bluish black margins, discal mark narrow, bluish black, outwards with a small orange spot, inwards with a small dentiform projection, as in some tropical species of *Melittia*, the base of the wing with little orange. Forewing beneath slightly orange at the costa and inner margin. Hindwing transparent, margins narrow, bluish black. 22 mm. Canada, New England States.

S. saxifragae *Hy. Edw.* (= *henshawii Hy. Edw.*) (177 c) is allied to *fulvipes*. Also quite black, no orange *saxifragae*. on the abdomen beneath. Palpi orange, tips black, in the ♀ black above, yellow below. Thorax yellow beneath on both sides, legs as in *fulvipes*. Forewing transparent, with bluish black or violettish black margins. costal and inner margins narrow, cross-vein strong, distal margin broad. The base of the wing and the outside of the discal mark orange. Hindwing transparent with narrow bluish black or violettish black margins. 18—23 mm. Labrador. Colorado.

S. castaneae *Busck* (177 c). Palpi yellow below, black above strewn with yellow scales, the terminal *castaneae*. half of the 3rd joint quite black. Antennae black with reddish bronze tips. Face bluish black, broadly white before the eyes. Head black, thorax metallic bluish black with two narrow yellow lateral stripes, in the ♀ also with a narrow yellow posterior margin. Forewing transparent in both sexes, veins bluish black mixed with yellow scales, fringe bluish black. Hindwing transparent, veins black, costal margin yellow, fringe bluish black. Abdomen deep bluish black with a yellow semi-ring on the 4th segment beneath, the ♀ also with narrow yellow 3rd and 4th segments above. The end of the abdomen laterally yellow. Legs bluish black with narrow yellow rings at the ends of the different joints. Tarsi of the ♀ dusted yellow, tibiae of the hindlegs with a pale yellow ring near the tarsi. Lynchburg, Virginia, and Snow shoe, Pennsylvania. Bred from chestnuts. April, May.

S. pictipes *Grt. & Rob.* (= *inuitata Hy. Edw.*). Head bluish black, sometimes with a few yellow hairs *pictipes*. between the antennae. Palpi pale yellow, black above. Collar somewhat yellow on the sides. Thorax bluish black with a narrow pale yellow line on each side. Abdomen bluish black with a very narrow pale yellow ring on the 2nd and 4th segments, closing beneath. Anal tuft pointed, bluish black, laterally white. Legs bluish black with narrow yellow hair-tufts on the tibiae and two yellow rings, one near the tarsi and one at the second middle pair of spurs, tarsi with yellow rings, anterior coxae yellow. Forewing transparent with narrow bluish black margins, cross-vein somewhat broader. Sometimes the inner margin is slightly scaled yellow. On the under surface the costal and distal margins and the cross-vein are yellowish. Hindwing transparent with narrow black margins, fringe the same, somewhat whitish towards the base. 15—26 mm. Canada to Florida and Texas, westward as far as the Pacific. The larva lives beneath the bark (trunk and stronger twigs) of plums, cherries, peaches, chestnuts and *Amelanchier canadensis* until the beginning of June. Imago June till July.

S. viburni *Engelk.* Antennae black, in the ♀ whitish yellow before the tips. Palpi black above, yellow *viburni*. below. Head black, always yellowish between the eyes and behind. All the wings transparent, more broadly margined in the ♀ and mixed with yellowish, otherwise very similar to *S. pictipes*. Abdomen black, the 2nd seg-

ment above narrowly pale yellow, a pale yellow spot on each side of the 4th segment, pale yellow scales on the 2nd and 3rd segments above in the ♀. 19—20 mm. Long Island, Brooklyn, but it is surely farther distributed. The larva lives in trunks and twigs, generally in damaged places, of *Viburnum dentatum*, but also of cultivated species of the genus *Viburnum*, for instance in gardens and parks of Brooklyn. The cocoon is made of particles of wood underneath the bark, the imago leaving it in May or June. According to ENGELHARDT, the larva lives for a year and has much to suffer from parasites.

albicornis. **S. albicornis** Hy. Edw. (= *proxima* Hy. Edw.) (176 e ♀, 178 a ♂). Head black, palpi whitish yellow. Antennae bluish black, little white before the tips in the ♂, extensively white in the ♀. Thorax black with a pale yellow stripe on each side, which, however, may also be absent, a pale yellow spot beneath on each side. Abdomen blackish bronze. Anal tuft white below. Legs bluish black, tibiae with white hair-tufts, anterior coxae purely white. Forewing transparent with violettish brown margins, the costal and inner margins narrow and black, distal margin broad, golden yellow between the veins. Cross-vein distinct, bluish black. Beneath the costal margin and the cross-vein are yellowish. Hindwing transparent with narrow blackish distal margins. 15—22 mm. New York, New Jersey, Pennsylvania, New Hampshire, Illinois, Colorado, California, Nevada, Oregon. — A very common species appearing in May and June, its larva living in trunks and twigs of young willows in swampy places.

acerni. **S. acerni** Clem. (= *acericolum* Germ.) (176 e). Head, collar and palpi orange, orbita white. Antennae brownish black. Thorax yellow above and below. Abdomen bluish black, more or less covered with yellow scales. Under surface quite yellow. Anal tuft orange. Legs pale yellow, tibiae with a black band at the end. Forewing narrow with narrow purple brown margins, more or less scaled yellow. Distal part of forewing pale yellow, veins black, a broad black cross-vein. Hindwing transparent with very narrow margins and purple brown fringe, sometimes yellow at the apex. 22—25 mm. Canada, New England, Central States, to the west as far as Nebraska. — One of the commonest species, appearing in May and June. The larva lives in various species of maple, e. g. *Acer dysocarpum*, *Acer rubrum*, *sacharinum*, as well as in *Pyrus americana*, in trunks and twigs, and it often does so much harm that younger trees may decay. According to HULST, the eggs are deposited at night!

accerubi. **S. accerubi** Engelh. Antennae black, whitish yellow before the tips, especially in the ♀, palpi orange, black apically, head black, orbita silvery white. Collar orange, mixed with black, thorax violettish black above, pale yellow beneath, patagia broadly edged with yellow. The coxae of the forelegs are silvery white. All the wings transparent, veins, costa, a rather broad apical margin and discal mark on the forewing black; beneath the same, with a yellowish tinge. Abdomen steel-blue or violettish blue, in the ♂ the segments 2, 4, 5, 6 are narrowly margined with whitish, almost pale yellow, in the ♀ only the segments 4, 5 and 6, the same segments beneath quite pale yellow, anal tuft bright red, mixed with black in the ♂. Legs bluish black, mixed with yellow. 18—20 mm. North Atlantic and Central Western States, especially found by ENGELHARDT near New York and Long Island. — The larva lives underneath the bark of different species of maple, sometimes in deserted passages of *Zeuzera pyrina*, but also like *Syn. acerni* Clem. It pupates in May in an oblong cocoon from which the imago generally emerges in June or July.

aureopurpurea. **S. aureopurpurea** Hy. Edw. (176 f). Head purple brown, palpi yellow, black in front. Collar narrowly edged with yellow. Antennae black with a broad white spot before the tip. Thorax purple brown with a narrow yellow streak on the shoulders. Abdomen black with yellow rings on the 2nd, 3rd, 5th and last segments. Anal tuft black. Legs brownish black, tarsi yellowish, anterior coxae yellow. Forewing purple brown with a golden yellow reflection. Distal part with fine yellow streaks between the veins. Hindwing transparent with purple brown veins and margins. 14 mm. Texas.

tucumana. **S. tucumana** Le Cerf. Forewing transparent, discocellular, veins and margins greyish black, distal margin between the veins grey. Hindwing transparent, veins and margins black, fringe black. Head and antennae black. Palpi black and white. Thorax greyish black, with a yellow longitudinal spot on each side, a few white scales at the base of the wings and two yellow spots on the metathorax. Abdomen greyish black with yellowish margins on the segments 2 above, 4, 5 and 6 above and beneath. Anal tuft black, white laterally. Legs smoky black, tibiae with whitish yellow rings, tibial spurs white. 14 mm. 1 ♂. Tucuman, Argentina; December.

macropyga. **S. macropyga** Le Cerf is a very small species with an expanse of but 11.2 mm, especially distinguished by an enormously long anal tuft which is almost as long as the abdomen and covers the valves. Forewing transparent, the margins and veins purple black, a few yellow scales at the apex at veins 5 and 6, also at the exterior edge of the discocellular vein, the distal area is traversed by 5 veins. Hindwing transparent, veins and margins black, fringes of all the wings black. Head black, snow-white in front. Palpi quite yellow. Antennae black, finely ciliated. Thorax convex, blackish blue with light yellow lateral spots. Legs black and whitish, tibial spurs white. Abdomen blackish blue, with a blurred yellow lateral line, the 4th segment above margined with yellowish, the segments 2, 5 and 6 with yellow traces. Segments 4, 5, 6 and 7 beneath all white. The abdomen is narrow and compressed towards the end, and becomes then very broad again owing to the enormously developed anal tuft. Brazil, Fazenda do Sobrado on the Rio das Pedras, Serra da Mantagueira, 1000 m; March.

S. pyri Harris (= *koebelei* Hy. Edw.) (176 f). Head and palpi above black, below yellow. Collar above *pyri*. black, below white. Thorax black, with a yellow spot on each side below. Abdomen black with a narrow yellow ring on the 2nd and 4th segments in the ♂. the ♀ shows an almost entirely yellow 4th segment, yellow lateral streaks on the 1st and 2nd segments. Abdomen beneath longitudinally striped yellow in the middle, anal tuft black in the ♂, laterally yellow in the ♀, black in the middle. Legs black, yellowish inside, tibiae and tarsi with yellow rings, anterior coxae yellow. Antennae black, in the ♂ rarely, in the ♀ always, with a strong white spot before the apex. Forewing transparent, margins black, the costal and inner margins narrow, the distal margin broad, with yellow streaks in the ♀, cross-vein strong, under surface yellow along the costa and the inner margin. Hindwing transparent with narrow dark margins. 14—18 mm. From Canada to Florida and Texas. — The species is everywhere common; the larva lives beneath the bark of apple and pear trees. The imago appears in June and July.

S. rhododendri Benth. is allied to *pyri* and *scitula* (176 f) from which it chiefly differs in the absence of *rhododendri*. the yellow markings on the thorax which is metallic bluish black in *rhododendri*. Abdomen black with a narrow yellow band of the 2nd, 4th and 5th segments and a yellow line on each side from the base to the first yellow band. The 4th and 5th segments beneath almost entirely yellow. 10—15 mm. Cheltenham, Pennsylvania. imported in parks by the food-plant, as observed in New York and Brooklyn. Larva in twigs and trunks of *Rhododendron*, but occasionally also in mountain-laurel and *Azaleae*, living one year and pupating in a light web in wood, the imago leaving it from the middle of May until June.

S. scitula Harris (= *gallivora* Ww., *hospes* Walsh, *aemula* Hy. Edw.) (176 f). Head and antennae black. *scitula*. Palpi yellow with black tips, quite yellow in the ♀. Orbita white. Thorax deep bluish black with yellow lateral lines, and a yellow spot below on each side. Abdomen deep bluish black with a narrow yellow ring on the 2nd and 4th segments, the latter being quite yellow beneath, the 5th and 6th of the ♀ also yellow beneath. Anal tuft black, laterally yellow in the ♀. Femora bluish black, tibiae yellow with a blackish band on the otherwise yellow middle and posterior femora, anterior coxae yellow. Forewing transparent, margins and cross-vein bluish black, narrow, distal margin broad with yellow stripes between the veins. Hindwing transparent, veins and the narrow margins bluish black. 18—22 mm. Canada, New England and Central States as far as Virginia, to the west as far as Ohio and Illinois. May, June. The larva lives beneath the bark of oak, chestnut, but especially of the cornel-tree, also found in hickory and willows.

S. ithacae Benth. (177 d). Similar to *S. pyri*, but the margins of the wings and the abdomen are quite *ithacae*. black, only the palpi yellow below. Collar narrowly yellow, thorax below on each side with a small yellow spot. The ♀ has much broader margins of the wings than the ♂. 15—18 mm. New York (Ithaca).

S. corusca Hy. Edw. (177 d) is likewise a small species. Head bluish black, face and palpi yellow. Thorax *corusca*. bronze coloured with yellow stripes on each side and a posterior yellow transverse streak. Abdomen bronze coloured with narrow rings on the 1st, 2nd, 4th and last segments. Anal tuft like the abdomen, laterally sometimes yellowish. Legs outside bronze coloured, inside yellow, anterior coxae yellow. All the wings transparent with narrow golden bronze margins. 19—21 mm. Texas.

S. decipiens Hy. Edw. (= *imperfecta* Hy. Edw., *nicotianae* Hy. Edw.) (177 d). ♂: head black, orbita *decipiens*. white. Palpi yellow, black outside at the base. Collar yellow. Thorax black, with a yellow transverse streak behind, beneath with a yellow spot on each side. Abdomen mostly thick in the middle, black with yellow rings on the 2nd, 4th and last two segments, the ring on the 4th being twice as broad as the others, extending also to the under surface. Anal tuft pointed, black, yellow above on each side. Legs yellow and black, hind tibiae yellow with a broad black band. Forewing transparent, veins and margins black, distal margin with yellow streaks between the veins, the cross-vein orange or red, also the base of the wing red. Hindwing transparent with narrow brownish bronze margins and fringe, cross-vein very narrow, yellow or orange. ♀: separated from the ♂ by broader margins on the forewing, the abdomen with three bands on the 2nd, 4th and last segments, also here the middle one being the broadest, anal tuft broad, like a brush. 13—15 mm. This little species was found in Colorado and Texas; May, June till July. Larva according to HEINRICH in the galls of crippled white oaks, the habits similar to those of *S. scitula* Harris.

S. rubristigma Kell. (177 d). Head bluish black, orbita silvery white. Basal joint of palpi black, the *rubristigma*. 2nd segment black excepting the end, the 3rd quite yellow. Antennae black, collar yellow. Thorax black with a yellow transverse streak behind and below and a yellow spot on each side. Abdomen black with narrow yellow bands on the 2nd and last segments, and a broad one all around the 4th segment; the 1st segment on each side with yellow spots. Legs as in *decipiens*. Forewing transparent, cross-vein quadrangular, beautifully red, the purple brown margins very narrow. Hindwing like that of *decipiens* to which the species is closely allied. The ♀ has also broader margins. 16—18 mm. Ohio, Iowa, New York. The larva lives in galls of *Andricus cornigerus* on *Quercus palustris*. The imago in June till July.

S. prosopis Hy. Edw. (177 d). Head, antennae, thorax quite black, abdomen the same or with a narrow *prosopis*. white band on the 2nd and last segments. Palpi white, 3rd joint black. Legs black, hind tibiae with tufts and spurs white, hind tarsi with white bands, anterior coxae white. Forewing transparent, margins and cross-vein

black. Hindwing transparent with a black margin and white fringe. 14 mm. The species is easily discernible as it is quite black, except the light parts mentioned. Arizona, Fort Grant. Only ♂♂ are known; from galls of the Anime tree (Mesquite).

querci. **S. querci** Hy. Edw. (= *quercus* Hy. Edw.) (177 d). Head black. Palpi black, white at the tips and inside. Collar yellow. Antennae black. Thorax black, patagia with a few yellow scales, behind with a narrow yellow spot, beneath spotted yellow. Abdomen deep black with a very narrow yellow band on the 2nd and 3rd segments, a very broad one all around the 4th and very narrow ones again on the two last segments. Anal tuft black, broadly yellow above. Legs black, hair-tufts and spurs white, anterior coxae white with a yellow line. Forewing transparent with very narrow golden brown margins, cross-vein narrow, pale yellow. Beneath the margins and the cross-vein pale yellow. Hindwing transparent with very narrow purple brown margins, costal margin pale yellow. 12—18 mm. Arizona, Fort Grant. The larva is said to live in galls of oak.

tecta. **S. tecta** Hy. Edw. (177 d ♂, 177 e ♀). Head black, palpi yellow, collar in front narrowly yellow. Antennae black. Thorax black, with a yellow line on each side and an indistinct posterior cross-bar in yellow. Abdomen black with five yellow bands, narrow on the 1st, 2nd and the two last segments, very broad on the 4th segment. The last three rings extend to the under surface with an additional one on the 5th segment beneath. Anal tuft black, yellow beneath in the middle. Legs black, anterior coxae yellow, femora black, tibiae and tarsi with yellow rings. Forewing transparent with narrow black margins and cross-vein which is orange outside. Under surface marked yellow. Hindwing transparent with very narrow black margins. The ♀ has one ring less and the distal area of the forewing marked yellow between the veins. 18 mm. Arizona and New Jersey; specimens from the latter habitat are somewhat different. The early stages are not known.

candescens. **S. candescens** Hy. Edw. (177 e). Head blackish brown. Collar, palpi and orbita purely white. Antennae black. Thorax and abdomen blackish brown, the latter with rather broad white rings on all the segments. Anal tuft black. Legs blackish brown with golden yellow scales, the tarsi with indistinct black bands, the anterior coxae white outside. Forewing purple brown with broad margins, so that only narrow hyaline areas remain, the distal area traversed by four veins, the inner margin dusted with white, the cross-vein purple brown, reddish orange outside. Hindwing transparent with a narrow purple brown margin. 15 mm. Arizona. Only a ♂ is stated to be known, but in BEUTENMÜLLER's Monograph of the Sesiidae (Mem. Amer. Mus. Nat. Hist.) there is 1 ♀ figured, which also corresponds with the description.

sigmoidea. **S. sigmoidea** Hy. Edw. (177 e). Head and antennae purple black. Palpi yellow, black above. Collar yellow. Thorax purple black with a yellow posterior streak, under surface with a yellow spot on each side. Abdomen bluish black with a lemon-coloured band on the 2nd, 4th and last segments, the 4th extending around the whole abdomen. Anal tuft black, whitish outside. Legs bluish black, tibiae with a broad yellow band, tarsi partly yellow. Cross-vein bluish black with an orange spot outside, the broad distal margin is lighter between the veins. Hindwing transparent with very narrow black margins. 18—21 mm. New Hampshire, Massachusetts. The species is allied to the palaearctic *S. vespiiformis* (Vol. II, pl. 51 e). The larva is said to live in willows.

tacoma. **S. tacoma** Beut. (177 e). ♂: head deep black, palpi yellow above, with long black hair below. Collar narrowly yellow in front. Thorax deep black with a narrow yellow stripe on the patagia, and a narrow yellow transverse line on the posterior part, beneath with a yellow spot on each side. Abdomen deep black with narrow yellow rings behind on the 2nd, 4th, 6th and 7th segments, the last three extending all round. Anal tuft black, yellow below in the middle. Femora black, tibiae black with a yellow ring in the middle, tarsi yellow, anterior coxae with a yellow line. Forewing transparent, margins brownish black, rather broad, all reddish orange inwards, cross-vein black, reddish orange on each side. Under surface: margins and cross-vein quite reddish orange. Hindwing transparent, the margin, fringe and veins brownish black, under surface with an orange line before the dark margin, veins orange. ♀: head and abdomen as in the ♂, only with three yellow rings, on the 2nd, 4th and 6th segments. Palpi quite yellow. Forewing with very narrow brownish black margins, the reddish orange broader than in the ♂, so that the wings almost look red. Hindwing transparent, the veins and a narrow line before the brownish black margin reddish orange. Under surface with broad reddish orange margins, the fringe brownish black. 20—22 mm. Big Horn Mts., Wyoming. Mt. Ranier, 2100 m. Washington. Allied to the palaearctic *P. chrysidiformis* (Vol. II, pl. 52 d).

americana. **S. americana** Beut. (= *culiciformis* Beut.) (177 e). Head deep bluish black, orbita white. Palpi black above, orange below. Thorax and abdomen metallic bluish black, the thorax with an orange spot on each side, below, the abdomen with the whole fourth segment light red, sometimes with a red streak on each side from the base to the 4th segment. Anal tuft bluish black. Legs metallic blue, tarsi with a dingy white tinge. Forewing transparent, opalescent with blue margins and cross-veins, beneath pale orange at the base. Hindwing with narrow bluish black margins. 21—25 mm. Evidently very closely allied to the following *culiciformis* L. which is otherwise palaearctic. Nevada, British Columbia, Washington. The larva lives beneath the bark and in the wood of young alder-trees.

culiciformis. **S. culiciformis** L. (Vol. II, pl. 51 b). Head and thorax bluish black, palpi bluish black above, orange below, thorax below with a reddish orange spot on each side. Abdomen bluish black, the 4th segment red above

and beneath. Anal tuft bluish black. Legs bluish black, tibiae yellowish. posterior femora with a yellow band. Forewing transparent with bluish black margins and a bluish black cross-vein, strewn with reddish orange at the base, under surface faded golden yellow. Hindwing transparent with narrow bluish black margins. 21 to 28 mm. June. — Thus chiefly separated from *americana* by the forewing being golden yellow beneath and the yellowish brown hind tibiae. Kodiak, Alaska; Europe, North Asia. In Europe the larva lives in the wood of birch and alder trees, preferably in the stumps. The web is made between the wood and bark and surrounded with oblong splinters of wood.

S. caternaulti *Le Cerf*. Face blackish green, opalescent, white before the eyes. Palpi white below, blackish bronze above. Antennae purple black, very finely dentate. Collar blackish bronze. Thorax greenish black, margins reddish, spotted reddish beneath. Only the two first joints of the abdomen are preserved, they are black. Legs black and white. Forewing transparent, margins and veins purple black, the relatively narrow distal margin does not exhibit any yellow or reddish cells, but yellow is traceable beneath, the costa and inner margin are also dusted with yellow. Hindwing transparent, margins and veins black, fringes of all the wings blackish bronze. 24 mm. Guiana, Cayenne. Only 1 ♂ known. *caternaulti*.

S. tepperi *Hy. Edw.* (177 e). Head orange above, antennae black. Thorax orange above and beneath. Abdomen bluish black above, the 1st and 2nd segments and the anal tuft orange, abdomen beneath quite orange. Legs orange and blue. Forewing narrow, metallic blue with a narrow semi-transparent area and a strong cross-vein, beneath orange at the base. Hindwing transparent with bluish black margins, broadest at the apex. Under surface orange at the base. 23 mm. Georgia. Only 1 ♂ is known of this excellent species. *tepperi*.

S. texana *Hy. Edw.* (= *wittfeldii Hy. Edw.*) (177 f). Head brownish black. Palpi and collar orange. Antennae black, brownish below. Thorax black with a narrow orange streak on each side and a posterior transverse streak. Abdomen brownish black with orange rings on the 2nd, 4th, 6th and 7th segments. in the ♀ only on the 2nd, 4th and 6th, those on the 6th and 7th extending all round, the 5th segment orange beneath. Anal tuft brownish black, in the ♂ orange on each side below. Legs bluish black, spurs and hair-tuft orange. Forewing with a narrow hyaline area, the distal area scaled quite purple black, often strewn with orange, margins and cross-vein black. Costa and inner margin beneath orange. The ♀ is without any orange, but the forewing is almost entirely scaled purple black. Hindwing transparent with a very narrow bluish black or purple black margin above and beneath. 18—22 mm. Florida Texas. *texana*.

S. seminole *Beut.* (177 f). ♂: head and antennae brownish black. Palpi and collar in front light orange. Thorax brownish black with a narrow orange line on the patagia and a posterior broader termination. Abdomen metallic brownish black, the 2nd, 4th and two last segments behind narrowly orange. Anal tuft black, orange below in the middle. Middle and posterior femora blackish, tibiae violet with an orange band in the middle. Tarsi orange inside, violet outside. Forewing narrow, costal margin brownish black, distal margin orange, veins and margin dark, inner margin scaled orange, cross-vein distinctly orange. Hindwing transparent with some orange at the upper cell-end. ♀: similar to the ♂ in the marking of the abdomen and legs, but only the 2nd, 4th and last segments orange, the yellow on the forewing broader and stronger, especially the inner-marginal area which is bordered by the strong median vein. 15—18 mm. Lake Worth, Florida, February. *seminole*.

S. marica *Beut.* (= *marcia Dyar*) (177 f). Head black, palpi orange. Collar black, orange in front. Antennae and thorax black with distinct orange stripes laterally on the patagia, a broad orange transverse band on the posterior part, black below with an orange spot on each side. Abdomen brownish black with orange bands on the posterior edges of the 2nd, 4th, 6th and 7th segment. Middle and hind femora brownish black, tibiae and tarsi orange, the tibiae with a black ring near the end. Anterior coxae and femora inside brownish black, outside orange. Anal tuft black above, orange below. Forewing transparent, costal margin black, inner margin orange, fringe brown, cross-vein golden orange, distal margin broadly orange with black veins, an orange connection from the distal margin along the costal margin as far as the cross-vein. Hindwing transparent, costal margin narrowly orange, distal margin and fringe narrowly black. The ♀ has the forewings more broadly framed with orange, so that few hyaline places remain. 25 mm. Florida. *marica*.

S. praestans *Hy. Edw.* (177 f). Head black, with an orange tuft in front. Palpi bright orange. Thorax blackish bronze, striped orange on each side, spotted orange below. Femora blackish bronze, tibiae dark orange, the posterior ones of the deepest tint, tarsi more yellow. Abdomen blackish bronze, the 4th segment above copper-red, narrow copper-red bands on the last two segments. Anal tuft copper-coloured (red), the sides bronze. Forewing with broad blackish bronze margins and cross-vein, inner margin bright fiery red like almost the whole distal area so that only a round spot remains transparent, mostly traversed by three dark veins. Hindwing transparent, costal margin and part of the basal region bright orange, distal margins blackish bronze. Beneath all the scaled places are lighter orange than above. The ♀ has quite orange forewings except the black margins and crossvein; margins and veins of the hindwings likewise orange. 23 mm. Washington. *praestans*.

S. fragariae *Hy. Edw.* (= *orthocarpi Hy. Edw.*) (178 a). ♂: head black with a metallic blue reflection. palpi red, slightly black outside. Antennae bluish black. Collar red in front. Thorax metallic bronze, patagia

with red traces. Abdomen bronze-coloured, the 4th and the two last segments red above, the sides of the abdomen striped red. Anal tuft red, bluish black above on each side. Femora bronze-coloured, tibiae red, bronze at the ends, tarsi bronze, slightly red on one side. Forewing with broad margins and a broad cross-vein metallic green, so that few transparent places are left, inner margin broadly red from the base to the cross-vein, beneath the red is still more extensive. Hindwing transparent, red along the inner margin, distal margin brownish bronze. ♀: forewing quite metallic green or blue. Inner margin reddish orange, thus lighter than in the ♂, sometimes a narrow transparent streak in the cell and two or three between the veins in the distal area. Hindwing before the blackish brown fringe partly broad orange, cross-vein the same, so that only about half remains transparent. Anal tuft quite red. 15—22 mm. Nevada, Utah, Colorado. Unfortunately there is neither anything known of the life-history of this beautiful species. — var. **semipraestans** Cock. The orange colouring corresponds to *praestans* Hy. Edw., but the colour of the legs and the shape are of *fragariae*. The colour of the abdomen (blackish bronze, the 4th segment quite red, the last two segments narrowly red) resembles again more *praestans* than *fragariae* 24 mm. Florissant, Colorado, 2300 m; June. It flies very swiftly over dry sterile soil. COCKERELL is undecided whether *semipraestans* is a variation of *fragariae* or even perhaps a distinct species.

behrensi.

S. behrensi Hy. Edw. (= *elda* Hy. Edw., *helianthi* Hy. Edw.) (178 a). ♂: head black, face white with a violet reflection. Palpi and collar orange. Antennae black. Thorax metallic bluish or greenish black with a red stripe on the patagia and red spots beneath. Legs red, femora black, tarsi red and black. Abdomen metallic greenish or bluish black, the last 4 segments red, and red stripes along the sides of the first 3 segments, with red bands beneath. Anal tuft red, laterally bluish or greenish black. Forewing metallic bluish or greenish black with a red stripe at the inner margin, dull brownish black beneath; basal area, costal and inner margins red. Hindwing transparent, distal margin violettish brown, the inner margin and base red. ♀: head in front with a tuft of red hair. Abdomen: the 3 last segments above, all beneath and the anal tuft red. Hindwing quite scarlet, distal margin and fringe brown. 18—22 mm. This excellent species has so far only been found in California.

autremonti.

S. autremonti Le Cerf (176 f). ♂: face blackish blue. Palpi black, yellowish white outside on the 2nd joint. Antennae black. Collar and thorax blackish green, tegulae with traces of red, pectus beneath spotted red. Abdomen blackish green with miniate sides of the 2nd, 3rd and 4th segments, anal tuft red. Beneath blackish blue from the base to the 3rd segment, the 4th grey, the others whitish yellow. Anterior hips whitish yellow, spotted red outside, femora blackish blue, tibiae black, slightly mixed with yellow, middle and posterior hips yellowish white, middle and posterior femora blackish blue, tibiae of the same colour, terminated by whitish yellow hairs, spurs white, tarsi of all the legs blackish blue, curled white. Forewing greenish black, broadly whitish yellow beneath from the base to beyond the middle along the costa. Hindwing blackish bronze, a trilobate hyaline spot at the base, occupying almost half the wing. Fringes of all the wings greyish black. ♀: similar to ♂, but with an orange red abdomen beneath and a black anal tuft. Forewing beneath not yellowish white but orange as extensively as in the ♂. The hyaline part of the hindwing broader. 15 mm. Brazil, Minas Geraës; ♀ from Araraquara.

scythropa.

S. scythropa sp. n. (176 f) is very closely allied to *autremonti* Le Cerf, but it has all the parts black except the thoracal disc, the anterior pectoral sides and the two first palpal joints beneath, which are yellow. Wings like those of *autremonti*. 14 mm. Brazil, Itaitiaya. 1 ♀ leg. Prof. SEITZ; type: Senckenberg Museum.

tineosphracia.

S. tineosphracia sp. n. (180 h) is very closely allied to *S. autremonti*, *infusata* and *scythropa* which, together with a few more, would be best comprised under the genus *Trichocerata* Hmps.; *tineosphracia* might even be entitled to a separate genus, since the antennae of the ♂ are longer than usual (as long as the forewings) and exhibit a thickened area of appressed hair-scales in the centre above. Antennae, head, thorax and abdomen blackish brown, somewhat glossy, the antennae behind the thickening white for some distance, the tips again black. Legs lighter, the coxae silvery, abdomen beneath silvery white. Forewing rounded at the apex, densely scaled blackish brown. Hindwing: the costal region and a broad apical area semihyaline, scaled lighter greyish black, the rest purely hyaline, margins thin, fringe long, blackish brown. Under surface somewhat lighter. The ♀ evidently belonging to it has the same scheme and colouring on the wings, very long pointed palpi semi-circularly bent upward, the first two joints orange, the tips brown. Antennae blackish brown. Abdomen blackish brown, glossy, two parallel dorsal lines in a beautiful opalescent purple red, anal tuft brown. Abdomen beneath and anal tuft reddish orange. Middle legs blackish brown, coxae yellowish white, anterior and posterior legs absent. 14—15 mm. Brazil, Itaituba, types in the Berlin Zool. Museum.

dimorpha.

S. dimorpha Le Cerf (176 g). ♂: face black, white before the eyes. Palpi black, strewn with yellow scales. Antennae reddish yellow, black at the base and tips. Collar black, glossy. Thorax and abdomen blackish blue. Anal tuft blackish blue, laterally with a few yellow scales, ventral side black, segments 4—7 broadly margined with yellow, the last segment black at the base. Anterior hips blackish blue, partly covered with pale yellow scales, the femora and tibiae are likewise blackish blue, terminated by yellowish, middle tibiae partly.

whitish, the posterior ones with a white ring; tarsi of all the legs yellow, blackish beneath. Forewing transparent, margins, veins and discal mark black, beneath partly yellowish. Hindwing transparent, margins and veins black. Fringes of all the wings black. ♀: palpi whitish yellow, the 2nd joint with a black exterior line, the 3rd quite black. Anterior hips yellowish white, body and legs quite black. Forewing blackish bronze, hindwing broadly margined with black so that the greater basal part remains hyaline, divided by the relatively broad discal vein into a smaller area and towards the base into a larger area. 15 mm. Brazil, Caraca; the figured ♀ was taken by Dr. SEITZ at Rio Preto (São Paulo) on April 25th 1930.

S. infusata *Le Cerf* (176 f). Forewing above and beneath sooty black, the wedge-shaped area is merely *infusata*, a tiny hyaline spot near the discocellular vein, distal area just as small, traversed by two veins. Hindwing black with larger hyaline spots, a basal larger one divided by the median vein, one beyond the cell towards the apex and parted by vein 5 between veins 4 and 6. Head, antennae, thorax, abdomen and legs smoke-black. Palpi, anterior femora, margins of the 2nd and 4th segments dingy white. 1 ♀. 17 mm. Argentina, Andes of Tucuman; December.

S. flavostigma *sp. n.* (176 h). Head and antennae black. Thorax blackish brown with traces of a red- *flavostigma*, dish marking. Abdomen blackish brown. Forewing narrow, blackish brown, semihyaline at the base, at the cell-end a light ochreous spot on which the veins appear darker, distal area and margins blackish brown again. Hindwing transparent, thinly strewn with yellowish brown scales, margin black, rather broad at the apex, gradually diminishing outwards. Legs blackish brown, with reddish hair, especially at the ends of the joints. 25 mm. Rio de Janeiro. 1 ♂. Type: Coll. Hamburg Zool. Museum. Figured is a ♀ taken by Mr. W. MARTEN in Brazil.

S. mariona *Beut.* (178 a). ♂: head white, collar whitish grey, white beneath. Palpi white. Antennae *mariona*, blackish green. Thorax blackish green with a very broad red lateral line extending to the base of the wing. Abdomen and anal tuft metallic blackish green. Legs the same, anterior coxae white. Forewing metallic blackish green with a broad red inner-marginal line vanishing outwards, costal margin dingy white. Hindwing brown with a violet reflection, the central part with two hyaline areas, the upper one traversed by the cross-vein. 17—20 mm. Described according to 3 ♀♀; ♂ and early stages unknown. Trimble and Pagossa Springs, Durango, Colorado; July.

S. sanborni *Hy. Edw.* (178 b). Head dull brown. Palpi white, the 3rd joint black. Thorax and abdomen *sanborni*, dull bronze brown, the abdomen with narrow pale yellow bands above on the 2nd and 4th segments. Anal tuft pointed. Legs bronze brown. Forewing dull bronze brown, distal area with a white spot crossed by 3 or 4 dark veins. Hindwing transparent, margins and fringe violettish brown. 19 mm. Massachusetts. Only ♀♀ known.

S. ruficornis *Hy. Edw.* (= *minuta Hy. Edw.*) (178 b). Head and thorax violettish black. Palpi yellow. *ruficornis*, Collar yellow in front, patagia yellow behind. Antennae violettish black, reddish below. Abdomen violettish black with narrow yellow bands on the 2nd, 4th and last segments. Anal tuft broad, brush-like. Legs violettish black with yellow rings. Forewing violettish black with traces of red in the cell and in the distal area behind the cross-vein, very distinct in the ♀, beneath as above. Hindwing transparent, margin and veins violettish black. 10—14 mm. This very small species was hitherto only found in Georgia and Alabama (Southern States).

S. subaerea *Hy. Edw.* (178 b). Head and thorax deep brown, thorax behind with a yellow marking. *subaerea*, Antennae with a pale yellow band before the end. Palpi yellowish. Abdomen brown strewn with yellow scales, and with traces of bands on the 4th, 5th, 6th and 7th segments. Anal tuft brown and yellow. Forewing purple brown strewn with yellow scales. Hindwing purple brown, hyaline at the base; all the wings beneath strewn with yellow. 14 mm. Apparently only 1 ♂ known. Arizona.

S. nigra *Beut.* (178 b). Head black, face dingy white. Palpi white, blackish outside. Collar in front *nigra*, dingy white. Antennae and thorax black, patagia feebly marked white. Abdomen black with posterior whitish margins on the 2nd, 4th and last segments, the 4th being broadest and extending around the abdomen. Anal tuft black. Legs black, anterior coxae marked with white, posterior tibiae with a white band. Forewing black with a light streak in the cell and a few whitish streaks between the veins of the distal area; beneath yellow along the costa. Hindwing black, slightly hyaline at the base. 14 mm. Colorado, Utah. Only ♀♀ are known.

S. verecunda *Hy. Edw.* (178 b). Head black with dingy yellowish hair. Collar white. Antennae black, *verecunda*, yellowish below. Palpi white. Thorax black with a dingy yellow line on the sides, and with a white spot beneath on each side. Abdomen black with dingy white bands on the 4th and last segments. Legs black, femora with little white. Forewing brownish black; lighter, almost whitish, at the inner margin, in the cell and between the veins of the distal margin. Hindwing quite brown, somewhat lighter at the upper basal part. 19 mm. Colorado. The ♂ is still unknown.

S. polygoni *Hy. Edw.* (= *meadii Hy. Edw.*) (178 b, c). ♂: head and collar black. Palpi scarlet, black *polygoni*, outside. Thorax black with a blue reflection, patagia behind feebly-reddish, beneath with a red spot on each

side. Legs black, middle and hind tibiae with a broad scarlet band. Abdomen bluish black, opalescent, the 4th and the two last segments scarlet, the others laterally scarlet. Anal tuft scarlet with bluish black sides. Forewing metallic bluish black with a scarlet stripe at the inner margin, which extends somewhat beyond the middle, fringe brown, reddish beneath at the base. Hindwing transparent, margin violet, base and the beginning of the inner margin red, fringe brown. ♀: similar to the ♂, but the hindwing is quite scarlet, lighter, with a very broad brownish black distal margin, with a violet reflection. The 4th and last segments of the abdomen scarlet, lateral line the same. 18—20 mm. Only known from California. Larva in the root of species of *Polygonum*; it emerges shortly above the soil.

achillae. **S. achillae** Hy. Edw. (= *cremocarpi* Hy. Edw.) (178 c). Head, collar and antennae black. Palpi black, red beneath at the base. Thorax metallic bluish black with little red patagia and a red spot on each side beneath. Abdomen above and beneath quite metallic bluish black. Anal tuft red, bluish black above on the sides. Legs completely bluish black. Forewing metallic bluish black or greenish black with a red streak on the inner margin, extending from the base to about the middle of the wing. Hindwing transparent with bluish black margins. 15—18 mm. California. 2 ♂♂.

floridensis. **S. floridensis** Grt. (178 c). Head and antennae black. Palpi black at the base, reddish apically. Collar red. Thorax bluish black with a very prominent red transverse marking on the hindmost part, and a red spot on each side beneath. Abdomen bluish black, the 4th segment above and beneath bright red, narrow red belts on the two last segments above. Anal tuft black, feebly white laterally. Legs black, tarsi red, hind tibiae red with a black band, anterior coxae with a red stripe. Forewing metallic purple black with a transparent basal streak, cell and inner margin bright red, beneath almost quite red, veins dark. Hindwing transparent with violettish brown margins, the margins beneath red, fringe brown. 14—18 mm. Florida. Apparently only ♂♂ are known.

geliformis. **S. geliformis** Wkr. (178 c). Head, thorax, palpi, antennae and legs quite black with a greenish reflection. Abdomen above and beneath bright red except the 1st segment which is bluish black. Anal tuft red, laterally black. Forewing above and beneath quite bluish black. Hindwing transparent, the margins broader brownish black than usual. ♂ 10 mm. ♀ 15—19 mm. Florida, St. Vincent (British West Indies), Mexico.

sapygaeformis. **S. sapygaeformis** Wkr. (178 c). Head and antennae black. Palpi red, black outside, especially at the base. Collar red. Thorax black with a red posterior transverse marking, a red spot beneath on each side. The first 3 segments of the abdomen black, in the ♂ the last four, in the ♀ the last three above and beneath red. Anal tuft black. Legs red and black, tibiae with a broad red band. Forewing bluish black, purple outside with a red streak which is transparent at the base; beneath red from the base almost to the middle, dark outside. Hindwing transparent, distal margin violettish black, rather broadly scaled at the apex. 17—19 mm. Florida.

animosa. **S. animosa** Hy. Edw. (178 c). ♂: head and antennae bluish black, palpi red, tips black, sometimes mixed with black hairs. Thorax blackish bronze, patagia red behind, a red spot on each side beneath. Abdomen blackish bronze, the last segment red, the three preceding ones laterally red. Anal tuft red, laterally black. Legs greenish black. Forewing metallic greenish black with a red inner-marginal streak extending to beyond the middle. Beneath as above. Hindwing transparent, the narrow margins brownish black. ♀: head, thorax, legs and forewings as in the ♂, fully scaled, but the hindwings likewise metallic greenish black or bluish black, above and beneath. The last three adominal segments laterally red, all are black above. Anal tuft also black. 16—20 mm. Arizona.

pyralidiformis. **S. pyralidiformis** Wkr. (= *nigella* Hulst) (178 d). Head purple brown. Palpi and collar yellow. Thorax purple black with very narrow light stripes on each side and yellow spots beneath. Abdomen purple black, the 4th segment quite yellow above, the posterior margin of the last segment with a yellow belt, absent in the ♀. Anal tuft purple brown, feebly yellow on the sides. Legs purple brown, hind tibiae with yellow rings before the end, tarsi light. Forewing purple brown, densely scaled, yellow beneath at the base. Hindwing transparent with a narrow purple brown margin. 14—20 mm. From Canada to Texas.

ruficaudis. **S. ruficaudis** Wkr. Metallic blue with a coppery or purple lustre. Orbita silvery, head yellow behind. Palpi erect, golden yellow. Antennae black. Abdomen tapering off behind, more than thrice as long as the thorax, bright red towards the end, which colour passes over into the long anal tuft exhibiting here also a few black hairs; beneath golden yellow. Legs slender, golden yellow, posterior femora purple, very short, hind tibiae purple at the end, hind tarsi long and purple. Forewing transparent, very narrow, costa, distal area and cross-vein purple. Hindwing transparent, all the fringes purple. 22 mm. Ega.

rhysaeformis. **S. rhysaeformis** Wkr. ♀: bluish green. Head coppery, white in front on each side, and with white hair behind. Palpi whitish, black apically. Antennae very much longer than the thorax, rather thick at the ends. Thorax with a yellow streak on each side. Abdomen with white bands on the posterior margins of the segments; beneath white, anal tuft with a few scale-hairs on each side. Legs with white bands. Wings transparent: forewing with a purple brown costa, distal area and discal band. 18 mm. The doubtful ♂ of it is

said to be bluish black, palpi above black. Antennae filiform, plain, rough below. Anal tuft with fewer pale hairs than in the ♀. Forewing with a broader scaled part in the distal area. Para.

S. blaciformis Wkr. Green. Face white. Collar with white hair. Palpi white below. Antennae club-shaped, hairy beneath, twice as long as thorax. Pectus white. Abdomen almost thrice as long as thorax. Anal tuft black, very long. Legs with white bands. Forewing transparent, cross-vein and margins purple. Hindwing the same. 18—20 mm. Amazon Valley. 1 ♀.

S. pulchripennis Wkr. Dark blue, of a slender structure. Head silvery white in front and at the posterior edge. Palpi oblong, silvery white. Antennae black. Abdomen almost three times longer than the thorax. Anal tuft very long. Anterior coxae silvery. Anterior tibiae very short, silvery beneath, hind tibiae with a silvery band and silvery hair-tufts, anterior tarsi silvery beneath, posterior tarsi densely white-haired and with a white hair-tuft at the beginning. Forewing blue, transparent at the base, distal area mostly purple. Hindwing transparent, veins, margins and fringe black. 22 mm. Ega. 1 ♂.

S. edwardsii Beut. (178 d). Head black. Face and palpi white with a black exterior streak. Antennae and thorax black with a very narrow line on each side. Abdomen black with dingy yellow bands on the 2nd, 4th and last segments. The 4th segment yellow above and beneath, the 5th only beneath. Anal tuft black, yellowish on the sides. Femora black, middle and hind tibiae yellow with a black ring at the end. Tarsi yellow and black, anterior coxae white. Forewing dull brownish black, warming into violet with a few yellow streaks in the cell and behind the cross-vein, the yellow more intense beneath. Hindwing dingy dark yellow, veins and margins violet, a quite transparent light brown stripe between veins 1 a and 2. 24 mm. Colorado. The ♂ is not yet known.

S. florisantella Cock. is very similar to *S. arctica* Beut. (177 b). Antennae black, basal halves below finely dentate. Hindhead with long rough pale hair, cheeks and face whitish. Palpi long and bristle-like, black outside, white above and inside. Proboscis small. Thorax black above, with a metallic green reflection, the sides with black and white scales, a distinct white spot below near the base of the wings, collar coppery. Legs black and white, the long hair of the femora beneath white, spurs whitish. Forewing purple black with scattered white scales, a small white spot in the cell and distinct white streaks in the distal area between the dark veins. Hindwing transparent pearly white, costa and veins black, fringes of both wings long and black. Abdomen purple black, a trace of white on the 2nd, a narrow purely white band on the 4th and penultimate segments. Anal tuft black. 14 mm. Florissant, Colorado. 1 ♂ in June, at a dry place. COCKERELL somewhat doubtfully refers to the hitherto unknown ♂ of *S. nigra* Beut. (178 b).

S. utahensis Beut. Head black. Face and palpi golden yellow. Collar yellow in front, the rest black. Antennae black with a blue reflection. Thorax brown with a broad yellow band along the patagia and a yellow shoulder-spot at the base of the forewing. Posterior margin of the thorax with yellowish hair. Femora golden yellow above, brown beneath, tibiae golden yellow with a broad brown band at the tips, the first tarsal joint golden yellow, the following ones brown. Abdomen with a very broad golden yellow band on the posterior part of the 2nd segment above and beneath, the 4th and last segments quite golden yellow; the 1st, 3rd and 5th above brown with few yellow scales, brown beneath, except the 5th which is quite golden yellow. Anal tuft golden yellow, black in the middle and laterally. Forewing brown with the otherwise hyaline spots golden yellow, similar to *edwardsii* (178 d) to which it is allied. Hindwing golden yellow at the base, outside as well as the fringe brown. 23 mm. Washington County, Utah. In June. Only 1 ♀.

S. pyrosoma Meyr. Head reddish, mixed with orange. Palpi orange, whitish at the base. Antennae dark brown. Abdomen reddish orange. Anal tuft from dark blue to reddish. Forewing dark blue with a reddish reflection, a reddish orange basal spot, a subtriangular hyaline spot at the end of the cell, discal vein strong, distal area hyaline, crossed by four dark brown veins. Fringe dark rust-coloured. Hindwing hyaline, veins blackish, a narrow thickened black spot on the cross-vein between 5 and 7, a dark brown irregular distal margin, broadest at the costa, enclosing a blurred yellowish apical spot; margin reddish orange. Fringe brownish. 13 mm. British Guiana, in April. Only 1 ♀.

S. halmyris Drc. Forewing black, the end of the cell and a round spot below it hyaline. Hindwing transparent, fringe black. Head, thorax and abdomen black, base of abdomen slightly yellowish. Antennae black with a broad white preapical ring. Legs greyish black. 25 mm. Mexico: Rincon. Guerrero, 950 m. September.

S. hispides Drc. Forewing dark black, the cell and a round spot at the end of it semitransparent. Hindwing hyaline, veins and fringe black. Head, thorax and abdomen lustrous black, thorax beneath white. Antennae and legs black. 19—20 mm. Mexico: Amula, Guerrero, 2000 m; August.

S. ventralis Drc. Head, antennae, palpi, tegulae, thorax, abdomen, and legs black. Collar and anal tuft bright red, below with a few long black hairs. All the wings hyaline, costal and distal margins of both wings black, veins the same. 25 mm. Eastern Peru! Chanchamayo, 2000 m. 1 ♂.

- ceraca*. **S. ceraca** Drc. Forewing dark purple brown, a streak from the base to the end of the cell hyaline, the space beyond the cell broadly golden yellow, fringe dark brown. Hindwing hyaline, veins, distal margin and fringe dark brown, almost black. Head and palpi black, face white, collar steel-blue. Thorax dark brown. Abdomen orange, the two anal segments and anal tuft blackish brown. Legs bluish black. 37 mm. British Guiana: Essequibo River.
- rufa*. **S. rufa** Btlr. Wings above orange with black margins, fringe grey; the margins of the forewing very broad, showing the ground-colour only at the cell-end, parted besides by a black streak. Body black with a bluish grey lustre. Abdomen with white posterior margins on all the segments. Antennae black, wings bronze beneath, body lead-coloured beneath, pectus laterally steel blue. Legs purple above, bronze below, middle tibiae above covered with orange hair. 10—17 mm. Near Valparaiso on Umbelliferae in January.
- cubana*. **S. cubana** H.-Schöff. Antennae, forewing, fringe of hindwing yolk-coloured. Segments 5—7 of abdomen bright cinnamon red, segments 1 and 2, the posterior margins of 3 and 4, and the end of the posterior tibiae black. Abdomen pointed, the anal tuft is said to be absent. Similar to *uroceriformis* (Vol. II, pl. 51 f). Cuba.
- tabogana*. **S. tabogana** Drc. (176 g). Forewing dark brown, inner margin yellowish hyaline. Hindwing yellowish hyaline, margins and fringe brownish black. Head, thorax and abdomen black, posterior part of the thorax and of the abdomen with yellow bands. Antennae black, palpi and collar pale yellow. Legs above black, beneath yellowish white. 20 mm. Panama, Taboga I.
- semitrista*. **S. semitrista** sp. n. (176 i). ♂: at first sight very similar to *S. basalis* Wkr., particularly by the long divided anal tuft. Antennae, head, thorax and abdomen black, palpi brownish, white beneath. Thorax above with two slightly orange longitudinal stripes, reddish orange beneath, ventrum and anal tuft in the middle silvery white. Legs black, posterior tibiae in the middle whitish, tarsi black and white. Forewing transparent, veins, the strong costal margin and the discal vein black. Distal margin not very broad. Hindwing transparent, veins and the very narrow margin black. 22 mm. The ♀ belonging to it is quite different. Antennae, head, thorax and abdomen as well as the small pointed anal tuft lustrous black. Palpi black. The 2nd joint slightly haired whitish. Forewing black, gradually warming into an intense light yellow behind the discal vein towards the distal margin. Hindwing transparent, a dark shadow at the costal margin as far as the centre of the wing and between veins 2 and 3. Fringes of all the wings black. Legs black, hind tibiae brownish inwardly. 28 mm. Rio de Janeiro. 1 ♀. Types: Coll. MARTEN. As the couple was found in copula by Mr. MARTEN in Rio, there can be no doubt whatever about their belonging together. The group of the *Aegeriidae* becoming better known, dimorphism is also getting more frequently evident. February, April, Rio de Janeiro, type in Coll. MARTEN.
- aerosa*. **S. aerosa** sp. n. (178 d). Antennae, head, thorax and abdomen blackish blue, with a metallic bluish reflection. Palpi yellow, lighter inside, the two last joints outside blackish brown, silvery white before the eyes. Thorax with two coppery orange lateral stripes. The 2nd abdominal segment with a broad coppery orange band, the others only with coppery orange posterior belts. Anal tuft blackish blue with a violet shine. Ventrum coppery orange. A ♂ shows the belts of the abdominal segments less developed and of a more yellowish tinge, a lighter ventrum, the anal tuft beneath again beautifully orange. Legs orange, hind tibiae black before the end. Forewing transparent, the stronger costal margin, the distal margin of medium width, discal vein and veins black. Hindwing transparent, veins and margins black, the last part of the discal vein colourless. 16 to 17 mm. Brazil, Itatiaya. December. Types: Coll. MARTEN.
- apicalis*. **S. apicalis** Wkr. ♀: metallic green with purple and coppery scales. Proboscis moderately long. Palpi erect, all white in front, 3rd joint pointed, of one third of the length of the 2nd. Antennae gradually thickening. The scaled legs are rather long, tarsi beneath dingy white. Forewing purple black, dusted whitish and with white veins in the distal area. Hindwing with two black purple stripes proceeding from the base, a costal one, the other one at the inner margin. Fringes of all the wings purple. 28—30 mm. Nanta.
- ceres*. **S. ceres** Drc. Forewing black, greenish at the base, a small round spot below the cell near the anal angle and the hindwing hyaline, margins and fringes black. Head, palpi, thorax and abdomen black. Anal tuft black. Legs black, with yellow bands. 20 mm. Guatemala, Totonicapan, 3000 m.
- modesta*. **S. modesta** Btlr. All the wings hyaline, veins, distal margin and fringe blackish brown. Forewing with a rosy tinge, a dark green costal margin, a copper-brown inner margin, discoidal cell brown. Head blackish green, antennae above black, rusty brown below. Palpi scaled, with a black median line above. Eyes inwardly silvery white. Thorax purple blue above, steel-blue beneath strewn with gold-coloured scales. Femora of legs steel-green, tibiae of the first pair black outside, golden inside, of the second pair dark green with three golden spurs, of the hind pair above dark blue, with straw-coloured and purple bands with two golden middle and terminal spurs, tarsi black above, golden below. Abdomen above simply smooth, steel-blue, scaled beneath. Anal tuft golden. Wings beneath coppery golden at the margins. 17 mm. Espiritu Santo.
- hades*. **S. hades** Drc. All the wings unicoloured, lustrous bluish black, veins and distal margins dull black, beneath the same. Head, thorax and abdomen bluish black. Head beneath and prothorax white. 19—20 mm. Mexico: Teapa, Tabasco; in February.

S. proserpina *Drc.* Forewing lustrous blackish green. Hindwing dull black, at the base about one *proserpina*. third hyaline. Head, palpi and antennae black. Collar and thorax beneath reddish brown, thorax above and legs black. Abdomen absent. 19 mm. Guatemala, San Geronimo.

S. theobromae *Busck*, from the Isle of Trinidad, described in Bull. dept. agric. Trinidad 9 (1910) 1911. *theobromae*. The literature dealing with it was not obtainable.

S. gehleni *Coll. Closs*, Int. Ent. Zeitschr. 16, p. 118, ♂ (1922) is no *Aegeriida*, but a *Sphingida*. Bolivia. Wrongly *gehleni*, ranged in Lep. Catal. Junk. Vol. 31: *Aegeriidae*.

S. omphale *Say*. Amer. Ent. 2, p. 42, p. 19 fig. 5 (1825) is not an *Aegeriida*, but a *Syntomida*, which mistake is to *omphale*. be pardoned considering the state of entomology at that time. Wrongly ranged in Lep. Catal. Junk. Vol. 31: *Aegeriidae*.

5. Genus: **Dipsosphecia** *Spul.*

Proboscis stunted, otherwise very similar to *Synanthedon*; veins 11 and 12 of forewing towards the costal margin. Type: *D. ichneumoniformis* *F.* from Europe.

D. m llinipennis *Bsd.* (= *resplendens* *Hy. Edw.*, *artemisiae* *Hy. Edw.*, *senecioides* *Hy. Edw.*) (178 d). *mellinipennis*. ♂: head black, palpi golden yellow, collar in front golden yellow, antennae jet-black, slightly reddish below, thorax jet-black with a golden line on each side and a golden transverse band behind. Thorax beneath golden yellow. Abdomen black, the 2nd and the last 4 segments with a broad golden band. Anal tuft black, yellow beneath. Golden yellow legs with black bands on the tibiae. Forewing transparent, margins, cross-vein and veins brownish black with more or less copper red between the veins, especially somewhat behind the cross-vein outwardly. The wedge-shaped area and a spot behind the cross-vein remain transparent. Hindwings transparent with brown narrow distal margins, before them as well as the costa narrowly copper-red. ♀: similar to the ♂, the forewing mostly still more extensively red which sometimes warms into yellow. The last 3 segments broadly yellow. Anal tuft yellow, with a black spot in the middle. 22—27 mm. Sierra Nevada, California, Durango, Colorado. Regarding the early stages of the beautiful, rather variable insect, the larva is reported to live in the wood of *Ceanothus thyrsiflorus*. The pupa is to be found in the bark.

D. deipyla *Drc.* (176 h). Forewing golden yellow hyaline, costal margin and apex brown, apex striated *deipyla*. yellow, discal band brown, outwardly yellowish, inner margin yellow. Hindwing hyaline, veins and fringe black. Head and thorax black, patagia and posterior margin yellow, palpi yellow. Antennae black above, red-brown below excepting the tips. Abdomen black, all the segments margined with lemon-colour. Anal tuft black mixed with white. Beneath the abdomen is quite yellow. Legs pale yellow. 19 mm. Panama, Bugaba, at an altitude of 300—500 m.

D. telecta *Le Cerf* (176 h). Head black, with yellow hair behind. Face bronze-black, white before the *telecta*. eyes. Palpi reddish yellow, outside with a broad black line on the 2nd and 3rd joints. Antennae thick, black, yellowish outside. Collar bronze-coloured, oscillating. Thorax black, covered with fine grey hair, patagia broadly yellow, posterior margin with yellow hair, slightly spotted yellow beneath. Abdomen black, all the segments except the 1st margined with a bright yellow. Anal tuft black, mixed with yellow in the middle and laterally. Ventrums black, the margins of the 4th to 7th segments almost quite yellow. Legs bluish black with much yellow. Forewing with a yellow spot at the shoulder, margins and veins blackish brown, distal margin pale reddish like the anal margin, the discal vein exhibits an intense red shadow outwards, the hyaline areas are well developed. Hindwing transparent. Veins and margins blackish blue, the discal vein feebly reddish. 23 mm. Brazil, Caraca.

6. Genus: **Podosesia** *Mschlr.*

Palpi erect, extending to the height of the head, with long loose hair on the 1st and 2nd joints, the 3rd long and bare. Antennae gradually thickened towards the ends, but terminating pointedly, with ciliary tufts in the ♂, plainer and shorter in the ♀. Abdomen compressed at the base, anal tuft plain in both sexes. Hindlegs very long and set with short hairs. Forewing with 12 veins, 7 and 8 stalked. Hindwing with stalked veins 4 and 5, 7 and 8 very long, vein 1 a present, discocellular vein oblique. Type: *P. syringae* *Harris*.

P. syringae *Harris* (= *longipes* *Mschlr.*, *denudatum* *Osborne*) (176 g). Head black, palpi chestnut brown, *syringae*. black beneath. Collar chestnut brown. Antennae reddish, blackish above. Thorax deep brown, reddish at the margins. Abdomen black intermixed with reddish, sometimes with a small yellow spot, or even a yellow band, on each side of the 4th segment. Femora black, anterior pair of tibiae orange, tarsi yellow; middle and hind tibiae black with an orange band, tarsi yellow, the posterior pair above with a black margin. Forewing deep brown with a violet reflection, generally with a rusty red streak below the costa outwards. At the base there is a short transparent streak, edged with red at the costa and inner margin. Beneath faded yellow and orange. Hindwing yellowish transparent, with a blue reflection. veins and margins deep brown, sometimes warming into reddish. 25—36 mm. New England and Central States, to the west as far as Colorado, and to the south as far as Texas. — The ♀ deposits her eggs on rough or nodular places in the bark of ashes and Spanish lilac. The larvae, soon after emerging, penetrate into the sound wood, where they build long canals of 20—25 cm.

The pupation also takes place in these passages near the bark, of which a very thin cuticle remains. After a three weeks pupal stage the imago emerges in June, July.

fraxini. **P. fraxini** *Lugger* (177 g). Head black, face dingy whitish. Palpi dull orange mixed with black hairs. Collar red in front, yellow behind. Antennae reddish. Thorax blackish, edged with yellow laterally and behind. Abdomen black with posterior yellow segmental margins, the 4 last segments may occasionally be quite yellow, darker orange on the sides. Forewing yellowish brown, transparent at the base, where it is now and then spotted red, golden yellow beneath. Hindwing transparent, margin and veins yellowish brown, yellowish beneath. 25—35 mm. Montana, Dakota, Minnesota. Larvae in ashes or lilac, like the *syringae*.

comes. **P. comes** *Heinr.* Antennae above black, nut-brown inside, rather densely scaled yellow outwards, basal joint whitish yellow. Palpi black, yellowish white above. Head black, collar yellow above, white and black laterally. Thorax black, yellow laterally below, patagia feebly yellow, a yellow triangular spot on each side of the metathorax. Forewing transparent, costa black with little orange, discoidal vein orange, the veins black with little orange, distal area orange, striped black along the veins, fringe black. Hindwing transparent, veins black, costa orange, especially beneath, fringe black. Abdomen black, the segments 2, 3, 5, 6 and 7 with a narrow yellow band, of which only the fourth extends also beneath. Anal tuft black and yellow. Legs bluish black, anterior coxae laterally yellow, the insides of the tibiae and tarsi with white and yellow scales, the spurs of the hind tibiae white. The ♀ has only 4 yellow abdominal bands, the anal tuft above quite yellow, laterally black. 16—19 mm. Brush Corral, Arizona. Larva in wood-galls on white oak.

7. Genus: **Gaea** *Beut.*

Palpi rather short, stretched, scarcely rising, thickly covered with short hair, the last third bare. Male antennae not very long pectinated, female antennae not pectinated. Hind tibiae above with short hair. Forewing with 11 veins, 7 and 8 stalked. Hindwing little rounded, almost triangular, cross-vein very oblique, vein 2 from the cell, 4 and 5 from the angle of the cell. Tongue stunted. Abdomen cylindrical with a smooth straight anal tuft. Type: *G. solituda* *Hy. Edw.*

emphytiformis. **G. emphytiformis** *Wkr.* (176 g). ♂: head in front whitish. Palpi and collar orange. Thorax purple brown with a yellow shoulder-spot, abdomen blackish brown with a yellow ring on each segment. Anal tuft black with few yellow hairs. Legs red with yellow traces, femora black, tibiae with black stripes. Wings purple copper-coloured. Forewing yellow, partly red in the disc, interrupted by the discal spot. Hindwing slightly mixed with red, transparent near the base. ♀: head in front dingy white, palpi and collar orange. Antennae dull orange with blackish tips. Abdomen behind with yellow bands on the 2nd, 4th and 6th segments and traces on the 5th segment; the 4th extends down to the under surface, anal tuft orange, black beneath and laterally. Legs orange, femora blackish. Forewing purple brown with a red spot in the cell and a few streaks of the same colour above the discal spot between the veins, some red being also at the base of the inner margin. Hindwing purple brown, transparent from the base to the middle, red at the inner margin, especially towards the base and at the costa. Under surface dusted reddish. ♂ 21 mm, ♀ 18 mm. United States; habitat not mentioned.

solituda. **G. solituda** *Hy. Edw.* (176 g). Head and thorax brownish, with yellow lateral stripes. Collar, face and palpi dull yellow. Antennae dingy brown, orange in the middle. Forelegs and middle legs yellow and orange. Hindlegs orange with a broad yellow margin at the tibiae. Abdomen brownish with 6 broad pale yellow orange bands, the 4th extending around the abdomen. Anal tuft black, yellow in the middle. Forewing dark brown with a red and yellow shadow from the base along the inner margin, another shadow above it to the cell, the discal mark remains dark, the distal area is lighter again, though the veins remain dark here. Hindwing transparent at the base, the distal parts of the wing are yellow and orange with dark veins, all the fringes brown. All the wings beneath brighter yellow and orange with dark veins. ♂ 28 mm, ♀ 32 mm. Texas and Kansas.

arizonensis. **G. arizonensis** *Beut.* Forewing yellowish orange red, brownish between the veins, all the veins dark brown, discal mark dark brown, edged with reddish orange. Hindwing transparent, veins brown, distal margin reddish orange, fringe brown; forewing beneath with still more extensive orange. Head black, palpi yellow. Antennae reddish orange, brownish towards the ends. Abdomen brownish black with a broad yellow band on the posterior margin of each segment, except the 4th, the posterior 3 bands broader than the anterior ones. Anal tuft lemon-coloured. All the segments beneath with yellow bands. Forelegs yellow, joints and femora black, the other legs are absent. 25 mm. Only 1 ♀. Pinal Mts., Arizona.

palmi. **G. palmi** *B. & McD.* (♀ = [*Synanthedon*] *palmii* *Beut.*). ♂: antennae strongly serrated. Palpi rather long and pointed, white beneath, the 3rd joint reddish. Head white mixed with ochreous. Thorax black with a pale ochreous central stripe and two lateral stripes. Abdomen greyish ochreous, anal tuft black, laterally ochreous. Legs dingy ochreous, coxae blackish. Forewing smoke-coloured with an orange shade, a thick black discal spot follows upon an orange spot which may also occur splash-like beyond the discal spot, fringe dark, hindwing orange at the base, broadly dusted smoky outside, a narrow discal spot and the fringe dark.

Forewing beneath with more prominent orange colour. ♀: head and palpi dark brown. Collar slightly mixed with white. Antennae brownish black with a blue reflection. Thorax bluish black with a broad white stripe on each side. Abdomen dark brown with a blue reflection and a broad white band at the posterior margin of the 2nd segment. Anal tuft dark brown with a white stripe on each side. Body beneath quite brown like the legs. Anal tuft beneath with two short white stripes not extending to the end. Forewing brown with a purple reflection and a small white spot at the cell-end. Hindwing quite brown. Beneath as above, forewing whitish along the costa. 28—30 mm. At the beginning of October. Arizona. Larva in a composite: "burrobush". — Thus a particularly strong sexual dimorphism prevails in this species.

8. Genus: **Euhagena** Hy. Edw.

Palpi slightly erected, the 1st and 2nd joints below covered with long hair, the 3rd joint long and hairless. Head, thorax, femora and tibia with long hairs. Antennae uniformly thick with very long combs in the ♂, plainer in the ♀. Tongue absent. Abdomen with appressed hair. Anal tuft like a flat fan in the ♂, small and inconspicuous in the ♀. Forewing with 12 veins, 7 and 8 stalked. Hindwing with vein 2 from the cell, 4 and 5 from the angle of the cell, veins 7 and 8 faded, discocellular very oblique. Type: *E. nebraskae* Hy. Edw.

E. nebraskae Hy. Edw. (= *coloradensis* Beut.) (176 h). Head black, face and palpi white, palpi below with long black hair. Thorax velvety black with traces of whitish hairs. Abdomen deep black with silvery white rings at the posterior margins of the 2nd, 4th, 6th and 7th segments, not extending around the abdomen. Anal tuft black. Legs black, tarsi marked white. Forewing deep orange changing to cold bluish, costal and distal margins black. Discal mark oblique, black. Hindwing of the same colouring interspersed with black. Fringes of all the wings brown. ♂ and ♀: 17—26 mm. Nebraska and Colorado; October. This peculiar *Sesia* is easily noticed by its extreme colouring. *nebraskae*.

9. Genus: **Chamanthedon** Le Cerf.

Smaller lepidoptera of a slender shape. Head small, the 3rd palpal joint short and pointed. Proboscis entirely stunted. Body slender, long, laterally slightly compressed, anal tuft normal. Wings long and narrow. Forewing: 1 a rudimentary, not forked at the base, 2 arises at the interior angle of the cell, 3 from it, 7 and 8 stalked on $\frac{1}{3}$ of their length, 9 from the anterior angle of the cell, 10 absent, 11 withdraws from 9 at the base. Hindwing: 1 a obsolete, 2 before the cell-angle, 3 and 4 from the latter, stalked on $\frac{1}{5}$ of their length, 5 from the cell, 6 from the anterior angle, 7 absent. Type: *Ch. hypochroma* Le Cerf (Vol. X, pl. 94 b) from Burma.

C. gaudens Rothsch. (177 g). ♂: Legs purple brown. Palpi and a spot below the eyes scarlet. Antennae black, head and thorax purple, collar and the broad margin of the thorax scarlet. Abdomen brownish black, basal segment scarlet, anal tuft reddish brown. Forewing bright purple, a scarlet band beyond the cell, followed by a transparent one, $\frac{1}{5}$ as far as the distal margin scarlet orange, fringe brown. Hindwing from the base about $\frac{3}{5}$ transparent, the rest as far as the margin purple brown. 22 mm. Rio Grande do Sul, Brazil. *gaudens*.

C. aurantiibasis Rothsch. (177 g). Legs and palpi orange. Head black, antennae brown. Thorax blackish brown with two blue spots, the sides brick-red. Abdomen brick-red, anal tuft wood-brown. Forewing: basal third brick-red, median semitransparent, a broad brown band at the cell-end with a brick-red centre, the area towards the distal margin pale wood-brown. Hindwing transparent with a reddish brown margin. 18 mm. Marcapata. Eastern Peru, 1200 m. *aurantiibasis*.

10. Genus: **Pyropteron** Newm.

In 1835, NEWMAN described this genus for *chrysidiformis* Esp. from Europe, apparently considering the peculiar red colouring more than morphological characters; the latter are so insignificant that they are difficult to distinguish from the following genus *Chamaesphecia*. The authors to-day generally comprise *chrysidiformis* and its allies with the other species of the genus *Chamaesphecia*; we bring the genus only because we follow the classification in JUNK's Catalogue, where also the subsequent species is enumerated.

P. chrysomelaena Le Cerf (176 h). Head blackish purple, face glossy white. Palpi golden yellow, the 3rd joint rather long. Antennae above black, reddish beneath, yellow at the base. Collar golden yellow, thorax purple black, metathorax above, pectoral sides below with two golden yellow spots. Abdomen black, the 1st segment quite golden yellow, the 2nd laterally, and the posterior margins of the 5th, 6th and 7th segments also golden yellow. Anal tuft trilobate, black, laterally golden yellow. Ventrums black, the first segment golden yellow. Legs predominantly bright golden yellow, the ends of the tibiae black. Forewing transparent, margins, veins, discal vein black, distal area rather broad, the distal hyaline area almost quadrangular, crossed by five veins; this area is dusted yellow beneath. Hindwing transparent, veins and margins black, base and anal margin golden yellow. Fringes of all the wings purple black. 17 mm. Brazil, Rio de Janeiro. 1 ♂. *chrysomelaena*.

11. Genus: **Chamaesphecia** *Spul.*

Chiefly separated from *Synanthedon* by the neurulation of the wings. Veins 10 and 11 of forewing are confluent towards the margin and generally fused already in the last third, vein 1 is only preserved in the basal part, the remainder being only indicated by an elevation of the wing-membrane. The interior branch of the inner-marginal vein disappears very soon; veins 3 and 4 arise on a common short stalk. Most of the species have a strongly developed tongue.

minima. **Ch. minima** *Le Cerf* (176 h) is one of the smallest *Aegeriidae* hitherto known. Head blackish blue, laterally whitish, face and palpi white. Antennae black, white before the tips. Collar, thorax and abdomen blackish blue. Anal tuft somewhat darker, ventrum brownish bronze, the last segment laterally white. Legs white marked with brownish bronze. Forewing transparent, margins and veins brownish bronze, the costa beneath whitish. Hindwing transparent, veins and margins as well as the fringes of all the wings brownish bronze. 9.5 mm. Bogota; February. 1 ♂.

pluto. **Ch. pluto** *sp. n.* (176 i). Antennae, head and thorax black, orbita white. Palpi black strewn with few white scales, appearing grey. Abdomen black, a white lateral line begins narrow on the first segment, widening rather much in the middle and ending narrow again on the last segment; easily discernible from any other species by this line. Legs black, posterior tarsi slightly ringed black and white. Forewing black with a very indistinct wedge-area and a small distal area, crossed by three veins. Hindwing hyaline, veins and margins as well as the rather long fringes of all the wings black. On the under surface the abdomen is brownish black, the costal margin of the forewing dingy yellow, the distal area grey, crossed by black veins. Evidently allied to "*Syn.*" *hispidus* *Druce*. 22 mm. 1 ♀. March. Brazil, Minas, Araguay, leg. Prof. SEITZ. Type: Senckenberg Museum.

aurata. **Ch. aurata** *Hy. Edw.* is a doubtful animal; it is said to be like the European *Ch. annellata* *Z.* (Vol. II. pl. 51 g). It was either imported or the label was exchanged. Panama.

penthetria. **Ch. penthetria** *sp. n.* (176 i). Antennae, palpi, head and thorax black. Abdomen black, bluish black beneath. Anal tuft black, two narrow oblong lateral appendages of a bright golden yellow. Legs black, hind tibiae rather strongly haired. Forewing black, fringe oscillating. Hindwing transparent, veins and fringe black. 22 mm. Brazil, Ypiranga. April. ♀ collected by Prof. SEITZ. Type: Senckenberg Museum.

12. Genus: **Conopia** *Hbn.*

Head small, palpi short and straight. Antennae club-shaped, pointed towards the end. Abdomen slender. Posterior fomora with short hair. Forewing with 12 veins, 7 and 8 stalked. Hindwing pointed at the apex, veins 4 and 6 stalked, 7 and 8 absent. Type: *C. praecedens* *Hy. Edw.*

praecedens. **C. praecedens** *Hy. Edw.* (176 i). Head and thorax brownish black, the latter with red stripes on each side. Antennae orange with black tips. Abdomen black, with a few red scales laterally, the last 3 segments and the anal tuft beautifully lemon-coloured. Legs reddish orange with a broad black band on the tibiae, posterior tarsi lemon-coloured. Forewing brown with a narrow transparent streak which turns reddish, ending in the centre of the wing. Hindwing brown, transparent at the base. Both wings beneath striped red and yellow. 30 mm. North Carolina. It was described as *Palmia*.

sequoiae. **C. sequoiae** *Hy. Edw.* (= *superba* *Hy. Edw.*, *pinorum* *Behr*) (176 i). Head black, palpi yellow, outside black, collar yellow, antennae black. Thorax black with a very narrow yellow lateral line widening behind, adjoining a yellow transverse streak. Abdomen black, all the segments, except the 1st and 3rd, with lemon-coloured rings above and below. Anal tuft black, yellow beneath. Legs yellow and black, anterior coxae yellow, femora black outwards, tibiae yellow, tarsi yellow with black bands. Forewing transparent with very narrow black margins and discal mark. Hindwing with narrow black margins, inner margin yellowish. 24 to 30 mm. California (Mendocino Co) and Washington. — Larva in old trees of *Sequoia sempervirens*, *Pinus ponderosus*, *Pinus lambertina*; it does much harm to the forests of Mendocino County, California. The eggs are deposited in the nooks of twigs, the larva works itself in curved passages into the twigs and trunks, which is indicated by excretions of resin on the attacked parts of the tree. As the insect is not rare, the destructions may often be rather considerable. The larva often spins a cocoon already in December and January; the imago appears chiefly in June and July.

exitiosa. **C. exitiosa** *Say* (= *persica* *Thom.*, *pepsidiformis* *Hbn.*, *xiphiaeformis* *Bsd.*) (177 g). ♂: head blackish steel-blue, yellow between the eyes. Palpi yellow beneath, black above. Collar yellow in front. Antennae black. Thorax deep steel-blue with yellow patagia and a posterior yellow transverse blotch, a yellow spot at the base of the forewing beneath. Abdomen blackish steel-blue with narrow yellow rings on the front sides of the segments; these rings may sometimes also disappear. Anal tufts black, laterally whitish. Legs steel-blue, tibiae with yellow spots, tarsi yellow beneath, anterior coxae yellow. Forewing transparent, opalescent

with narrow black margins and a similar discal mark, the posterior margins strewn with yellow; the yellow predominates more beneath. Hindwing transparent, distal margins blackish blue, costal margin yellowish. ♀ very different from the ♂. Head, antennae, palpi, thorax and legs deep blackish blue, abdomen the same, the 4th segment quite reddish orange, traces of red may also occur on the 5th segment. Forewing deep bluish black or violettish black. Hindwing transparent, blackish blue near the base, the not very narrow margins and fringe likewise blackish blue. 18—32 mm. Canada, Maine to Florida and Texas, to the west as far as the Rocky Mts. This so-called “peachtree-borer” is one of the best known and most hated insects of the United States. — The eggs are deposited on the trunk near the soil. The larva lives underneath the bark and produces gummous secretions; it pupates in a cocoon spun of wood-remnants and clods of mud. The imago appears already in April in the south, the farther to the north the later, until October; it chiefly appears in June and July. The wild cherry seems to have been its original food-plant, from which it passed over to the cultivated plants; peach-trees are most preferably attacked, besides plums, almonds, apricot-plums, spore-apples (*Amelanchier canadensis*) and beach-plums. — ab. *fitchii* Hy. Edw. is the ♀ form exhibiting, like the type form, *fitchii*, the 4th segment reddish orange and the space between the two interior veins dusted over with black, so that the transparent part of the wings is cut in two parts. — ab. *edwardsii* Beut. is like the preceding form, but the *edwardsii*, 5th segment is also reddish orange. — var. *luminosa* Neum. ♂: like the type form, but the margins of the *luminosa*, wings are densely covered with yellow scales, owing to which the insect looks very peculiar.

C. opalescens Hy. Edw. (= *pacifica* Riley) (177 h). ♂: head, thorax and abdomen black. Legs black *opalescens*, with white tufts. Forewing transparent with black margins, cross-vein and distal margin broad. Hindwing transparent with black margins; beneath the same. ♀: head, thorax abdomen and legs blackish bronze. Forewing metallic greenish black. Hindwing transparent opalescent, distal margins and fringe metallic bluish black or greenish black; under surface the same. 25—34 mm. Nevada, California, Washington, Oregon. May, June. — The larva lives like *exitiosa* in the trunk and roots of peach, cherry and apricot and may occasionally also do much harm.

C. graefi Hy. Edw. (177 h). ♂: head black. Palpi yellow beneath, black above. Collar in front edged *graefi*, with yellow. Antennae black. Thorax bluish black with a very narrow yellow line on the patagia and the posterior part. Abdomen bluish black with narrow pale yellow rings on each segment. Anal tuft white. Legs bluish black with yellowish tufts. Forewing transparent opalescent, with a narrow costal and inner margin, the latter scaled yellow, but with a broad black distal margin and a similar cross-vein. Under surface dusted yellow. Hindwing transparent with a narrow violet margin and cross-vein. ♀: head, palpi, antennae, legs and thorax quite black, sometimes violettish black, abdomen quite black, forewing deep violettish black or greenish black with traces of a darker discal mark. Hindwing transparent with a narrow violet margin and cross-vein, sometimes the cell slightly scaled black. 22—28 mm. Colorado, Nevada, Washington. July, August. — Larva in spring in the roots of wild cherry. — var. *barnesii* Beut. (177 h). Like the type form, but the 4th segment is *barnesii*, orange, by which it resembles the ♀ of *exitiosa* (177 g). 28 mm. Colorado.

C. peruviana Rothsch. (177 h). ♀: legs and under surface of body golden yellow. Head, palpi and an- *peruviana*, tennae black. Thorax black with golden yellow margins. The first 4 abdominal segments above black, laterally golden yellow, segments 5 and 6 golden, the rest black. Forewing yellowish hyaline, veins, inner margin and discocellular band golden yellow, the remaining quarter black. Hindwing yellowish hyaline. Veins, anal margin golden yellow, the rest of the margin black. Marcapata, Eastern Peru. 1200 m.

C. angarodes Meyr. Head bluish black, orbita white. Antennae black. Palpi black, white beneath. *angarodes*, Thorax purple black, a reddish orange stripe on each side, sternum orange on each side. Abdomen bluish black, striped white beneath. Anal tuft long, purple. Wings hyaline, veins black, fringe brownish. Forewing with a bluish black costal streak, cross-vein black, a broad black distal margin, slightly yellowish ochreous in front. Hindwing with a colourless cross-vein and black margins. 20 mm. Manaos, Brazil. November. 1 ♂.

C. xanthomelanina sp. n. (178 e). Antennae yellowish brown, clubs black. Head, thorax, abdomen *xanthomela-* brownish black, anal tuft black in both sexes, in the ♂ laterally and beneath with traces of yellow. Palpi and *nina*, collar yellow, silvery white before the eyes. The 1st and 5th abdominal segments in the ♂ very finely margined with yellow, the ring of the 5th extending all around the body; the ♀ with traces of rings, but distinctly discernible on the 4th segment. Legs chiefly yellow, the forelegs darker, the ends of the hind tibiae black. Forewing transparent, margins and veins brownish black, in the ♂ with a moderately broad distal margin which is very broad in the ♀ so that the distal area is only narrow, traversed by 4 veins, anal margin in both sexes broadly yellow like the broad discal vein which is finely edged with dark outside and inside, by which it is easily distinguishable from many other species. Hindwing transparent, veins and margins blackish brown, fringes of all the wings yellowish brown. 21 mm. 1 couple. Itatiaya, Brazil, December, January. Type: Coll. MARTEN.

xanthonympha. **C. xanthonympha** *Meyr.* Head and thorax yellow. Face laterally white. Palpi yellow. Antennae black, yellow below. Abdomen yellow, segments black without the margins. Anal tuft orange with a black central spot. Wings hyaline, veins black, fringe yellowish, with brownish basal and apical shadows; forewing with a black costal streak, a yellowish anal margin, a black cross-vein distally edged with yellow, a black distal margin, yellow before it, traversed by the dark veins. Costal margin of hindwing yellow, the following veins yellow, cross-vein colourless. Hind tibiae yellow with a black lower apical spot, tarsi blackish with yellow scales at the end of the 1st joint. 17 mm. Parà, Brazil. June. 1 ♀.

dasyproctos. **C. dasyproctos** *sp. n.* (178 d) is allied to *xanthonympha* *Meyr.* Antennae black, pale yellow below, base intensely yellow, a metallic violettish blue gloss between. Palpi, pectus and anterior coxae yellow; edged white before the eyes. Head and thorax black, the latter with three yellow longitudinal stripes. Abdomen above and beneath pale golden yellow, warming into brownish, darker at the base; the last joints are fusiformly compressed, passing over into the broad and strong dingy yellow anal tuft which, seen from the side, appears to be obliquely cut off from in front to behind. Legs quite yellow. The wings as in *xanthonympha*, the distal area of the forewing slightly, but especially the wedge-area from the discal vein towards the base provided with a distinct dark shadow. 20 mm. Brazil, Bahia. Type: Berlin Zool. Museum.

rotaria. **C. votaria** *Meyr.* Head and thorax greenish blue, iridescent. Face and orbita white. Palpi yellowish, dark brownish at the end. Antennae purple black. Abdomen dark indigo blue, base whitish, posterior margins of segments 5 and 7, sometimes also of 6, white, all the segments beneath more or less margined with white, anal tuft deep purple, mixed with white at the beginning on each side. Wings hyaline, veins black, fringe dark brown, cross-vein purple black, the rather broad distal margin also purple black. Hindwing with a colourless cross-vein, a narrow dark brown streak growing thicker towards the apex. Forewing beneath speckled whitish at the apical spot. Parà, Brazil. January, June, July. Only ♂♂ are known.

scarabitis. **C. scarabitis** *Meyr.* (178 e). Head and thorax dark blue, collar yellow. Palpi black, whitish in front. Antennae black. Abdomen blackish green, anal tuft dark blue. Wings hyaline, veins black, fringe dark brown. Hindwing with black veins and margins, cross-vein colourless. 14 mm. 1 ♂. Peru, Jurimaguas. March.

13. Genus: **Ichneumenoptera** *Hmps.*

Palpi relatively short and straight. Antennae long and plain. Legs bare. Abdomen longer than in *Conopia*. Forewing without vein 2, the fork of 7 and 8 is shorter. Veins 3 and 4 of hindwing stalked, 6 arises near the upper angle of the cell. On the whole very similar to *Conopia*, but the abdomen and anal tuft are always longer. Type: *I. auripes* *Hmps.* (Vol. X, pl. 94 d) from Asia.

caeruleifascia. **I. caeruleifascia** *Rothsch.* (178 e). Legs steel-blue, anterior tarsi white, hair-tufts of the posterior tibiae and the first half of the tarsi steel-blue, edged with white. Palpi white. Antennae, head, thorax and abdomen steel-blue, discal band bright metallic blue. Hindwing whitish hyaline, margins and a broad discocellular spot steel-blue. 25 mm. Marcapata (Eastern Peru). 1200 m.

14. Genus: **Leptaegeria** *Le Cerf.*

The 2nd and 3rd joints of the palpi very long. Antennae thick and short, finely and shortly dentate. Proboscis normally developed. Body long, cylindrical. Legs long and neat, not with projecting hair. Anal tuft composed of two straight and oblong brushes. Forewing long and narrow, veins 2 and 3 are close together at their origin, 7 and 8 are stalked on half their length. Hindwing oval, without a very prominent anal lobe. Veins 3 and 4 on a short stalk, 7 absent. Type: *L. flavocastanea* *Le Cerf.*

flavocastanea. **L. flavocastanea** *Le Cerf* (178 e). Head brown, bright, mixed with yellow in front, edged with white around the eyes. Palpi yellow with a small black spot at the base. Antennae blackish brown, reddish yellow near the base below. Collar brownish bronze. Thorax chestnut brown, patagia yellow, metathorax yellow above and beneath. Abdomen chestnut brown, darker towards the end, turning almost blackish bronze, 1st segment broadly yellow, whitish beneath. Anal tuft dark. Legs quite yellow except the hind tibiae which exhibit one red-brown spot each at the end. Forewing transparent, the margins, veins and discal vein brownish bronze, the distal area dusted with the same colour. Hindwing transparent, veins and margins brownish bronze, fringes of all the wings greyish brown. 22 mm. Bolivia: Cochabamba. Only 1 ♀ is known.

axiomnemonauta. **L. axiomnemonauta** *sp. n.* (178 e). Antennae dark rusty brown. Head, thorax and abdomen deep brownish black, almost black. Palpi light yellowish grey, the 2nd joint below with light grey hair. Legs from light ochreous to golden yellow, the coxae blackish brown, the hind tibiae with a small faded dark brown spot outside at the end. The penultimate abdominal segment exhibits a fine silvery grey ring continued beneath in a broad spot. Anal tuft enormously developed; seen from the side, it is obliquely cut off from above to below; with grey hair in the middle, otherwise brownish black, of more than half the length of the abdomen. Forewing

rusty brown, costal part darker, an oblong spot at the anal angle hyaline. Hindwing hyaline, veins and margins brownish black. Fringe lighter greyish brown. 32 mm. Bolivia: Rio Songo (Yungas), 1200 m. 1 ♀. Type: Berlin Zool. Museum.

L. cillutincariensis *sp. n.* (178 f) at first sight resembles *Aegerina vignae* Busck., but it has normally developed palpi and a different neurulation, owing to which it is placed to *Leptaegeria*. Antennae, head, palpi and thorax black, a silvery white spot before the eyes. Thoracal marking not discernible. Abdomen black, the 2nd to 6th segments finely margined with light yellow behind, closing together on the ventrum, where the 2nd and 4th become broader. Anal tuft black. Legs blackish brown, tarsi lighter. Forewing transparent, margins light brown, veins blackish brown, a dark semihyaline apical shadow, the narrow discal vein bordered outwardly with reddish orange. Hindwing transparent, veins and margins, as well as the fringes of all the wings brownish grey 28 mm. Bolivia, Cillutincara, 3000 m. January. Type: Berlin Zool. Museum.

15. Genus: **Osminia** *Le Cerf*.

Head slightly broader than the thorax. Palpi oblong, hairy, but not projecting, the 3rd joint very small. Proboscis well developed. Antennae long and thick, plain. Body strong and long, terminating into a large bipartite anal tuft. Legs middle-sized, the posterior ones shorter than the abdomen. Forewing straight, slightly roundish at the apex, vein 2 arises before the interior angle, 3 from the latter, nearer and parallel to 2, 4 at the base very near to 5, 7 and 8 stalked on half their length, 9 from the anterior angle of the cell, 10 and 11 distant from the base, confluent at $\frac{1}{4}$ of their course. Hindwing broad and round, vein 1 fine and short, 2 arises at $\frac{3}{4}$ from the radial vein, 3 and 4 from the interior angle of the cell, stalked on $\frac{1}{5}$ of their length, 5 from the angle of the cell, 7 absent. Type: *O. ferruginea* *Le Cerf*.

A. ferruginea *Le Cerf* (178 f). Head black, mixed with iron brown and white, palpi black, whitish in front. Antennae black above, brownish beneath. Collar iron brown. Thorax black with fine brown scales. Abdomen purple black above, with a brownish tinge; the margins of the segments very bright, a pale yellow spot on the 4th segment and one at the base of the 5th. Anal tuft strong and broad, almost quadrangular, brownish above, almost black beneath. Legs black and brown. Forewing transparent, costa, anal margin, veins and discal vein steel-black, distal area traversed by 4 veins. Hindwing transparent, with a slight blue reflection, veins and margins purple black. Fringes of all the wings bronze black. 25 mm. Mexico. Region de Cordoba. Only 1 ♂.

16. Genus: **Stenosphaecia** *Le Cerf*.

Head of medium size, convex. Palpi long, the 3rd joint longer than half of the 2nd, proboscis well developed. Body strong; abdomen cylindrical, more than twice as long as the thorax. Legs middle-strong, the posterior ones not longer than the abdomen. Wings long and broad; vein 1 of forewing well developed, not divided at the base, 2 very close to the origin of 3, 4 nearer to 5 than to 3, 7 and 8 stalked on $\frac{2}{3}$ of their length, 9 from the anterior angle of the cell, 10 and 11 divided at the base, united at about $\frac{1}{3}$ of their length, then divided again in their last third. Hindwing: vein 1 very fine, 2 a little before the interior angle of the cell, 3 and 4 from that angle and stalked on $\frac{1}{5}$ of their length, 5 from the cell, 6 absent, 7 from the anterior angle of the cell. Type: *S. columbica* *Le Cerf*.

S. columbica *Le Cerf* (180 f). Head brownish black. Palpi bronze brown, with much white above and outside. Antennae bronze brown. Collar, thorax and abdomen bronze brown, abdomen lighter beneath; anal tuft brown. Legs quite bronze brown, tarsi whitish inside. Forewing bronze brown at the base and on the very broad discocellular streak, the three hyaline areas very small, the exterior one twice higher than broad, traversed by 4 veins, the distal margin broad and less scaled. Hindwing transparent, the thick discal streak, the margins and veins bronze brown, fringes of all the wings greyish bronze. 30 mm. Colombia, Santa Fé de Bogota. The type is a ♀.

17. Genus: **Teleosphaecia** *Le Cerf*.

Head small and round. Palpi twice longer than the head. The 2nd joint twice longer than the 1st and 3rd together, the last pointed and directed upward. Antennae fine. Proboscis well developed. Wings completely covered with semitransparent scales. Legs medium sized. Anal tuft short and straight. Forewing long and broad, veins 7 and 8 stalked on half their length, 10 absent. Hindwing oval, discal vein very slanting, vein 1 rudimentary, 2 near the interior angle of the cell, 3 and 4 on a short stalk from that angle, 7 absent, 8 near the cell at the base and withdrawing much from 6. Type: *T. bibio* *Le Cerf*.

T. bibio *Le Cerf* (178 f) is a small peculiar species easily discernible by the unicoloured dull brownish black colouring. Head black, traces of yellow hairs in the neck, white before the eyes. Palpi black, 1st joint white beneath. Collar, thorax and abdomen above and beneath bronze black except the last segment which is slightly scaled white. Legs black. Forewing semitransparently covered with small brownish black scales, hindwing the same except the basal region remaining hyaline. Fringe black. 21 mm. Bolivia, Cochabamba, 1 ♀.

unicolor.

T. unicolor Wkr. ♂: head black, slender. Palpi whitish beneath. Antennae not provided with hooks, smooth. Abdomen slender, more than thrice as long as the thorax. Anal tuft quadrangular. Hindlegs strong, spurs very long. Wings narrow, strewn with dark green scales, a narrow discal vein. 18 mm. Ega.

18. Genus: **Sannina** Wkr.

Palpi erect, covered with scales not with hair as far as the height of the head, the 3rd joint long. Antennae long, filiform. Hind and middle tibiae covered with short hair. Last segment of the male abdomen with four long divaricating brushes proceeding from the base, and a fifth long one at the end of the segment. Veins 7 and 8 of forewing stalked. 7 and 8 of hindwing short. Type: *S. uroceriformis* Wkr.

uroceriformis.

S. uroceriformis Wkr. (= *uroceripennis* Bsd., *quinquecaudata* Ridings) (178 f). Head, palpi and antennae deep bluish black. Thorax deep bluish black with a red lateral stripe. Under surface and legs woolly bluish black, the 4th segment more rarely, the 5th and 6th above deep orange red, in the ♀ only the 4th segment. The anal tufts bluish black, absent in the ♀. Forewing unicoloured bluish black, hindwing the same, though with a narrow hyaline area at the base. 18—32 mm. From Virginia to Florida, to the west as far as Kansas and Montana. Larva in the roots of the date-plum, 40—50 cm underneath the soil.

verruugo.

S. verrugo Drc. (178 f). Forewing dark reddish orange, black at the base and apex, fringe of the distal margin broad and black. Hindwing somewhat lighter orange, slightly hyaline, fringe black from the apex to the anal angle. Head, thorax, abdomen, palpi, antennae and legs glossy black. 38 mm. Mexico, Esperanza. ENGELHARDT presumes *verruugo* to be the ♀ of *Alcathoe korites*.

cryptiformis.

S. cryptiformis Wkr. Black, head behind with yellow hair. Antennae filiform, dentate below, very much longer than the thorax. Tibiae with brownish yellow spurs. Wings transparent with black purple fringes. Distal margin of forewing brown, costa and transverse band purple black. 20 mm. Patria uncertain, presumably South America. The type is a ♂. Not being mentioned in any fauna, it is quoted here.

19. Genus: **Sphecia** Hbn.

Separated from *Aegeria* by the invariably present tongue and veins 4 and 5 of hindwing being always stalked. Hind tibiae longer and stronger haired than in *Aegeria*. Type: *S. crabroniformis* Lewin from Europe.

pacifica.

S. pacifica Hy. Edw. (= *californicum* Neum.) (178 g). Head black. Palpi yellow. Antennae brownish black, lighter beneath. Legs yellow. Thorax deep brown, in front with a yellow line on each side, angularly extending hindward. A few black and yellow hairs between the thorax and abdomen, the shoulder-spot at the origin of the forewing is likewise yellow. The 1st and 2nd abdominal segments blackish, the 2nd yellowish in front, the others beautifully yellow, the 3rd narrowly black in front, the 3rd and 4th dusted over darker, though the yellow is well visible. Under surface quite yellow. Wings transparent, narrowly margined with brownish orange like the discal mark of the forewing. 25—40 mm. Nevada, Montana, California and Washington.

tibialis.

S. tibialis Harris (= *flavitibia* Wkr., *minimum* Neum.) (178 g). ♂: head black, orbita, sides, and palpi yellow. Antennae black. Thorax brownish black with a very narrow yellow line on each side, passing over behind into yellow hair-tufts. A yellow dot at the base of the forewing. The 1st abdominal segment black, more or less broadly yellow behind, the 2nd quite black, the 3rd black, yellow behind, the 4th quite blackish brown, the others blackish brown with posterior yellow rings. Anal tuft black and yellow. Legs yellow mixed with brown. Forewing transparent, veins, discal mark and margins brownish orange or also deep blackish brown. Hindwing transparent, otherwise like the forewing. ♀: stronger than the ♂, the yellow markings more intense, the yellow lateral lines on the thorax bend round in front forming an angle, so that they meet the yellow spot at the base of the forewings. The 1st to 4th abdominal segments as in the ♂, the last three segments mostly quite golden yellow, the 5th and 6th half yellow, half brown; beneath yellow with narrow brownish black bands, except the last segment or also the two last segments which are quite yellow. 30—40 mm. Canada, New England, New York, British Columbia, Vancouver, Colorado and California; July, August. — The larva lives in

dyari.
anonyma.

the trunks of willows and poplars. — ab. ♀ **dyari** Cock. Thorax brownish black, lateral lines in front very broad, then very narrow, the posterior dorsal spot very broadly yellow. — var. **anonyma** Strd. (178 g). Abdomen with more yellow, especially the last 3 segments almost entirely yellow. The 1st segment black, the 2nd black, narrowly yellow at the base, the 3rd yellow, narrowly black at the apex, the 4th black, narrowly margined with yellow at the base, the 5th and 6th yellow, narrowly black at the apex; apex of abdomen cinnamon brown. Las Vegas, New Mexico. Beginning of July.

dasypodiformis.

S. dasypodiformis Wkr. ♂: black. Palpi yellow beneath, red at the apex. Antennae with black dents. Prothorax with a yellow margin. Abdominal segments with yellow bands. Legs dingy yellow, femora mostly black, hind tibiae more thickly covered with hair than in the European species. Wings transparent, fringes

short, blackish coppery, veins rust-coloured; forewing purple black along the costa, the fork of the 2nd upper vein shorter than in *apiformis*. 30 mm. Presumably Central and South America.

S. championi Drc. (178 h). ♂: all the wings hyaline, costal and inner margins black. Discal vein outwardly reddish yellow, the exterior hyaline area and the whole hindwing golden yellow hyaline, fringe and veins black. Palpi yellow beneath, reddish at the tips. Antennae red-brown. Thorax black, collar and tegulae yellowish. Abdomen black, segments with yellow bands. Legs reddish yellow. ♀: similar to ♂, but the forewing dark brown except an area at the anal angle remaining hyaline. 32–38 mm. Guatemala, near the town. *championi*.

20. Genus: **Aegerina** Le Cerf.

Head small, slightly convex. Palpi erect, the two last joints long and densely haired. Proboscis well developed. Antennae rather short, fusiform. Thorax strong. Abdomen of ♂ slim, of ♀ cylindrical with a rather long anal brush. Legs delicate, hindlegs shorter than the abdomen. Forewing long and stretched; vein 1a short, not divided at the base, 2 arises a little before the interior angle, 3 from the latter, 4 equidistant from 3 and 5; 7 and 8 stalked on $\frac{2}{3}$ of their length, 9 absent, 10 and 11 very near and parallel. Hindwing: 1 a very fine, 2 arises a little before the interior angle of the cell, 3 and 4 on a short stalk, 5 from the angle of the cell, 6 absent. Type. *A. ovinia* Drc.

A. ovinia Drc. (178 h). Forewing bluish black with a hyaline streak along the inner margin. Hindwing whitish hyaline, veins black, fringes of both wings blackish brown. Head, palpi and antennae black. Thorax and abdomen glossy bluish black, the 4th segment broadly edged with pale yellow. Anal tuft broadly black with a few grey hairs laterally. Abdomen beneath white. Legs black, with grey bands. 30 mm. Mexico, Coatepec. *ovinia*.

A. mesostenos sp. n. (178 h) is closely allied to *ovinia* Drc., but smaller, only 20–21 mm. Only the 2nd abdominal segment above finely margined with white, beneath broadly light creamy white. Legs black, a few white hairs on the joints of the hindlegs, the hind tibiae with 4 long spurs. Otherwise very similar to *ovinia*. Brazil, Viannopolis. March. 1 couple collected by Prof. SEITZ. Type: Senckenberg Museum. *mesostenos*.

A. vignae Busck. The 2nd palpal joint with a triangular black scale-spot, mixed with yellow, the last joint erect, black with a reddish apex. Antennae gradually thickened with a small hair-pencil at the end, in the ♀ plain, basal halves bluish black and apical halves dark brown, in the ♂ reddish brown, dentate below. Head dull black with a slight transverse line of yellowish white scales. Thorax dark red-brown, almost black, shoulders and behind transversely bordered with yellow. Abdomen strangulated wasp-like near the base, bluish black, each segment behind narrowly margined with yellow. Anal tuft bluish black. Forewing with a bluish black costal margin, inner margin and discal vein scaled reddish brown, the rest transparent, veins 11 and 10 absent, 7 and 8 stalked to the costa, 2–6 separated. Hindwing transparent, legs metallic bluish black, spurs and posterior margins of each joint yellow. Bahia (Brazil). Larva in the stalks of *Vigna sinensis* and other cultivated Leguminosae. *vignae*.

A. alomyaeformis sp. n. (178 i). Antennae black, the first joints yellowish, apically brownish; ciliated below in the ♂. Head and thorax black, the latter with light yellow stripes on the posterior part of the patagia, metathorax slightly light yellow. Abdomen above and beneath with the 1st segment black, powdered with rusty brown, the 2nd, 3rd and 4th beautifully rusty brown, the posterior margin of the 4th with a fine light yellow band, the last joints as well as the anal tuft black. Legs rusty brown, hind tibiae with four equal moderately long spurs. Wings as in *mesostenos*, but the margins browner. 21–22 mm. Brazil. Araraquara and Rio Preto (São Paulo, Brazil). 1 couple collected by Prof. A. SEITZ. Type. Senckenberg Museum. *alomyaeformis*.

A. allotriocho sp. n. (178 i). Antennae, palpi, head and thorax bluish black. The palpi exhibit the generic peculiarity (the 2nd and 3rd joints strongly haired) immensely developed, so that one might think of the presence of biting mouth-organs. Abdomen as in *vignae* strangulated wasp-like at the base, the 1st segment bluish black, the 2nd brown, spotted yellow at the posterior margin, all the others inclusive of the pointed anal tuft dingy reddish orange (almost vermilion); beneath the same, only the basal joints are yellowish here. On the 5th and 6th segments there are at equal distances four small raised yellowish hair-tufts forming a quadrangle. All the legs blackish blue, hind tarsi yellowish and black. Forewing thinly scaled greyish yellow, transparent, costal vein dark brown, the inner margin at the base narrowly hyaline like the anal angle, too; a small dingy white spot at the costal vein, shortly before the apex. Hindwing transparent, a dark shadow at the costal vein, veins black; fringes of all the wings brownish grey. 35 mm. The total impression of the insect is that of a wasp owing to the red abdomen, the semihyaline wings, and especially the enormously haired palpi. Brazil, Villa Bella. 1 ♀. Type. Berlin Zool. Museum. *allotriocho*.

21. Genus: **Aegeria** F.

Head small, palpi erect, but scarcely reaching to the height of the head, covered with long hair. Antennae short and thick, pectinated in the ♂, plain in the ♀. Body strong, cylindrical with a truncate end, ♂ with

a small anal tuft. tibiae thickly covered with short hair, femora and tarsi hairless. Tongue absent. Forewing with stalked veins 7 and 8. Hindwing: veins 4 and 5 from the angle of the cell or from a very short stalk, discocellular vein very oblique. Type: *A. apiformis* Cl. from Europe.

apiformis.

A. apiformis Cl. (= *vespiformis* Hufn., *crabroniformis* Den. & Sch.) (Vol. II, pl. 51 a). Head and palpi lemon-coloured. Antennae black above, reddish yellow beneath. Thorax brown, in front with a large yellow spot on each side, behind with a smaller diffuse spot. Abdomen with very broad yellow bands on the anterior margins of the segments, the last 2 quite yellow, segments 1 and 3 brown. Legs dark yellow with brown. Forewing transparent with narrow brown margins and discal mark, hindwing the same. 30—45 mm. United States to the west as far as Nevada; Europe-Siberia. Larva in the lower parts and roots of older poplars and willows, living two years. Imago in June and July. Not common in America, contrary to the Old World where it is rather common. It can no more be ascertained whether the insect is autochthonous for America or was imported from Europe.

22. Genus: **Euryphrissa** Btlr.

Hindwing and abdomen broader than in *Synanthedon*, the second pair of legs densely covered with long scales, but scantily haired. with two robust, long, divergent terminal spurs. The hind legs are rather short, tibiae densely covered with long scales, prolonged beyond the middle at the outer margin with a broad hair-brush of 2 mm length, two long central and two shorter terminal spurs. Type: *E. plumipes* Wkr.

plumipes.

E. plumipes Wkr. ♀: deep black, strong, blackish purple beneath. Face white. Palpi erect, silvery white, black apically. Antennae slender dingy ochreous below. Abdomen more than twice as long as the thorax, narrowing down towards the end. Legs short, strong, with blue or purple scales, hind tibiae fringed black, decorated with a very dense hair-tuft of a pale yellow colour at the end, tarsi golden yellow. Wings transparent, fringes purple. Forewing with a dingy dark yellow inner margin, the costa and cross-vein purple. 18—20 mm. Ega.

syngenea.

E. syngenea sp. n. (178 i). Size and total habitus like that of *plumipes* Wkr. Head black, palpi yellow, darker apically. Antennae shorter with thicker clubs than in *plumipes*, yellowish brown. Thorax blackish blue with a yellow dorsal line and two lateral ones, metathorax with yellowish hair. Abdomen blackish blue, the posterior margins of all the segments more or less finely margined with yellow, beneath all is yellow except the 3rd and 4th segments remaining black. Legs predominantly yellow, the hair of the posterior tarsi black, not so prominently tuft-like as in *plumipes*. Wings as in *plumipes*. Brazil (Rio Grande do Sul) and Peru (Pebas). 2 ♀♀. Types: Berlin Zool. Museum.

23. Genus: **Myrsila** Bsd.

Antennae filiform, without the least thickening at the end. Palpi long, bare, very pointed. Proboscis small and short. Legs very long with long and strong spurs. Abdomen pointed like that of a *Pompilida*. Wings long and stretched with little developed fringes.

auripennis.

M. auripennis Bsd. (178 i). Head, palpi and antennae of a bright black colour. Thorax pale rust-coloured turning blackish. Anterior part of abdomen pale red, posterior part black, without a reflection. Hindwing dotted white on the fringe. Legs black, anterior part of the hind tibiae pale reddish orange. Beneath more pale red. 24 mm. Brazil: Pará, Amazons.

24. Genus: **Alcathoë** Hy. Edw.

Palpi rather erect, as far as the height of the head, 2nd joint very long, 3rd joint very short. Antennae uniform, tapering at the end, slightly dentate in the ♂, plain in the ♀. Posterior tibiae with a hair-tuft at each end and a similar tuft at the base of the tarsi, near the tibiae. Forelegs and middle legs without hair-tufts. Abdomen of ♂ with a long tail-like hairy appendage dividing the anal tuft. Tongue present, but feebly developed. Forewing with 12 veins, 7 and 8 stalked. Hindwing: vein 2 from the cell, 4 and 5 on a short stalk, 7 and 8 coalescent, discal vein straight. Type: *A. caudata* Harris.

caudata.

A. caudata Harris (= *cordata* Ril. & How.) (179 a). ♂: head black, face dull reddish. Palpi, collar and antennae orange. Thorax violet or dark brown. Abdomen black with a violet reflection, orange below. Anal tuft black, the tail-like appendage bright orange. Legs orange, middle and hind femora black like the ends of the hair-tufts at the end of the tibiae. Forewing violet, transparent from the base almost to the centre, discal vein sometimes slightly dusted orange. Hindwing transparent with an intense reflection, the discal mark, the very narrow distal margin and the fringe violettish black. ♀: head black, palpi and collar orange. Thorax and abdomen above and beneath black. Forewing violet, blackish at the base. Forelegs orange, coxae black, middle

and hind legs black with orange tarsi. 20—32 mm. Canada, New England and Central States, to the south as far as Florida, to the west as far as Ohio, Illinois and Michigan. — var. *walkeri* Neum. (178 i). Head, abdomen and tail-appendage all black, without any trace of orange. Legs black, tibiae orange. Antennae above black, beneath and the tips dull orange. Wings like those of the type. New York. — The larva lives in the roots and the root-crown of *Clematis virginiana* and *vitalba* and presumably also of allied *Clematis* plants, often several in one plant. They pupate in a cocoon in the passages, the imago appearing in the north from June till August, in the south already from April.

A. korites Drc. Head black, palpi reddish orange beneath. Antennae orange with more or less black scales. Thorax and abdomen black with a blue reflection, a few red places at the posterior end of the patagia and in the centre of the thorax. Anal tuft and tail-appendage black. Legs black. Forewing with orange scales, the costa, median vein and submedian vein black. Fringe brown. Hindwing orange with a round hyaline spot at the anal margin, veins black. The ♀ shows the red and orange colouring less developed, otherwise similar to the ♂. 25—28 mm. Durango, Colorado, Guatemala, Costa Rica. Larva in roots of *Clematis ligustrifolia*.

A. carolinensis Engelh. Antennae absent, the stumps orange. Palpi black, with orange hair in front. Head, thorax and abdomen black with a blue reflection. Anal appendage orange, lateral tufts black. Forewing and hindwing black with a blue reflection, forewing with a narrow transparent area near the base, hindwing with a broader one near the base, divided by the veins A 1 and A 2. Legs black, middle tibiae and anterior part of the tarsi of the hindlegs densely covered with black hair, interrupted inside by orange. Hitherto only 1 ♂ known. Black Mountains, North Carolina. Taken on *Clematis* blossoms in summer.

A. pepsoides Engelh. Antennae orange, more or less covered with black scales, in the ♀ quite orange. Palpi above black, beneath black mixed with orange. Head, thorax and abdomen black with a coppery gloss and a few red scales on the patagia and mesothorax. Anal appendage and lateral appendage black. Legs black. Forewing orange, costa, submedian vein and median vein with black beyond the cell, fringe blackish brown. Hindwing orange with a round hyaline spot in the anal region, veins partly black. 26—35 mm. Colorado, Utah, New Mexico, Nevada, Arizona, California. In the south in May, in the North until August. Larva in *Clematis ligustrifolia*. — subsp. *atra* Engelh. Antennae black above, brown below. Head, thorax, abdomen, anal appendage and legs black. A round hyaline spot in the anal region of the hindwing. 29 mm. Jemez Springs, New Mexico, 2400 m. August.

A. altera sp. n. (179 a). Head black, light yellow before the eyes. Antennae half black, then gradually orange, the tips suddenly again black. Thorax and abdomen brownish black, the base darker. Anal tuft orange. Legs orange, the hair-tuft at the end of the hind tibiae darker. All the wings yellowish hyaline, the moderately broad costal margin, the discal mark and veins black. Easily discernible from all the other *Alcathoe*-species hitherto known by the hyaline wings. 28 mm. Mexico. 1 ♂. Type: Berlin Zool. Museum.

25. Genus: **Tarsopoda** Btlr.

Wings with longer fringes than in *Synanthedon*. Palpi more erect. Tibiae and tarsi of the 2nd and 3rd pairs of legs densely covered with compressed fan-like feather-scales. Type: *T. renipes* Btlr.

T. renipes Btlr. Wings hyaline, veins black, forewing with a rosy tinge, costal margin purple black, discal band, distal and inner margin brownish bronze, fringe pale brown; hindwing with brownish bronze distal margin and fringe. Body above and beneath brownish bronze. Palpi and collar, coxae of the first pair of legs steel-blue; femora, tibiae and tarsi absent; femora of the 2nd and 3rd pairs of legs loam-coloured with a blue reflection, tibiae steel-blue at the base with a dense tuft of brownish bronze hair-scales, mixed with white in the middle, and the tibiae bordered with golden yellow on the hindlegs. Tarsi of the 2nd pair steel-blue at the base, densely covered with compressed long brownish bronze hair-scales, white at the base, tarsi of the hindlegs with similar hair-scales, but golden yellow at the base. The scaled parts of the wings beneath golden bronze. 15 mm. Villa-nova.

T. marcia Drc. Forewing black, a spot at the cell-end and a central streak extending to the base hyaline. Hindwing hyaline, distal margin and veins black. Head, thorax and abdomen black. Anal tuft yellow. Abdomen above with metallic golden bands, beneath black. Collar yellow. Antennae black. Legs black, with yellow bands. 15 mm. Mexico, Dos Arroyos, Guerrero, 350 m. September.

26. Genus: **Neosphecia** Le Cerf.

Head round, antennae of medium length, gradually thickened, straight. Palpi rather long, the 3rd joint small and pointed. Proboscis completely absent. Body strong, conical-cylindrical, anal brush short. Strong

legs of medium size, hind tibiae bent somewhat S-shaped. Forewing with a well developed vein 1, not divided at the base, 2 before the interior angle of the cell, 3 from this angle and nearer to 4 than to 2, 7 and 8 not stalked, 9 from the anterior angle of the cell, 10 and 11 proceeding almost from the same place of the cell. Hindwing: 1a short, 2 and 3 near the interior angle of the cell, 4 from the cell, 5 from the anterior angle, 6 well developed, 7 absent. Type: *N. combusta* Le Cerf.

combusta. **N. combusta** Le Cerf (179 a). Head black. Palpi black on the 1st joint outside, yellow inside, the 2nd joint yellow above, reddish yellow and black beneath, the 3rd black at the base, yellow above. Antennae brown below, pale red above. Collar and thorax blackish brown, posterior part of the thorax as well as the metathorax with pale yellow hair. Abdomen blackish brown, the posterior margin of the 2nd segment and the anterior margin of the 3rd form a pale yellow band. Ventrums and anal brush unicoloured blackish brown. Legs blackish brown with some yellow marking. Forewing light rust-brown warming into yellowish, base black, distal area lighter, and a short hyaline streak at the base near the inner margin. Hindwing transparent, veins and margins reddish brown, fringes of all the wings blackish brown. 30 mm. Bolivia, Cochabamba. Only ♂♂ known so far.

27. Genus: **Premelittia** Le Cerf.

Head small, but projecting. Proboscis quite absent. Palpi medium-sized. Antennae fusiform. Body strong and rather long. Anal tuft very short. Legs long and strong, the hind tibiae with a short hair brush below before the middle and at the end. Forewing: vein 1 well developed, 2 before the interior angle of the cell, 3 from the angle and nearer to 4 than to 2, a joint short stalk of 7 and 8, 9 from the same place of the anterior angle of the cell, 10 and 11 on a very short stalk at the base, arising at 9. Hindwing: 1a short, 2 from the middle of the interior margin of the cell, and 3 before the angle of the cell, 4 and 5 from the angle, 6 well developed from the upper cell-angle, 7 close beside, 8 short. Type: *P. rufescens* Le Cerf.

rufescens. **P. rufescens** Le Cerf (179 a). Head pale yellow, palpi yellow. Antennae dingy yellow, the last third beneath brownish red. Collar pale yellow. Thorax chestnut brown with yellow-edged tegulae. Abdomen brown, the 2nd segment behind with a yellow band, the 1st, 3rd and 5th broadly spotted yellow laterally, these spots narrowing down and forming rings on the segments, ventrums quite yellow. Legs yellow, tarsi darker. Forewing with a broad brown costa and discal mark, the distal margin likewise very broadly brown, so that the hyaline areas are rather small. Hindwing transparent, margins and veins brown. Fringes of all the wings greyish brown, lighter at the abdominal margin. 35 mm. Bolivia, Cochabamba. 1 ♀ known.

28. Genus: **Melittina** Le Cerf.

Head rather broad, palpi short, the 1st joint with long hair beneath. Proboscis well developed. Antennae short with thick clubs. Body short and thick without a projecting anal brush. Broad, rounded wings; forewing: vein 1 rudimentary, not divided at the base, 2 before the interior angle of the cell, 3 from that angle, 7 and 8 stalked as far as half their length, 9 from the anterior angle of the cell, 10 nearing 9 at the base, 11 more remote from 10. Hindwing: 1a very short, 2 near the middle of the interior margin of the cell, 3 before the angle, 4 from this angle bent towards the middle, 5 from the discocellular angle, 6 from the upper cell-angle, and 7 from the same place. Type: *M. nigra* Le Cerf.

nigra. **M. nigra** Le Cerf (179 b). Head blackish blue. Palpi black, slightly mixed with whitish, the 1st joint provided with a very long hair-tuft. Antennae blackish blue, pale yellow outside, club reddish beneath. Collar, thorax and abdomen blackish blue. Legs blackish blue with white or pale yellow markings. Forewing transparent, but dusted sooty, so that the costa and discal vein are not very prominent, veins and margins darker. Hindwing likewise sooty transparent. Fringes of all the wings rather broad, blackish grey. 21.5 mm. Brazil. 1 ♀.

29. Genus: **Melittia** Hbn.

Antennae growing thicker at the ends, finely dentate in the ♂, a few small bristles at the extreme apex. Tongue normal. Tibiae and tarsi provided with mostly long tufted hair, except the last 2 or 3 tarsal joints. Forewing: veins 7 and 8 stalked, otherwise similar to *Paranthrene*. Hindwing: vein 5 arises in the centre of the cross-vein, 6 and 7 on a long stalk. Type: *M. cucurbitae* Harr.

cucurbitae. **M. cucurbitae** Harr. (= satyriniformis Wkr., tibialis Drury) (179 b). Head metallic green, face whitish. Palpi pale orange, whitish at the bottom. Antennae blackish green. Thorax metallic olive green, sometimes warming into brownish olive. Legs orange, tarsi black with white rings. Hind tibiae inside with long black hair, outside with long orange hair. Abdomen above reddish orange with narrowly green-edged segments, a series of black dots on the dorsum; the 1st and 2nd segments olive green like the thorax, abdomen beneath lighter orange. Forewing dark metallic olive green with brownish darker fringes, a short hyaline streak at the base; under surface similar, though sometimes darker in the total colour. Hindwing transparent with a beautiful bluish reflection, veins and margin greenish, fringe brownish. ♂: 22—26 mm. ♀: 28—35 mm. Canada, United States. New Mexico. The imago appears in the north from June till August, in the south in April and May,

and again in July and August, thus two breeds here. The eggs are deposited on all parts of melon-pumpkins and allied plants, but chiefly on the stems and leaf-stalks. For its pupation, the larva known as "pumpkin-borer" leaves the stem and spins a rather solid cocoon near the soil between stalks or even a few centimetres in the soil itself. — ab. *amoena* Hy. Edw. A not quite clear aberration which is only mentioned here for the *amoena*. sake of completeness. Forewing without the hyaline streak, abdomen black with a purple reflection, the segments laterally greenish white, anal tuft orange brown with black and white hairs, the tarsi black. Kansas. — var. *ceto* Ww. (179 b). The marginal line of the hindwing narrower, about as broad as vein 2 at the apex, *ceto*. the space between 6 and 7 transparent in the ♂. 29—37 mm. Especially in the States of the Atlantic Coast.

M. snowii Hy. Edw. (179 b) is very near to *cucurbitae*, but the parts being olive green in the latter. *snowii*. such as the wings, thorax etc., are more greyish brown in *snowii*, without any metallic reflection. The abdomen is paler orange, light grey beneath. Forelegs whitish, mixed with light brownish hair, femora white. Middle legs greyish brown, hindlegs whitish outside, femora orange, black inside. 25 mm. Kansas. Apparently only 1 ♂ is known.

M. satyriniformis Hbn. (179 b). Head blackish bronze, white before the eyes. Palpi: 1st joint black, *satyriniformis*. 2nd red outside, 3rd red with a black apex. Antennae black. Collar, thorax and abdomen blackish bronze, 7th segment greyer. Anal tuft black, laterally white. Ventrally, the two first segments are black, the following ones scarlet in the middle, edged with black. Legs chiefly black with some white and red. Hind tibiae with projecting black hair, intermixed with scarlet outwardly, with whitish blue hair in the centre of the tibiae, more prominently white beneath, the tarsi black and red, scantily haired. Forewing black with a greenish blue reflection, a short hyaline streak at the base. Hindwing transparent, lustrous blue, veins and margins black, a few whitish blue scales at the base, fringes of all the wings blackish bronze. 31 mm. Colombia, but presumably in the whole north of South and Central America, where there are suitable habitats.

M. pulchripes Wkr. (179 b). Dingy golden green. Head behind and around the eyes white. Palpi white. *pulchripes*. Thorax with whitish hair behind on each side. Abdomen above pale red, the 5 last segments with an almost square black spot, dingy yellow beneath. Legs black with white bands, tibiae with red hair outside. Forewing dingy golden green, hindwing transparent. 29—38 mm. Honduras, Venezuela, Colombia, Parà. — The close affinities between *M. satyriniformis*, *cucurbitae* and *pulchripes* and their distinctions have been largely dealt with by LE CERF in OBERTHÜR, Lep. comp. 14, p. 150—160.

M. gloriosa Hy. Edw. (179 c). Head grey, face white. Palpi white outside, yellowish above. Collar *gloriosa*. and thorax greyish brown. Antennae dark ochreous, with darker dents. The 1st, 2nd and 4th abdominal segments above greyish brown, laterally orange, the two last segments and the anal tuft blackish with a feeble blue metallic reflection which is also slightly indicated by a few scales on the posterior margins of the segments, under surface whitish. Anterior and middle femora and tarsi brownish, here and there mixed with little orange. Hindlegs with long orange hair inside, outside black with straw-coloured admixtures, especially towards the base. Forewing greyish brown, warming into olive or orange, beneath with more orange. Hindwing transparent, veins and inner margin orange, fringe greyish brown. The ♀ has the hindwings thickly dusted with orange above and beneath with brown fringes. ♂: 40—45 mm. ♀: 40—58 mm. South California, Arizona. — Larva in the roots of the sumac (*Rhus laurina*) and the roots and stalks of *Megarrhiza*.

M. grandis Streck. (= *beckeri* Drc.) (179 c). Head and thorax greyish brown, palpi yellow. Legs yellow, *grandis*. tarsi with black rings; hindlegs inside with long orange hair, blackish in the middle on the top. Abdomen brown, sides orange, lighter orange beneath. Forewing beautifully olive green with a brown streak, yellowish beneath except the apex which remains greenish. Hindwing transparent in both sexes, veins dingy orange, fringe greenish brown, the partition-line darker. Very similar to *gloriosa*, but immediately discernible by the colour of the abdomen, of the forewings and above all by the hindwings being invariably transparent in both sexes. ♂ 38 mm, ♀ 50 mm. Arizona, Texas, Mexico.

M. lindseyi Barn. & Rothsch. (= *superba* Barn. & Linds., *barnesi dalla Torre*). A very large species. *lindseyi*. Head and thorax dull greenish grey. Collar and ends of the patagia with traces of yellow hair. Palpi yellow, antennae black. Abdomen beneath yellowish white with black traces on the posterior margins of the segments, above the two first segments and the 4th yellow with black posterior margins, the 3rd, 5th and 6th white, likewise with black posterior margins, the rest bluish black. Forelegs yellow, tibiae and tarsi marked black, middle legs yellow, femora blackish on one side, tibiae apically black and laterally reddish orange, tarsi black with some yellow at the base of the segments; posterior femora black, beneath in the distal half orange and yellow towards the end, posterior tibiae reddish orange, outside black, mixed with yellow and whitish. The bluish black parts have a beautiful metallic reflection. Forewing dull greyish green with a yellowish shine near the base, fringe lighter and darker ochreous, dingy yellow in the basal half. Hindwing transparent, with

reddish orange hair at the base and in the anal region, veins orange with black scales, a black marginal line and ochreous fringe. ♂ 51—57 mm, ♀ 63—65 mm. Kansas, Arizona.

magnifica. **M. magnifica** Beut. (179 c). Head bluish black, palpi orange, apically black. Thorax steel-blue, slightly orange laterally. Antennae bluish black, brownish red towards the apex beneath. Abdomen above and beneath metallic steel-blue, legs steel-blue (hindlegs absent, they were surely also steel-blue, inside perhaps orange). Forewing steel-blue, inner margin broadly light orange, narrowing towards the interior angle, fringe light orange. Hindwing deep bright orange above and beneath, forewing beneath orange, the anterior quarter blackish. ♀ 42 mm. Of this extremely beautiful species only one female specimen has become known so far. Austin, Texas.

dolens. **M. dolens** Drc. Head, thorax, tegulae, abdomen and legs black (antennae absent). The 4th abdominal segment broadly yellow, anal tuft black. Forewing black. Hindwing hyaline, veins and fringe black. 32 mm. Brazil.

hervei. **M. hervei** Le Cerf (179 d). A large species easily discernible especially by the shining dark yellow tarsi of the hindlegs. Head blackish blue, white before the eyes. Palpi whitish yellow. Collar and thorax blackish blue. Abdomen quite black. Legs black, tibiae of the hindlegs long-haired, the tarsi still longer and beautifully ochreous dark yellow. Forewing black with two hyaline spots; one in the centre of the wedge-area, one in the lower part of the distal area, shortly before the anal angle. Hindwing transparent, with a blue reflection, the veins and the rather broad margins black. Anal angle with shining dark blue scales. 39 mm. Peru, Chanchamayo.

arcangelii. **M. arcangelii** Giac. (180 h). Body, antennae and palpi above black, ochreous beneath. Collar and the anterior margin of the thorax yellow, at the end of the thorax reddish ochreous hair extending beyond the first abdominal segments. Forewing golden yellow above, the costal and distal margins black like the fringe, $\frac{1}{3}$ of the forewing below the costal vein black or blackish grey, a narrow hyaline streak below it, veins black. Hindwing basad as far as about half vermilion, the rest hyaline, veins reddish, fringe black. Anterior and middle legs absent, hindlegs inside with tufted black hair, tibiae outside white, the tarsi inwardly with four small black hair-tufts. 35 mm. Argentina. — Our figure is copied from a water-colour painting which the author, Mr. GIACOMELLI from la Rioja, had the kindness to send to us.

bergii. **M. bergii** Hy. Edw. Palpi and anterior tarsi dark orange. Antennae, femora, tibiae and posterior tarsi bluish black. Thorax and abdomen dull black with a metallic lustre. Forewing dull orange, costa blackish; the black colour widens towards the cell, decreasing again towards the apex. Hindwing orange, transparent along the costa. 37 mm. Buenos Aires.

superba. **M. superba** Rothsch. (179 c). Head blackish brown, palpi brown. Collar with a dull blue reflection, thorax metallic silvery, opalescent reddish yellow, the centre metallic blue. Antennae black. The two first abdominal segments metallic dull blue, the following ones deeper steel-blue, the two last metallic bronze green. Thorax beneath opalescent silvery white, abdomen beneath white, opalescent yellowish. Forelegs black, tarsi yellow, middle legs metallic blue, tarsi sometimes silvery, hindlegs with dense long hair, tibiae above and inside broadly yellow, below and outside black, mixed with metallic blue-reflecting hair-tufts, tarsi black, partly with grey hair. Forewing above and beneath of a brilliant metallic blue, costa and the broad distal margin dull black. Hindwing obliquely divided, from the base to the distal margin about $\frac{3}{5}$ metallic blue, the last two fifths transparent, fringe black, abdominal margin bluish. 44 mm. Eastern Peru, Marcapate, 1100 m.

imperator. **M. imperator** Rothsch. (179 d). ♀: forelegs black, tarsi scarlet; middle legs blackish brown, tarsi scarlet, hindlegs very densely haired scarlet, with hair-tufts on the tibiae and tarsi. Palpi and head blackish brown, face with two white streaks. Thorax blackish brown with reddish spots. Abdomen purple, anterior margins of the segments scarlet. Forewing metallic bluish green. Hindwing hyaline, veins, margins and apical third metallic bluish green. 45 mm. Obidos, Amazons. April.

pomponia. **M. pomponia** Le Cerf. One of the smallest species of the genus (only 17 mm). All the wings transparent, veins and margins bronze black, distal margin of the discocellular vein yellowish which colour expands as far as the apex at the margin, fringe short, bronze black. Head thick, black, a few white hairs around the eyes and at the collar. Antennae bronze black. Eyes rather large, orange. Palpi black, the 2nd and 3rd joints inside and outside white. Collar, thorax and abdomen bronze black, a very fine ring of white scales on the 2nd segment beneath, on the 6th above. Anal tuft short and pointed, black. Forelegs blackish blue, white at the base. Hindlegs: femora black, with a white line below, tibiae bronze black with long hair of the same colour, towards the end a thick fan-like tuft of orange hair, tarsi bronze black. Peru, Payta.

smithi. **M. smithi** Drc. Forewing black with a narrow hyaline streak from the base to the end of the cell, an oval hyaline spot below it, fringe greyish. Hindwing hyaline, veins and fringe black, the bases of all the wings covered with long yellow hair. Head, thorax and abdomen brownish black, each segment margined with yellow, the under surface of the thorax and abdomen yellowish brown. Antennae black. Legs yellow, except the

hindlegs which are thickly covered with black hair; a few yellow hairs near the body. 32 mm. Mexico: Rio Papagaio, Guerrero, 400 m; Dos Arrayos, Guerrero, 350 m. September, October.

M. butleri *Drc.* (179 d). Forewing hyaline, apex and costal margin black. Hindwing hyaline, margins *butleri*. black. Antennae black. Thorax and abdomen beautifully yellowish brown, abdomen more black, though the posterior segmental margins always remain yellowish brown. Ventrums and apex of abdomen beneath yellowish brown. 30—33 mm. Mexico, Oaxaca.

M. cyaneifera *Wkr.* (179 d). Black. Palpi scaled black. Antennae rust-coloured apically. Thorax and abdomen brownish, scaled felt-like, dingy yellow beneath. Forelegs the same; hindlegs thickly covered with black hair which are inside reddish, the joints with white hair. Wings transparent, fringes purple, margins of the forewing, transverse band and distal area purple black, anal region of hindwing more or less metallic bluish green. 35 mm. Brazil, Rio de Janeiro. — var. *reducta* *Le Cerf* has only three veins in the distal area, while *reducta*. the type has four; it is said to appear especially in the north of the range.

M. umbrosa *sp. n.* (179 d) is a strange species which at first sight reminds us of the Asiatic *M. eurythion umbrosa*. *Ww.* (Vol. X, pl. 95 f). But it lacks above all the light under surface of the abdomen, otherwise it does not differ very much from that likewise very variable species occurring in India, Indo-China and farther. The ♂ is bluish black above and beneath (antennae absent). Palpi white with a few black hairs. The last hairs of the anal tuft are dull grey. Wings transparent, margins and veins normal, black; a greyish white tinge in the apical area on the broad distal margin, as in *eurythion*. The distal area is crossed by five veins, the uppermost of which bifurcates shortly before it enters the margin; fringe dull greyish black. Legs black, tarsi and tibiae of the hindlegs thickly covered with black hair, above with two dingy yellow hair-tufts; tarsi of the forelegs white, of the middle legs black with white rings. 1 ♂. 26 mm. Brazil, Nova Teutonia, Sa. Catharina. Type in the Coll. PLAUMANN.

M. latimargo *Btlr.* (179 e). Wings hyaline, veins black; forewing: costa, discal streak, a broad apical margin and inner margin blackish brown, fringe pale brown; hindwing with thin blackish brown margins, fringe pale brown, inner margin as far as the base covered with a few green scales. Body above loam-coloured, more ochreous towards the head. Antennae black above, rust-coloured below. Chest and the first pair of legs ochreous, the second pair brown, ochreous inside, femora of the hindlegs scaled, tibiae and tarsi with long recurved brown scales, with a few interspersed reddish hair-scales, tibiae below with a pale green spot and two cream-coloured and blackish brown terminal tufts. 40 mm. Brazil, Curitiba, Paraná. — It is closely allied to *cyaneifera*; *latimargo* is mostly larger, more yellow, with different legs, broader discal streaks and margins, no blue in the hindwing.

M. rugia *Drc.* Head, antennae, tegulae, thorax and abdomen black. Palpi white, black apically. Legs *rugia*. black with black hair, bright red at the end of the joints. Forewing bluish black, cell hyaline, fringe black; hindwing hyaline, veins and fringe black, the inner margin from the base to the anal angle thickly covered with metallic bluish green scales. 42 mm. Peru, Chanchamayo. 350—500 m.

M. lagopus *Bsd.* Antennae black, dentate in the ♂. Palpi and chest white. The collar exhibits a few *lagopus*. white hairs. Thorax brown. Legs brown, curled white at the joints, the hindlegs black-haired. Abdomen black, somewhat shining, the 2nd segment margined with white. Anal tuft black. Forewing black with a transparent longitudinal streak extending beyond the middle, cut into two parts by a vein, and a transparent distal area divided into four parts by three veins. Hindwing transparent, veins, fringe and a small bow below the costa black. 26 mm. Cayenne, on the Oyapock River.

M. brabanti *Le Cerf* (179 e). Head blackish grey, white before the eyes. Palpi yellowish, mixed with black. Antennae strong and long, black above, brown beneath. Collar and thorax olive grey, thoracic sides dingy yellow. Abdomen greyish black, a slight white transverse stripe on the 2nd segment. Anal tuft rather long, tripartite, blackish grey, ventrum dingy yellow. Legs greyish black and yellow, the coxae all yellow, hind tibiae with long black hair which are intermixed with whitish yellow above, the tarsi likewise with blackish hair as far as the end, more scantily whitish yellow above. Forewing transparent, margins, veins and discal vein bronze black; hindwing transparent, margins and veins bronze black, bluish green scales at the abdominal margin; fringes of all the wings bronze black. 44 mm. French Guiana, Gourdonville. 1 ♂.

M. xanthopus *Le Cerf* (179 e). Head blackish olive, face greyish yellow, the eyes narrowly margined with white. Palpi outside yellow, white inside. Antennae long and thick, not bent before the tips, black above, brown beneath. Collar and thorax olive brown. Abdomen blackish, the posterior margin of each segment finely margined with yellow, anal tuft light olive brown. Ventrums light olive, the last joints and the anal tuft yellow. Legs dingy yellow and olive brown, posterior tibiae with long black hair, mixed with yellow at the base and below, darker yellow above and outside. Tarsi densely covered with long black hair, the last two joints less long and bright yellow. Forewing transparent, veins, margins and discal vein, all not very broad, sooty black.

Hindwing transparent, veins and margins black, anal angle blackish with a blue reflection; fringes of all the wings blackish brown. 34—44 mm. Peru, Vilcanota, 3000 m. Bolivia, La Paz.

sulphureopyga. **M. sulphureopyga** *Le Cerf* (179 e). Head black, face brown, eyes margined with white. The 1st joint of the palpi white, the 2nd yellowish white, black in front, the 3rd black. Antennae long, black, brown beneath in the last third. Collar and thorax olive brown. Abdomen likewise olive brown, the 7th segment sulphur-coloured, anal tuft again olive brown. Ventrums sulphur-coloured, slightly covered with brownish bronze scales at the base, turning more and more yellow towards the apex. Legs black and brownish, the hind tibiae densely covered with long sulphur-coloured hair, just as densely blackish brown at the end with a bluish reflection, tarsi on the two first joints densely covered with blackish brown hair, the three last slightly black, lighter above. Forewing transparent, costa, margins, disc and veins dull black, distal margin blackish brown, not very broad, somewhat oblique, powdered with a few light scales; hindwing transparent, veins and margins black, anal region with a few blackish brown scales. 37—41 mm. Panama, on the Volcano of Chiriqui (Costa Rica), in May until July.

powelli. **M. powelli** *Le Cerf* (179 f) is one of the largest species; at first sight it is somewhat similar to *xanthopus* or *sulphureopyga*. Antennae black, brown beneath, slightly bent before the tips. Collar and thorax olive grey, with some yellow hair behind. Abdomen black, each segment finely margined with yellow, the last quite light yellow, anal tuft olive, laterally yellow. Abdomen, thorax and coxae quite light yellow beneath. Forelegs and middle legs chiefly yellowish with little black, hind tibiae and tarsi long and densely black-haired, somewhat yellow outside. Forewing transparent, the margins and disc more intensely than in *xanthopus*, the distal margin broader, all bronze black; hindwing transparent with a blue reflection, veins and margins blackish brown, anal angle with a few steel-blue scales. Fringes of all the wings long and blackish bronze. 51 mm. Peru, Chanchamayo. 1 ♀.

funesta. **M. funesta** *Le Cerf* (179 f). Head blackish blue, white before the eyes, palpi black, white outside and in front. Collar purple black. Thorax quite blackish blue, abdomen, sides of the 1st and 3rd segments yellowish white. Ventrums blackish blue, dusted light. Legs blackish blue and yellowish white, hind tibiae blackish blue, with a bronze reflection, with dingy light yellow hair in front and behind, the tarsi again black-haired. Forewing purple black, with a bronze reflection, and three hyaline spots: a longer basal streak, a very small one behind it, then a short one before the anal angle, which is usually divided by a vein. Hindwing transparent with a blue reflection, veins and margins purple black. 31 mm. Brazil.

chimana. **M. chimana** *Le Cerf* (179 f). Head blackish blue, white before the eyes. Palpi blackish brown, mixed with whitish on their whole surface. Antennae black. Collar and metathorax white. Abdomen black, the whole 1st segment and the sides of the 2nd white, single white scales covering yet the two last segments. Ventrums yellowish white, anal tuft small. Legs black and white, the hind tibiae with black projecting hair, interrupted by white outside and above at the ends, tarsi likewise black-haired, though less intensely, somewhat white at the base. Forewing brownish black strewn with pale blue scales, a short hyaline streak at the base; hindwing transparent, veins and margins black. Fringes of all the wings greyish bronze. 32 mm. Ecuador, La Chima.

josepha. **M. josepha** *Le Cerf* (179 f). Head greyish bronze, extensively white before the eyes. Palpi yellowish white, black outside at the apices. Antennae black, the apex below brownish red. Collar blackish blue. Thorax blackish blue, yellow at the base of the tegulae, metathorax with black and yellow hair. Abdomen blackish bronze, bearing two yellow spots on each segment above, the last segment with a yellow central spot, ventrums whitish. A short dark anal brush. Legs black and yellow, the tarsi of the hindlegs just as long as the tibiae, both covered with long black hair with two white intermixtures at the base of the tibiae, with especially brilliant white spurs beneath. Forewing transparent, margins, the broad costa and the distal margin blackish brown, warming into yellowish inwardly. Hindwing transparent, veins and margins blackish. Fringes of all the wings greyish bronze. 36 mm. Ecuador, Zaruma. Described according to 1 ♀.

louisa. **M. louisa** *Le Cerf* (179 g). Head black, face brown, white before the eyes. Palpi yellow warming into reddish. Antennae black above, brown beneath. Collar pale orange, black behind it. Thorax black, shoulder-spots and metathorax pale orange, thorax beneath lighter yellow. Abdomen black, the 3rd segment completely ochreous orange, the centre of the 4th, the sides of the 5th, 6th and 7th ochreous orange. Anal tuft short, orange. Ventrums yellowish grey. Legs yellow and black, hair-tufts of the hindlegs inwardly mostly black, two broad ochreous orange tufts projecting on the tibiae, whitish grey inside. Forewing transparent, costal margin, the very broad oblique distal margin and the veins black, distal area crossed by three veins; hindwing transparent, veins and margins black, the narrow anal angle half black, half ochreous. Fringes of all the wings greyish bronze. 34.5 mm. Mexico.

oberthuri. **M. oberthuri** *Le Cerf* (179 g). Head broad, reddish yellow. Palpi short, not reaching the base of the antennae, pale yellow. Antennae rusty brown, lighter beneath, basal joint white. Collar and thorax reddish yellow. Abdomen somewhat lighter on segments 1, 3 and 5; 2, 4 and 6, however, darker, almost rusty brown,

the 7th and the anal brush of the same colour, ventrum light yellow. Legs chiefly yellow, but lighter than the body, the tibiae and the tarsi of the hindlegs with thick and long hair-tufts varying between a lighter chrome-yellow, brown and blackish. Forewing transparent with a yellow spot at the base, the broad costa and the likewise broad, obliquely cut off distal margin as well as the veins brownish black, the distal area with four veins. Hindwing transparent, veins and margin bronze brown. Fringes of all the wings greyish bronze. 41 mm. Amazons, Iquitos. Owing to the beautifully haired legs, the size and the shining body, the insect numbers among the most beautiful species of *Melittia*.

M. pauper *Le Cerf* (180 a). Head greyish brown, white before the eyes. Palpi white at the base beneath, *pauper*, yellowish outside and above, with a few brown scales in the middle of the 2nd joint (antennae absent). Collar and thorax greyish olive, beneath with a white spot on each side. Abdomen greyish olive, all the segments finely margined with whitish, ventrum dingy yellow. Anal tuft small, yellowish. Legs yellowish white warming into olive grey. Hind tibiae and tarsi rather long, with yellowish grey hair. Forewing transparent, costal and distal margins as well as the discal mark rather broadly olive grey, a sharp longer dent of the same colour extends from the discal vein inwardly into the hyaline area. Hindwing transparent, veins and the narrow margin olive grey. Fringes of all the wings dull grey. 32 mm. Peru, Lima. March.

M. riograndensis *Brèth.* has been described in: *Anales de la sociedad rural argentina* 54 (1920), to which *riograndensis*. there was no access.

(29a.) Genus: **Leuthneria** *dalla-Torre*.

L. ruficincta *Fldr.*, named and figured as *Eublepharis Fldr.* in: *Reise der Novara Zool.* 4, pl. 75, fig. 4 *ruficincta*. (1874), described in *SEITZ Vol. 14 (Africa)*, p. 531 as *Melittia* (Sudan); the statement "South America" in *JUNK's Cat. 31 Aegeriidae* remains unintelligible. It has thus been twice introduced, once as *Melittia* and once as *Leuthneria* for Africa and for America. The unique insect does not make the impression of a *Melittia* in *FELDER's* work, for which reason *DALLA-TORRE* proposed a new description of *Leuthneria*; there exist, however, neither descriptions for *Eublepharis*, nor for *Leuthneria*.

30. Genus: **Callithia** *Le Cerf*.

Antennae of medium length, thin at the base, thickened before the end. Palpi rising, small and pointed. Proboscis well developed. Thorax convex, abdomen delicate and rather short with a small anal brush. Feet long, especially the posterior ones, their tibiae with dense and long hair in the last quarter, which decoration is also continued on the tarsi. Forewing: vein 1 fine, not divided at the base, 2 and 3 arise before the interior angle of the cell, separated at the base, 4 from the interior angle of the cell, 7, 8 and 9 stalked, proceeding from the anterior angle of the cell, 10 and 11 separated at the base and then nearing each other. Hindwing: 1 a short, 2 and 3 before the interior angle of the cell, 4 from the angle, 6 absent, 8 confluent with the costal vein, no anal lobe. Type: *C. oberthüri* *Le Cerf*.

C. oberthüri *Le Cerf* (180 a). Head blackish bronze, white behind, a few white scales below the base *oberthüri*, of the antennae. Palpi erect, black, white in front. Antennae black, the apex above and the club beneath brownish red. Collar brownish bronze. Thorax shining black, metathorax the same with two yellow lateral spots. Abdomen dark chocolate brown, the margins of the segments black, the two last quite black, the anal brush almost black. Metathorax beneath yellowish, the two first segments black, the following ones yellow. The posterior margins of the 1st and 3rd segments above very finely light yellow. Forelegs black, reddish beneath, femora and tibiae of the middle legs black with little yellow. Hind femora black, white beneath, a few white hair-scales above at the beginning, a light yellow spot outside, almost in the middle. After this the *Melittia*-like hair begin, passing over to the tarsi the last joints of which, however, are hairless. Forewing deep chocolate brown, hindwing transparent, opalescent blue, margins and veins chocolate brown. 34 mm. Cundinamarca, Colombia. *LE CERF*, in 1900, had only 1 ♂ at hand for examining this species; later on, *FASSL* brought a larger number from Muzo (Colombia), but unfortunately also only ♂♂, all of which exhibit somewhat less distinct yellowish white markings than the ♂ of *LE CERF*.

31. Genus: **Calasesia** *Beut.*

Palpi erect with appressed scales, extending to the height of the head, 3rd joint long and narrow. Antennae gradually thickening towards the apex, then short and pointed towards the end. Legs scaled, hindlegs with small hair-tufts on the spurs of the tibiae, tarsi tuftless. Abdomen tapering, anal tuft small. Forewing remarkably round at the apex, with 10 veins: 3—6 from the cell, 7 and 8 grown together, 10 from the base. Hindwing: vein 2 from the cell, 4 and 5 from the end of the cell, 6 from the middle, 7 and 8 absent. Type: *C. coccinea* *Beut.*

C. coccinea *Beut.* (180 b). Head black. Palpi yellow, black in front. Collar whitish in front. Thorax *coccinea*, and abdomen blackish bronze with a metallic reflection. Antennae brownish black. Thorax beneath with

scarlet spots on each side. Legs metallic brownish black. Forewing intensely scarlet, the distal margin and a round spot behind the cell-end blackish brown, the hindwing brown. Forewing beneath orange, brown outside. Hindwing beneath brown. 12 mm. New Mexico. 1 ♀.

32. Genus: **Paranthrene** Hbn. (*Memythrus* Newm.)

Palpi erect, the 1st and 2nd joints very long with thick hair, the 3rd joint short with appressed scales. Antennae more or less dentate with ciliary tufts. Abdomen of ♂ with a plain anal tuft or four long pencils at the end of the last segment. Proboscis present. Forewing with 12 veins, 7 and 8 stalked. Hindwing with 4 and 5 from the end of the cell, 6 from the cell, 7 and 8 very long. Legs long, tibiae feebly haired. Type: *P. tabaniformis* Rott. from Europe.

tricinctus. **P. tricinctus** Harr. (180 a). Head black, collar yellow. Palpi black, yellow towards the apex. Antennae bluish black above, red beneath. Thorax black with a yellow shoulder-spot and lateral stripe. Abdomen black with a blue reflection: ♂: segments 2, 4 and the two last, ♀: 2, 4, 6 above and beneath yellow. Anal tuft black. Legs black, middle and hind tibiae partly orange, the posterior ones also yellow, tarsi orange. Forewing violettish black with a short hyaline streak at the base, inner margin and costa reddish near the base, these parts being yellowish beneath. Hindwing transparent, veins, discal mark and margins violettish black, reddish orange beneath. 25—28 mm. Canada, New England and Central States, to the west as far as Ohio and Michigan. — Larva in twigs and trunks of poplars and willows, also in the galls of *Saperda concolor*, two larvae often behind each other. For the pupation the passage is closed with a silky spun membrane which is pierced by the emerging imago. It hibernates in the passages, pupates in May, and emerges in June and July.

robiniae. **P. robiniae** Hy. Edw. (180 a). Head and palpi yellow. Collar black, yellow in front and behind. Antennae brownish orange. Thorax deep black with a yellow posterior margin and yellow sides. The three first abdominal segments above and beneath black, the 2nd and 3rd behind with a yellow ring, the remaining segments quite yellow. Legs yellow, femora mixed with black. Forewing orange brown with darker veins, yellowish beneath. Hindwing transparent with a narrow margin and orange brown veins. 26—36 mm. Nevada, California, Washington. — The larva is said to live, like that of *tricinctus*, in *Populus alba*, *canescens*, and *Robinia pseudoacacia*. The insects appear in the Pacific States in March and April, in Nevada in July.

cupressi. **P. cupressi** Hy. Edw. (180 a). ♂: head, palpi, antennae orange, face lighter. Collar purple brown, orange in front, golden yellow behind. Thorax brown, laterally and behind margined with golden yellow, besides with small posterior yellow hair-tufts on each side, the 1st abdominal segment black, the 2nd deep orange, yellow behind, the 3rd yellow, orange behind, the others as well as the 4 anal appendages deep yellow. Legs orange, femora black and orange. Hind tibiae yellow and orange, tarsi orange. Forewing purple brown, yellowish at the base with an orange streak along the middle, becoming indistinct at the discal vein. Hindwing transparent, veins purple brown, margins and fringe violettish brown with an orange line at the inner margin towards the base. Beneath all the colours are more intense. ♀: similar to the ♂, but without the 4 small anal brushes. Forewing mostly paler, segments 2—5 broadly orange, the others yellow. Collar orange, broadly yellow behind, palpi yellow, orange at the bottom. 30—35 mm. Utah, Colorado, Arizona.

polistiformis. **P. polistiformis** Harr. (180 b). Head reddish, face whitish. Palpi reddish. Antennae above black, red beneath. Thorax brown, sometimes laterally reddish. Abdomen brown, warming into violet, the 2nd and 4th segments with a yellow ring, the anal segment with 4 orange brown small brushes, the exterior ones being shorter. Legs orange, femora black. Forewing brownish black with a violet shine and a short hyaline streak at the base; beneath orange at the base. Hindwing yellowish transparent with violettish brown margins, discal vein oblique, inner margin orange at the base. The ♀ is stronger and dark on the whole, without anal appendages. 21—37 mm. Vermont, New York, New Jersey, North Carolina, South Carolina, Kentucky, Illinois, Missouri, Michigan, Ohio, Minnesota. — Larva in cultivated and wild grape-fruits, especially in the Southern States; it may do much harm and is known as "orange-borer".

scepsiformis. **P. scepsiformis** Hy. Edw. (180 b). Head purple brown, palpi and collar rusty brown. Antennae black, dingy orange beneath and at the apex. Thorax dark brown, sometimes margined with yellow. Abdomen blackish, the 2nd segment yellow behind. Legs black, tibiae and tarsi marked orange. Forewing from dark brown to blackish with a bluish reflection, somewhat rust-coloured at the inner margin, the base now and then yellow. Hindwing transparent with a broad distal margin occupying almost one third of the wing. Margins and fringe violettish black, base and inner margin rust-coloured, more orange beneath. 25—30 mm. Maryland, Kansas, Texas.

simulans. **P. simulans** Grt. (= *luggeri* Hy. Edw.) (179 g). Head black, orbita lemon-coloured. Palpi black at the bottom, otherwise yellow. Antennae black. Collar lemon-coloured. Thorax black, behind with yellow marks extending to the forewings. Anterior coxae yellow, femora black with some yellow, tibiae yellow and orange, tarsi orange. Abdomen black with a broad yellow band on the posterior margin of each segment; they may become so broad that the abdomen appears to be quite yellow. The short anal tuft is darker, more orange. Forewing thinly covered with dingy orange brown scales, with a strong blackish brown costal margin and a

less strong inner margin, discal mark feeble. A narrow hyaline streak at the base and a broad hyaline area at the distal margin. Under surface generally paler, but mixed with orange. Hindwing transparent, opalescent, margins narrow, brown. 27—35 mm. Rhode Island, New York, Pennsylvania, New Jersey, Illinois, Ohio, Minnesota. The larva lives for two years in the wood of red oak. — Imago flying from the end of May till July. — var. *luggeri* Hy. Edw. ♂ with a transparent area below the cell of the forewing. Abdomen black at the base, with a narrow yellow streak on the 2nd segment, the middle segments laterally yellow, anal tuft yellow. Anterior tibiae black above, middle and hind tibiae with small black spots. The total impression is thus darker.

P. palmii Hy. Edw. (179 g). Head black. Palpi orange, black at the bottom. Collar orange. Antennae pectinated, black, orange basally, ochreous apically. Thorax black, patagia, a broad spot behind and the shoulders at the forewings light orange. Abdomen dark orange with narrow anterior segmental margins. Legs dark orange, posterior femora partly black. Forewing purple brown, orange red at the base along the eosta almost to the centre of the wing, a hyaline streak between veins 1 and 2. Hindwing yellowish transparent, opalescent, veins, discal mark, the narrow margins violettish brown. 32—43 mm. Florida. — Larva presumably in oak (BEUTENMÜLLER).

P. asilipennis Bsd. (= *vespipenne* H.-Schäff, *denudatum* Harr., *bombyciformis* Wkr.) (180 b. e). ♂: head black, yellowish white beneath, reddish above. Antennae reddish, very long dentate. Collar dark orange brown. Thorax brown, patagia reddish, posterior part with a yellow transverse line. Abdomen dull brownish black with very narrow yellow posterior rings on each segment above and beneath. Legs orange, femora black. Forewing transparent with narrow brown margins and a reddish discal vein. Hindwing transparent with a very narrow brown margin. ♀: similar to ♂, but forewing deep brown, warming into violet, with an oblique red discal vein and a triangular hyaline area above the anal angle. Abdomen stronger, the 2nd segment above red. Antennae plain. 30—44 mm. From New Hampshire to Florida, to the west as far as Minnesota, and to the south as far as Texas. — Larva in the roots of ashes and alders.

P. dollii Neum. (180 c). Head black, orbita pale. Palpi, collar and antennae reddish. Thorax blackish brown, sometimes with reddish patagia. Abdomen black, the 4th and the following segments reddish behind, the 2nd and 4th with a yellow ring, rarely all the segments are provided with feeble yellow rings. Legs dull orange, femora black. Forewing brown with a violet reflection, orange at the base, dull orange brown beneath. Hindwing brown, transparent at the base and behind the cell, below the eosta. Sometimes the transparent areas are confluent above the discal vein. Altogether a very variable species. 28—40 mm. New York, New Jersey, Pennsylvania, Illinois. — var. *castaneus* Beut. (180 c) is like the type, but the thorax and abdomen are light chestnut instead of blackish brown. 30—40 mm. Kansas, Texas. — Larva in the wood of young poplars.

P. seminole Neum. (180 d). ♀: head and eyes light brown, palpi light brown with dark apices. Collar light brown with a red margin. Thorax brown with yellow patagia-lines and a yellow posterior margin. Abdomen light reddish brown, the segments margined with yellowish, the first three above narrowly black. Legs above brown, beneath yellow with reddish brown hair. Forewing chestnut brown with a yellow basal spot, a reddish streak along the middle and one at the inner margin, fringe brown. Hindwing transparent, opalescent, eosta, veins, discal vein and fringe reddish brown. Forewing beneath light chestnut or reddish brown with a yellow basal area. 40 mm. Florida. Described only according to a ♀, the ♂ being unknown.

P. admirandus Hy. Edw. (180 d). Head, the part between the eyes and palpi orange, orbita white, face pale yellow. Antennae reddish. Thorax dull brown, patagia yellow, with a broad light reddish spot at the base of the wings on each side, metathorax with a yellow transverse band. The 1st abdominal segment brownish black, the 2nd light yellow, the 3rd orange, the 4th yellow, the last three orange with yellow margins; beneath orange, the 3rd segment yellow. Anal tuft brown. Legs orange. Forewing dull brown with a violet reflection and a small yellow basal spot, orange beneath at the base. Hindwing transparent, veins and the not very narrow margins dull brown, from the margin a wedge of dark dusting between 3 and 4, somewhat orange at the inner margin. 30 mm. Apparently only 1 ♂ known. Texas.

P. fraxini Hy. Edw. (= *morrisonii* Hy. Edw.) (180 c). Head black. Antennae with a long yellowish preapical spot, quite yellow beneath. Palpi yellow at the base, black towards the apex. Thorax bronze purple black with a small tuft of white hair on each side. Abdomen bronze black like the divided anal tuft in the ♂. Legs black, tarsi dingy yellow, anterior coxae at the bottom yellow. Forewing purple black. Discal mark red, beneath at the base faded yellowish. Hindwing transparent, discal mark and distal margins purple black. 20 to 25 mm. Washington.

P. maculipes G. & R. Head bronze brown, palpi pale yellow. Thorax above and beneath bronze brown. Abdomen purple brown with a pale yellow ring on the 1st and 4th segments. Legs brown, marked dingy yellow. Forewing bronze brown with a few reddish scales. Hindwing bronze brown, fringe mostly lighter. 18—24 mm. Texas.

heucherae. **P. heucherae** Hy. Edw. (= *potentillae* Hy. Edw.) (180 d). Head brown. Palpi pale yellow with some black. Antennae dingy yellowish, the dentation black. Thorax brown with a few yellow scales. Abdomen dark, the 1st and 4th segments broadly bordered with yellow, the others slightly scaled yellow. Anal tuft black. Legs black with yellow bands. Forewing bronze brown, more or less dusted reddish. Hindwing bronze brown. Under surface on the whole more yellow. 20—24 mm. California, Texas.

palmiana. **P. palmiana** dalla-Torre (= *palmii* Neum.) (180 d). Head black. Palpi orange. Collar orange in front, yellow behind. Antennae reddish brown, dentation black. Thorax black strewn with reddish scales, beneath with a yellow spot on each side. Abdomen black, the 1st segment yellow, the four last segments with very broad yellow bands at the anterior margin, beneath with more orange bands, anal tuft also orange. Legs orange, femora black. Forewing black mixed with red scales. Hindwing black with reddish shadows, basal area transparent; under surface orange. The ♀♀ are mostly much larger and more robust. 15—27 mm. Arizona.

canscens. **P. canscens** Hy. Edw. (180 e). Head and palpi orange mixed with black and white hairs, appearing grey on the whole. Antennal shaft grey, dents brown. Thorax and abdomen black, thickly scaled grey above and beneath. Legs grey. Forewing brown, densely scaled grey, under surface brown, margins brown, fringe white. 18—24 mm. Kansas, Colorado.

mexicanus. **P. mexicanus** Beut. (180 f). Head black, palpi and collar white. Thorax black, patagia with white stripes. Abdomen black with a white band on the 2nd and the last 4 segments. Anal tuft black. Legs black with white bands. Forewing brownish black, white on the distal part between the veins. Hindwing black. 12 mm. New Mexico. — Apparently only ♂♂ are known.

fenestratus. **P. fenestratus** Barn. & Linds. Head, abdomen, legs and antennae black, the apical part of the antennae orange. Wings orange, fringes greyish brown, darker in the cell; costal margin as far as the end of the cell, base, inner margin near the base, radial and cubital lines blackish. Inner margin and the following vein of the hindwing black, the other veins with traces of black, near the base several transparent areas between the veins. 45 mm. Chiricahua Mts., Arizona. June.

33. Genus: **Bombosceles** Meyr.

Head smooth, eyes large, tongue present. Antennae pointed at the ends, about half ciliated in the ♂. Palpi short, bent upward, with appressed scales, compressed, pointed. Abdomen short, broadest in the middle. Anal tuft small. All the tibiae broadly covered with dense rough hair-scales, the middle and posterior tarsi with hair-tufts on three terminal joints. Forewing: vein 2 from the angle, 3 absent, 7 to the apex, 8 separated. 11 from $\frac{3}{4}$ of the length of the cell. Hindwing: 2 and 3 from $\frac{3}{4}$ of the length of the cell, 4 from the angle. 5 absent, 6 bent at the base and coalescent with 7.

cyanomyia. **B. cyanomyia** Meyr. (180 e). ♂: head, palpi, antennae, thorax and abdomen dark blue, margins behind the eyes white. Legs dark bluish grey, an ochreous spot at the apex of the posterior tibiae, all the tarsi with two or three whitish ochreous areas. Forewing narrow, apex roundish, brownish hyaline, veins, a broad costal streak as far as vein 8, the narrow anal margin and the broad discoidal mark bluish mark, fringe dark brown. Hindwing ochreous hyaline, veins black, fringe grey, a blackish brown basal shadow. 14 mm. Taperinha (July); Rio de Janeiro, Itatiaya. The insect, according to Prof. SEITZ, rests on leaves from which it does not fly off instantly, when it is disturbed, but it runs away quickly like a spider which it resembles rather much, its wings being reversed and the hairy legs projecting. On account of this peculiar exterior we figure a specimen in its natural position of repose.

34. Genus: **Albuna** Hy. Edw.

Palpi upturned as far as the height of the head, with short hair. Antennae filiform, ending fine in the ♂. Abdomen slender, anal tuft of ♂ flat and divided in the middle, forming two flat brushes. Forewing with 12 veins, 7 and 8 stalked. Posterior tibiae with short hair. Hindwing with veins 4 and 5 from the end of the cell, discocellular vein rather oblique. Type: *A. pyramidalis* Wkr.

pyramidalis. **A. pyramidalis** Wkr. (= *hylotomiformis* Wkr., *vancouverensis* Hy. Edw., *nomadaepennis* Bsd.). Head black, orbita pale yellow. Palpi yellow, black outside. Thorax black, patagia margined with yellow, behind at the thorax a yellow transverse band and a small spot at the base of the forewing. Collar yellow. Antennae black, reddish beneath. Abdomen black with pale yellow rings on each segment. Anal tuft black. Legs black, tibiae with yellow bands. Forewing transparent with broad black margins and a black cross-vein edged with red, distal and inner margins bordered with red. Beneath the margins and discal mark are covered with red and orange. Hindwing transparent, margins and cross-vein brownish black. 18—30 mm. Nova Scotia, Canada, Maine to Massachusetts. North New York and to the west as far as the Pacific. This *Aegeriida* is very variable. The imago flies from June until the middle of August; nothing is known of the early stages.

— var. **montana** Hy. Edw. (= *tanaceti* Hy. Edw.) (180 e) has yellow legs with black bands and more extensive *montana*. red on the forewing. — var. **rubescens** Hulst. (180 e) has very extensively red forewings, red-veined hindwings, *rubescens*. the abdominal rings and legs beautifully golden yellow. — var. **coloradensis** Hy. Edw. (= *torva* Hy. Edw.) *coloradensis*. (180 f) is quite black, with occasional traces of red at the inner margin of the forewing.

A. denotatus Hy. Edw. (180 e). Head and palpi black with inwardly yellow tips, orbita purely white. *denotatus*. Collar lustrous violettish black intermixed with yellow. Antennae steel-blue above, reddish below. Thorax bluish black, behind with a yellow lateral streak and a yellow shoulder-spot. Abdomen deep black, with a bluish reflection, the 2nd, 3rd, 4th, and the two last segments with broad yellow bands. Anal tuft black with traces of yellow hair. Legs black, middle and hind tibiae partly orange, the last yellow inside. Tarsi orange. Forewing violettish black with a transparent streak, all the rest as in *P. tricinatus*. According to BEUTENMÜLLER, *denotatus* may be a variety of *tricinctus*, since they are very similar, but *denotatus* has five yellow bands, *tricinctus* four in the ♂, three in the ♀. 26—28 mm. Montana, Colorado, Texas. I could not find out anything about the habits.

A. beutenmülleri Skinn. Antennae, head, palpi, thorax, abdomen, and legs black. Abdomen and thorax *beutenmülleri*. beneath metallic bluish black. Hindlegs with long black hair. Wings bright red, narrowly margined with black, fringes black. Forewing hyaline in the distal area, divided into four parts by the red veins, a hyaline streak in the centre of the wing; these hyaline areas are slightly covered with shining greenish or bluish scales, base and inner margin blackish. The hindwing has two similar spots, one near the costa, apparently bipartite by a vein, and a broader one near the base, tripartite; the base itself blackish. 20 mm. Only 1 ♀. Stockton, Utah. End of May.

35. Genus: **Tirista** Wkr.

Proboscis absent. Palpi erect, not quite reaching the head, densely scaled. Antennae strong, pectinated, growing weaker apically. Abdomen fusiform, twice as long as the thorax. Legs short, hairy, hind tibiae with four long spines. Wings narrow, veins of the usual structure. Forewing scaled, hindwing scaled in the apical half, the rest transparent. Very closely allied to *Melittia*, *Alonina* from Africa and *Paranthrene*.

T. argentifrons Wkr. ♂: black, face silvery, its posterior edge with dingy yellow fringes. Palpi reddish, *argentifrons*. yellowish apically. Chest with yellow streaks on each side. A yellow cartilaginous elevation at the base of the forewing. Abdomen red, the 2nd segment with a yellow band, the 5th, 6th and 7th quite yellow. Anal tuft yellow with a few black hairs. Legs red, tarsi golden yellow, femora black, hind tibiae beneath marked black. Forewing purple black. Hindwing transparent, bright red at the base, apical half and inner margin black. 30 mm. Oaxaca in Mexico.

T. praxila Drc. (185 c). All the wings semihyaline, yellowish brown, forewing with a darker costal *praxila*. margin and centre. On the hindwing the costal margin, apex and distal margins are edged with yellowish brown; both wings with pale yellowish brown fringes. Antennae, palpi, and legs yellowish brown. Head, thorax and abdomen darker brown, anal tuft yellow. 45 mm. Mexico: Jalapa.

36. Genus: **Sincara** Wkr.

Body rather strong. Head broad, proboscis absent. Palpi erect, thickly haired below, 3rd joint short, conical. Antennae filiform, plain, as long as the thorax. Abdomen fusiform with a small pointed anal tuft, somewhat longer than the thorax, the first segment compressed. Legs rather long and strong, the anterior tibiae with a long hair-tuft. Wings narrow, the 2nd interior vein twice as distant from the 3rd as from the 1st; 3 nearer to 2 than to 4. The 2nd upper vein bifurcates after $\frac{2}{3}$ of its length.

S. crassicornis Wkr. ♀: blackish purple, of a strong structure. Proboscis quite short. Robust club- *crassicornis*. shaped antennae slightly falciform. Abdomen fusiform, twice as long as the thorax. The two last segments and the under surface ash-grey, with a slight yellowish reflection. Legs thick, hind tibiae hairy, hind tarsi yellowish ash-grey towards joints. Forewing deep purple, distal margin rounded. Hindwing transparent, veins, margins, and fringes purple. 26—28 mm. Ega (Teffé).

S. eumeniformis Wkr. ♂: dark rust-coloured with a few silvery scales on the head and prothorax. Head *eumeniformis*. blackish. Palpi with scaly hairs at the base. Antennae bluish black. Abdomen reddish, the 1st segment brown, whitish behind. Legs blackish, with scaly stripes below, spurs light grey. Forewing delicately brown, semi-transparent. Hindwing transparent. 30 mm. Pará.

S. manoba Drc. (185 d). Forewing brownish black, darkest along the costa. Hindwing yellowish hyaline, *manoba*. fringe black. Head thorax, and abdomen dull black. Antennae black. 25 mm. Mexico: Teapa, Tabasco, February.

- phyllis*. **S. phyllis** Drc. (180 d). Forewing yellowish hyaline, brownish at the base, the costal and inner margins orange. Hindwing hyaline, fringe brown. Head, thorax and abdomen brownish black, prothorax yellowish, the 3rd abdominal segment yellow, the others with traces of yellow. Palpi and collar yellow. Antennae black, yellow at the base. Legs brown. 32 mm. Guatemala, Cerro Zunil.
- alopecura*. **S. alopecura** sp. n. (180 f). Head dark brown, silvery white between the eyes. The first joints of the antennae yellowish brown (the rest of the antennae absent). Palpi yellowish brown. Thorax brownish, slightly scaled, evidently without any further marking, lighter beneath. Abdomen rusty reddish yellow, turning brownish at the base, anal tuft lightest, almost orange. Beneath dingy whitish, opalescent, anal tuft light orange. All the legs rusty reddish yellow, the coxae turning greyish brown. Forewing yellowish hyaline, margins, veins and the indistinct discal vein brownish black, more thickly scaled in the distal area, especially the veins, where they terminate into the distal margin. Between them near the margin and at the discal mark outwardly slightly scaled yellowish hyaline. Hindwing yellowish hyaline, veins and the narrow margin brownish black, fringes of all the wings yellowish brown. 22 mm. Colombia, Umbria. 1 ♂. Type: Coll. ZUKOWSKY.
- confusa*. **S. confusa** Btlr. is an uncertain form; BUTLER places it to *S. basalis* Wkr. (176 c) and says that the antennae are very short and thick, the abdomen decidedly fusiform and differently coloured in the two sexes, though he does not dare to separate the sexes, proposing the name *confusa* for the ♀.
- lytaea*. **S. lytaea** Drc. (180 f). Forewing hyaline, yellow at the base, the costal margin and apex brownish black. Hindwing hyaline, fringe brown. Head, thorax and antennae black. Palpi greyish white below, black above. Abdomen black, each segment with fine white rings, anal tuft greyish white. Legs black, set with a few white hairs. 19—20 mm. Guatemala, Zapote.
- maeonia*. **S. maeonia** Drc. (185 f). Forewing and hindwing hyaline, the costal and distal margins of the forewing narrowly edged with black, the fringes of all the wings black, the inner margin of the forewing covered with yellow from the base almost to the anal angle. Head, thorax and abdomen black. Palpi bright yellow, tegulae striped yellow. Antennae and legs black. 25 mm. Mexico: Omilteme, Guerrero, 2700 m.
- manilia*. **S. manilia** Drc. (185 c). Forewing and hindwing yellowish hyaline, the costal margin of the forewing and the fringes of all the wings black. Head, thorax and abdomen black, the last 4 segments of the abdomen broadly edged with yellow. Anal tuft yellow. Antennae and legs black. Palpi frontally yellow. 25 mm. Mexico: Sierra de los Aguas Escondidas, Guerrero. 2400 m. July and August.
- cambyses*. **S. cambyses** Drc. (180 f). Forewing whitish hyaline, the costal margin and apex black. Hindwing hyaline, margins and fringe black. Head, thorax and abdomen black. Antennae and legs black, the tarsi mixed with a few yellow hairs. 20 mm. Panama, Bugaba.

37. Genus: **Cotaena** Wkr.

Body rather robust. Proboscis remarkably short. Palpi soft, slender, slightly bent upward, not longer than the head is broad; 3rd joint pointed, shorter than the 2nd. Antennae bristle-like, rather slender. Abdomen fusiform, its whole length projecting beyond the hindwings. Legs strong, spurs long and robust. Wings long and narrow, entirely scaled, fringes rather long. Forewing rounded at the distal margin, convex, very oblique.

- mediana*. **C. mediana** Wkr. ♀: dark metallic blue. Proboscis brownish yellow. Thorax orange, dark in front. Abdomen with a broad ochreous stripe extending from the base to half the length. Wings with dark ash-coloured fringes. Forewing orange at the base, purple towards the distal margin, under surface pale golden yellow along the costa from the base on two thirds of its length. Hindwing purple, costa pale golden yellow on $\frac{3}{4}$ of its length. 32—34 mm. Pará.

38. Genus: **Ecrectica** Wkr.

Body slender, straight. Proboscis absent. Palpi compressed, slender, hairy, erect, much longer than the head is broad, the 3rd joint with an obtuse point, shorter than the 2nd. Antennae hairy. Abdomen with its whole length projecting beyond the hindwings. Anal tuft quadrangular. Legs scaled, rather long and slender, hind tibiae without middle spurs. Wings long, narrow, scaled. Forewing rather rounded outside, distal margin uncommonly oblique.

- fasciata*. **E. fasciata** Wkr. ♂: dark copper-coloured. Palpi and antennae black. Thorax red at the anterior edge. Abdomen beautifully red, except the apex. Hind tibiae with yellow bands towards the joints, hind tarsi basally yellow. Forewing yellow at the base with an irregular postmedian band. 25 mm. Ega (Teffé).

39. Genus: **Parharmonia** Beut.

Palpi extending forward, with appressed scales. Antennae long, filiform. Abdomen slender with a straight insignificant anal tuft. Hind tibiae with short hair. Forewing with 12 veins, 7 and 8 stalked. Hindwing: 4 and 5 on a short stalk at the end of the cell, vein 1a traceable, discocellular vein oblique. Proboscis developed. Type: *P. pini* Kell.

P. pini Kell. (180 g). Head, palpi, antennae, thorax and legs metallic blue or greenish blue. Collar in *pini*. front somewhat orange. Abdomen above black, the posterior half of the 4th segment orange, under surface and the anal tuft quite orange. Forewing metallic blue or greenish black, with a still more prominent discal mark. Hindwing scantily covered with bluish black scales, almost transparent with very narrow black margins. 28—30 mm. Canada, New York, New Jersey, New Hampshire. — Larva in pine-trees underneath the bark and in the upper wood in curved passages, indicated by semiglobular gall-like formations interspersed with resin, frequently situate very high on the trunks or twigs. The pupation takes place in a silky cocoon in the hardened excrescences in May, June. The imago appears in June till August.

P. piceae Dyar. Bluish black. All the wings hyaline, forewing with a black costal margin, the cross-vein and the distal margin also black, the apex broadly black. Antennae black. The interior edge of the patagia red. Palpi inside at the base, anterior coxae outside, and irregular spots on the inside of all the tibiae also red, anterior tarsi reddish, middle tarsi inside reddish, posterior tarsi black. Abdomen with scattered red scales on the under surface, forming a defined double spot on the 3rd segment, unicoloured black above. 25 mm. Hoquiam, Keyport (Washington). — The larva lives in *Picea sitchensis*.

40. Genus: **Sophona** Wkr.

Body rather long. Proboscis mostly absent. Palpi moderately long, slightly hairy, the 3rd joint pointed. Antennae bristle-shaped, hairy below, as long as the thorax. Abdomen fusiform, more than twice as long as the thorax, with a feeble anal tuft. Legs strong, tibiae with hair-tufts in the middle and at the end. Hind tarsi very thickly and strongly haired. Wings very narrow, forewing scaled, hindwing transparent.

S. halictipennis Wkr. ♀: purple. Head whitish. Palpi whitish, black beneath. Thorax with three yellow stripes. Abdomen with a narrow yellow band near the base, white beneath. Tibiae and tarsi chiefly brownish yellow, the tibiae with black hair-tufts. Forewing purple black with ash-coloured distal marks. Hindwing almost quite transparent. 18 mm. Villa nova. — **flavizonata** subsp. nov. (180 g). Collar, between the eyes, as well as the anterior coxae light yellow, no stripes on the thorax. Abdomen as in the nomenclatural form with a narrow yellow band near the base, the last three segments posteriorly edged with light yellow, the anal tuft light orange. Legs as in *halictipennis*, black above, light grey beneath. Forewing purple black, semitransparent in the distal area, hindwing transparent. 15 mm. Rio de Janeiro. Collected by Prof. SEITZ. Type: Senckenberg Museum at Frankfurt on the Main.

41. Genus: **Bembecia** Hbn.

Palpi erect, but not reaching the head, with rather long hair at the origin. Head small, thorax convex in front. Abdomen strong, with somewhat projecting hair on the 1st and 2nd segments. Anal tuft of the ♂ short, broad and flat, insignificant in the ♀. Middle and hind femora as well as tibiae hairy. Antennae short, dentate in the ♂, plain in the ♀. Proboscis absent. Forewing with 11 veins, 7 and 8 stalked, 2 absent. Distal margin of hindwing curved, the veins 4 and 5 on a long stalk, 3 parallel with it. Discocellular vein straight. Type: *B. hylaeiformis* Lasp. from Europe.

B. marginata Harr. (= *placciaeformis* Grt., *odyneripennis* Wkr., *rubi* Riley, *flavipes* Hulst.) (180 f). Head brown, orbita, palpi and collar yellow. Antennae black. Thorax deep brownish black with yellow markings. Abdomen deep brownish black with yellow rings on the posterior part of each segment, extending all around. Anal tuft yellow and black; quite yellow in the ♀ like the last segment, too. Legs yellow, femora and tibiae outside partly black. Forewing transparent with broad brown margins, a lighter inner margin and intense discal marking. Under surface more yellow, especially at the base. Hindwing with a narrow brown margin, all the veins brown. 20—35 mm. August, September. Canada to the west as far as the Gulf of Georgia, Vancouver, New England, Central States to the west as far as Ohio, Illinois, Missouri, Kansas, and Nebraska. The eggs are singly deposited on the lower parts of the stalks of blackberry and raspberry, from where the larva penetrates into the crown of the root; the adult larva goes into the old stalks of the previous year, where it pupates. The pupa has a sharp three-edged point on its head for piercing the outward skin, while it emerges. The species is the counterpart of the palaearctic *hylaeiformis*. — var. **albicoma** Hulst. Head, thorax and abdomen deep sooty black with very pale yellow, almost white rings. The yellow is also less extensive, so that the three first segments are mostly quite black. Legs with more black. Otherwise like *marginata*. 23—27 mm. New York and New Jersey.

eucheripennis. **B. eucheripennis** Bsd. Head and antennae rusty brown. Thorax unicoloured iron-brown. Abdomen violetish black, all the segments edged with rust-brown, the two first yellow behind, at the base of the abdomen there is also yellow colouring. Feet bright rusty red, the anterior parts black. Forewing transparent, broadly brown outside, the margins as well as the discal vein brown, the latter lighter outside, bordered with rust-colour. Hindwing transparent with a narrow blackish margin and blackish veins. 30 mm. Mexico.

42. Genus: **Myrmecosphecia** Le Cerf.

Head small, not convex. Palpi short, thick, the first joint below with a hair-tuft. Antennae short, scarcely longer than the thorax, below in the middle set with hair-shaped scales. Eyes small. Proboscis well developed. Body thick and strong, abdomen cylindrical-conical, anal tuft small. Wings long and stretched, the cell of the forewing therefore also very long, occupying three quarters of the wing. Vein 1 obsolete, 2 absent, 3 from the interior angle of the cell, 4 nearer to 3 than to 5, 7 and 8 not stalked, arising from the upper angle of the cell, 9 and 10 at equal distances, 11 separated far from 10. Hindwing: 1a absent, 2 and 3 very near together and separated far from 4, 4 arises from the interior angle of the cell, 5 from the discocellular angle, 6 absent, 7 placed obliquely to 5. Type: *M. Le Moulti* Le Cerf.

moulti. **M. Le Moulti** Le Cerf (180 g). Head and palpi black, the 3rd joint below black. Antennae black, reddish at the ends. Collar, thorax and abdomen bronze black, abdomen reflecting, except the three first segments which are without lustre, their sides being covered with reddish scales. Ventrums bronze black, the 4th segment white beneath. All the legs bronze black, the femora whitish inside. Forewing black, feebly rust-coloured in the cell, the exterior third transparent, the margins and fringe black. Hindwing transparent, veins and margins very finely black, short black fringes. 32 mm. 1 ♀. French Guiana. June. Superficially similar to *A. ovinia* (178 h) and *S. manoba* (185 d).

Alphabetical List

of the original descriptions of the forms of the American *Aegeriidae*.

* signifies that the form is also figured at the place quoted.

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mimuli Syn. *Hy. Edw.* Papilio 1, p. 200.
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neglecta Syn. *Hy. Edw.* Papilio 1, p. 197.
nigra Mel. *Le Cerf Oberth. Ét. Léop. Comp.* 12, p. 239. *
nigra Syn. *Beut. Bull. Amer. Mus. Nat. Hist.* 6, p. 95.
novaroensis Syn. *Hy. Edw.* Papilio 1, p. 181.

oberthuri Call. *Le Cerf Oberth. Ét. Léop. Comp.* 12, p. 9, 14, p. 248. *
oberthuri Mel. *Le Cerf Oberth. Ét. Léop. Comp.* 12, p. 9; 14, p. 248. *
opaleseens Con. *Hy. Edw.* Papilio 1, p. 199.
opiiformis Syn. *Wkr. List Lep. Brit. Mus.* 8, p. 51.
ovinia Aeg. *Drc. Biol. Centr. Amer. Lep. Het.* 2, p. 324. *

pacifica Sphec. *Hy. Edw.* Papilio 1, p. 180.
pallene Syn. *Drc. Ann. Mag. Nat. Hist. (6)* 4, p. 80.
palmi Gaea *Barn. & Mc Dun. Contrib. Nordam. Lep.* 4 (2), p. 178. *
palmii Par. *Hy. Edw. Canad. Ent.* 19, p. 145.
palmiana Par. *Zuk. Seitz, Macrolep.* 6, p. 1256. *
paniseiformis Syn. *Wkr. List Lep. Het. Brit. Mus.* 8, p. 55.
panurgiformis Syn. *Wkr. List Lep. Het. Brit. Mus.* 8, p. 54.
pauper Mel. *Le Cerf Obth. Et. Léop. Comp.* 14, p. 169. *
peltastiformis Syn. *Wkr. List Lep. Het. Brit. Mus.* 8, p. 52.
penthetria Cham. *Zuk. Seitz, Macrolep.* 6, p. 1240. *
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peruviana Con. *Rothsch. Nov. Zool.* 18, p. 47. *
peruviana Syn. *Drc. Ann. Mag. Nat. Hist. (8)* 7, p. 292.
phyllis Sinc. *Drc. Biol. Centr.-Amer. Lep. Het.* 1, p. 5. *
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pitheis Syn. *Drc. Ann. Mag. Nat. Hist. (7)* 4, p. 203.
plagiophleps Syn. *Zuk. Seitz, Macrolep.* 6, p. 1222. *
plectiseiformis Syn. *Wkr. List Lep. Brit. Mus.* 8, p. 49.
plumipes Euryph. *Wkr. List Lep. Brit. Mus.* 31 (suppl. 1), p. 8.
pluto Cham. *Zuk. Seitz, Macrolep.* 6, p. 1240. *
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porzoniformis Syn. *Wkr. List Lep. Het. Brit. Mus.* 8, p. 54.
powelli Mel. *Le Cerf Oberth. Ét. Léop. Comp.* 14, p. 210. *
praecedens Con. *Hy. Edw.* Papilio 3, p. 155.
praestans Syn. *Hy. Edw.* Papilio 2, p. 98.
praxila Tir. *Drc. Biol. Centr.-Amer. Lep. Het.* 2, p. 325. *
producta Syn. *Wkr. List Lep. Het. Brit. Mus.* 31 (suppl. 1), p. 4.

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prosopis Syn. *Hy. Edw. Papilio* 2, p. 99.
pulechripennis Syn. *Wkr. List Lep. Het. Brit. Mus.* 31 (suppl. 1), p. 6.
pulechripes Mel. *Wkr. List Lep. Het. Brit. Mus.* 8, p. 67.
pyralidiformis Syn. *Wkr. List Lep. Het. Brit. Mus.* 8, p. 44.
pyramidalis Alb. *Wkr. List Lep. Brit. Mus.* 8, p. 40.
pyri Syn. *Harr. New England Farmer* 9, p. 1.
pyrosoma Syn. *Meyr. Exot. Micr.* 2 (4—7), p. 180.

querci Syn. *Hy. Edw. Papilio* 2, p. 98.

refulgens Syn. *Hy. Edw. Papilio* 1, p. 199.
renipes Tars. *Bllr. Ann. Mag. Nat. Hist.* (4) 14, p. 410.
rhododendri Syn. *Beut. Ent. News* 20, p. 82.
rhysaeformis Syn. *Wkr. List Lep. Brit. Mus.* 8, p. 50.
rileyana Syn. *Hy. Edw. Papilio* 1, p. 187.
riograndensis Mel. *Bréth. Anal. Soc. Rur. Argent.* 54, 1920.
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ruficornis Syn. *Hy. Edw. Papilio* 1, p. 184.
rugia Mel. *Dre. Ann. Mag. Nat. Hist.* (8) 6, p. 180.
rutilans Syn. *Hy. Edw. Papilio* 1, p. 186.

sallustiformis Syn. *Dre. Biol. Centr. Amer. Lep.* 1, p. 30. *
sanborni Syn. *Hy. Edw. Papilio* 1, p. 185.
santanna Syn. *Kaye Trans. Ent. Soc. London* 1924, p. 314.
sapygaeformis Syn. *Wkr. List Lep. Het. Brit. Mus.* 8, p. 45.
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saxifragae Syn. *Hy. Edw. Papilio* 1, p. 190.
searabitis Con. *Meyr. Exot. Micr.* 2, p. 444.
seepsiformis Par. *Hy. Edw. Papilio* 1, p. 183.
sciophilaeformis Syn. *Wkr. List Lep. Het. Brit. Mus.* 8, p. 49.
scitula Syn. *Harr. Amer. Journ. Arts and Sci.* 36, p. 313.
seythropa Syn. *Zuk. Seitz. Macrolep.* 6, p. 1232. *
seminole Par. *Neum. Ent. News* 5, p. 330.
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sequoiae Con. *Hy. Edw. Papilio* 1, p. 181.
sigmoidea Syn. *Hy. Edw. Papilio* 2, p. 56.

simulans Par. *Grt. Bull. Brooklyn Ent. Soc.* 3, p. 78.
smithi Mel. *Dre. Ann. Mag. Nat. Hist.* (6) 4, p. 81.
snowii Mel. *Hy. Edw. Papilio* 2, p. 53.
solitudo Gaea *Hy. Edw. Papilio* 1, p. 182.
snbaerea Syn. *Hy. Edw. Papilio* 3, p. 156.
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superba Mel. *Rothsch. Nov. Zool.* 16, p. 132. *
surinamensis Syn. *Msehlr. Verh. Zool.-Bot. Ges. Wien* 27, p. 631.
syngenica Euryphr. *Zuk. Seitz. Macrolep.* 6, p. 1246. *
syringae Pod. *Harr. Amer. Journ. Arts and Sci.* 36, p. 311.

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teleta Dips. *Le Cerf Oberth. Ét. Léop. Comp.* 12, p. 11. *
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tetranoma Syn. *Meyr. Exot. Micro* 4, p. 337.
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verecunda Syn. *Hy. Edw. Papilio* 1, p. 190.
verruco Sann. *Dre. Biol. Centr.-Amer. Lep. Het.* 1, 2, p. 34. *
viburni Syn. *Engelth. Brooklyn Ent. Soc.* 20, p. 65.
vignae Aeg. *Busck Proc. Ent. Soc. Washington* 31.
votaria Con. *Meyr. Exot. Micr.* 2, p. 444.

wagneri Syn. *Le Cerf Bull. Mus. Hist. Nat. Paris* 17, p. 298. *
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xanthomelanina Con. *Zuk. Seitz. Macrolep.* 6, p. 1241. *
xanthoneura Syn. *Zuk. Seitz. Macrolep.* 6, p. 1220. *
xanthonympha Con. *Meyr. Exot. Micr.* 2, p. 444.
xanthopus Mel. *Le Cerf Obth. Et. Lep. Comp.* 12, p. 9: 14, p. 175. *

Family: Cossidae.

Considering the *Cossidae* and their distribution over the Earth in general we must bear in mind that frequently species have been ranged in this family, the propinquity of which has not yet been fully proved. The peculiar life-habits of the larvae of this family in the interior of plants — especially of wood-plants — has produced quite a number of exterior features which may easily mislead the systematizer, wherever they are not distinctly exhibited as convergencies. Not even the delimitation of the family had thus far been fixed, and the insertion of the *Arbelidae* of America (*Lepidarbelidae*) in the *Cossidae* has only at this place been really carried through, although it had been practically employed long ago in statistic works (REBEL).

Towards the end of the last century, KIRBY compiled in his Catalogue about 218 species which are almost equally divided upon the four large faunae. Somewhat later, REBEL enumerated already twice as many (440) species, and to-day 70 more species have been superadded to this total number. Yet the rather equable distribution over the Earth has remained, since each of the three faunae of the Old World harbours about 100 species (the Palaearctic and Ethiopian Regions somewhat less, the Indo-Australian Region somewhat more), only the American Region holds twice as many species, about 200.

The life-conditions of the *Cossidae* are such as allow them to occur nearly on the whole of the Earth, only smaller islands being often without any, especially also New Zealand which is unintelligibly poor in Macrolepidoptera.

The bitterest enemy of the *Cossidae* as imago, at least in South America, is the bat. As we mentioned already in Vol. XIV, the imagines are attracted to the light from great distances, whizzing round the lamps in a straight, somewhat unwieldy flight, while the bats spread mighty havoc among them. I could observe this especially in the larger *Langsdorfia* in Brazil and was struck by this fact all the more since I never noticed that the *Zeuzera pyrina* which are indigenous to the palaearctic region (but imported into America) were pursued by bats. The ♂♂ of *Zeuzera pyrina* mostly dashed upon the flame, and after having hit against the window-panes with their heads, they dropped straightway to the ground. There they remained lying motionless on their backs, with their wings closely appressed, and sometimes numbers of them were lying about even in the morning, similarly as if cigarette-ends had been thrown away. As they were neither attacked by the large panther-toads, which search the ground beneath the lanterns at night in North Africa, it seems that certain species are protected by pungent or perhaps obnoxious saps, which would also explain the experience made in Europe with chickens despising the *Zeuzera pyrina* that were thrown to them among other moths which they greedily devoured. The American *Cossidae* are rarely met with except in the lamp-light, because many species are well protected by their bark-like colouring, and besides they live rather well hidden. The smaller forms of the steppes even seem to hide beneath or close to the soil, for even those species which, like the Argentine *Langsdorfia ambigua*, are whirling around the lamp in tremendous swarms and which must consequently occur in immense numbers of individuals, are hardly ever or never met with in the daytime. In searching for larvae at night with a lantern, the imagines of the genus *Holcocerus*, which are hardly ever come upon in daylight, can be observed creeping up stalks and blades projecting beyond the scanty sward of the steppe; consequently, they must also have their hiding-places on the soil.

Regarding the life-history of the American *Cossidae*, we are only informed to some extent about the nearctic species. They do not differ in this from those of other faunae. The duration of life of the larva is very long as in most of the wood-eating insects; presumably owing to the lignified parts of the plants being not very nutritious, and because of the boring which they are forced to do being very wearisome. On the one hand, it is the long duration of this time of development, during which the larvae are exposed to all kinds of dangers, on the other hand the great number of foes living on the invariably fat larvae of the woodborers, that the number of individuals reaching puberty is greatly reduced in spite of their concealed habits. The wood-larvae are enormously decimated by termites and rapacious beetles inside the passages, by wood-peckers and Hymenoptera

outside. The number of eggs produced by some ♀♀ of the *Cossidae* is therefore amazingly great, and if in certain years favourable conditions of life are presented to the *Cossidae* owing to the non-appearance of certain enemies or to climatic constellations, the number of certain species may sometimes be so tremendous that they almost resemble a swarm of locusts.

The American *Cossidae* exhibit numerous schemes of colouring that are well known from other faunae. The *Zeuzera pyrina* which we already mentioned to have been imported, has not yet changed in America, while in North Africa it invariably shows a different thoracal marking compared with the European species. In America, especially in the nearctic region, we also find the approximate exterior of the palaearctic *Cóssus cossus* in quite a number of species; some of them have even been described as *Cossus*, as for instance *Acossus ore Strecker*; *A. populi* from the Hudson Bay and *undosus* from the Rocky Mountains are extremely similar to North Asiatic forms of *cossus*, except that the shade of the grey groundcolour has slightly changed according to the bark of the food-trees. *Miacore diffidens Dyar* from Mexico exhibits a colouring and marking very similar to that of *Cossus terebra*, and also other species occur in America, which show a great resemblance to the smaller Egyptian *Cossus*-species and some Central Asiatic species, such as the recently discovered *C. sheljuzhkoii Zuk.* from the Thian-shan.

The marking of the Cossid wing being adapted to rimous bark as well as the imitation of broken off little twigs represents an assimilation of nearctic *Cossidae* to palaearctic Heterocera, which is merely due to convergency and therefore accidental. The image of the resting *Phalera bucephala* most strikingly copying a piece of twig by the way it holds its wings and by showing the broken part, reoccurs in American *Cossidae*, as in *Cossula magna Schs.* from Guiana and the likewise similarly marked *Cossula gaudeator Schs.* from Costa Rica. As we mentioned above, it is extremely risky to conclude affinities from the colouring, marking and even the exterior habitus, yet it seems that in classifying some very similar species in distantly separated genera, the characteristic structure has sometimes been considered too exclusively, as we must not ignore an extraordinary polyformism, for instance of the antennae in the *Cossidae*. It was chiefly the shape of the antennae, which started the idea of dividing the *Cossidae* into two entirely separated families — the *Cossidae* and *Zeuzeridae*. In nearly all the other Heterocera families it is advisable to concede the shape of the antennae an essential influence upon the construction of the system, but in single cases the structure of the antennae is most probably caused by certain conditions of life, which being sometimes due to the landscape change the function of certain organs and thereby also their structure; we merely remind our readers of the differences of the antennae in certain species from other groups, which are otherwise extremely similar and evidently very closely allied, as for instance *Brephos parthenias L.* and *notha Hbn.*

Family: Cossidae.

By H. G. DYAR †. (Revised by Dr. W. SCHAUS.)

Already in 1894 I divided, together with B. NEUMOEGEN, the *Cossidae* for the first time into two subordinate families according to the presence or absence of a cross-vein between the veins 7 and 8 of the hindwing. This classification was kept up by SCHAUS for the genera of the South American *Cossidae*, considering at the same time the formation of the antennae. In 1911, BARNES & MC DUNNOUGH supplied an excellent key to the North American forms of this family, in which the aforementioned characters were ascertained to be subject to a certain variability; they therefore proposed to give up this division. Instead of it they proposed as a basis for a better classification to use as distinguishing characters the variations of the anal veins of the forewing, according to these veins being united near the margin or extending separately.

The collection of the National Museum at Washington contains now the collections of both SCHAUS and DOGNIN, being the main describers of the American species of this family, beside HERBERT DRUCE, so that most of all the species known are present there. In trying to range these species among the corresponding genera I came across a species (*Lentagena ophelia Schs.*) which renders also the division of BARNES & MC DUNNOUGH impossible. But as this species corresponds well with *Carohamilia Dyar* in all the other characters, it shows that this cannot be used for diagnoses either.

Consequently, I have been looking for another principle of classification for the American species and have likewise used for it the neurulation of the forewing. Vein 11 arises from the areole in *Xyleutes*, *Cossula* etc., from the centre of the discal cell in the others, for which reason I choose this character as a division. HAMPSON proposed to divide the *Cossidae* into two families, the *Hypocptidae* without a frenulum and the *Cossidae* with a frenulum, but I found this character not to be suitable for the classification of the genera.

Judging from the material at hand, no species of the family of *Lepidarbelidae* occur in America. This family — formerly named *Arbelidae* (according to *Arbela Mr.*, a homonym of *Arbela Stål*) — is closely allied with the *Cossidae*. The latest catalogue by DALLA TORRE and STRAND enumerates 9 American “*Lepidarbelidae*”. Only 7 of these are known as genuine *Cossidae*, quoted here as *Cossula* and *Givira*. The two others will probably also belong to this place.

LEACH, in 1815, was the first who used the name of *Cossidae* for denoting the *Cossus* and their allies as a group, for which reason the family must bear his name as the author's name. The typical genus is *Cossus* F. (1794) with the typical species: *cossus* L. (1758).

Key to the American Genera.

- I. Vein 11 of forewing from the areole or close before its origin **Zeuzerinae.**
 1. Areole long and narrow, projecting beyond the end of the discal cell.
 - a) Sexes dissimilar. Hindwing of ♂ triangular *Cryptobia* H.-Schäff.
 - b) Sexes similar.
 - a₁ Discal vein of forewing forked,
 - a₂ Veins 7 and 8 of forewing stalked,
 - a₃ Veins 7 and 8 of hindwing separated *Xyleutes* Hbn.
 - b₃ Veins 7 and 8 of hindwing connected by a cross-vein *Zeuzera* Latr.
 - b₂ Veins 7—10 free, near the end of the areole *Schreiteria* Dyar
 - b₁ Discal vein of forewing not forked *Carohamilia* Dyar
 2. Areole short and obtuse, not projecting beyond the discal cell
 - a) Veins 7—9 of forewing stalked, or 7 connected with the base of the stalk of 8 and 9 *Trigena* Dyar
 - b) Vein 7 remote from the stalk of 8 + 9, or the veins separated, 9 sometimes stalked with 10 *Cossula* Bailey
- II. Vein 11 of forewing from the centre of the discal cell **Cossinae.**
 1. Forewing with separated anal veins.
 - a) Discal veins of forewing and hindwing not forked. *Heterocoma* B. & McD.
 - b) Discal vein of forewing forked, of hindwing plain
 - a₁ Cell of hindwing moderately long *Miacora* Dyar
 - b₁ Lower cell-angle very long, $\frac{3}{4}$ of the length of the wing *Psychopsis* Dyar
 - c) Discal vein forked in both wings
 - a₁ Veins 7 and 8 of hindwing free (with rare exceptions)
 - a₂ Cell of hindwing rounded *Chilecomadia* Dyar
 - b₂ Cell of hindwing inwardly angled
 - a₃ Veins 6 and 7 of hindwing from the same base *Hypopta* Hbn.
 - b₃ Veins 6 and 7 of hindwing separated, connected by a bar behind the cell *Pernambis* Schs.
 - b₁ Veins 7 and 8 of hindwing connected by a bar
 - a₂ Sexes similar; thorax densely clad *Acossus* Dyar
 - b₂ Sexes dissimilar; thorax thinly clad *Prionoxystus* Grt.
 2. Anal veins of forewing connected by a bar or united near the margin
 - a) Discal vein forked in both wings
 - a₁ Veins 6 and 7 of hindwing from one base or stalked
 - a₂ Hindwing rounded, normal *Givira* Wkr.
 - b₂ ♂ hindwing triangular *Psychogena* Schs.
 - b₁ Veins 6 and 7 of hindwing separated, almost parallel *Langsdorfia* Hbn.
 - b) Discal veins not forked in both wings
 - a₁ Veins 6 and 7 of hindwing stalked *Puseyia* Dyar
 - b₁ Veins 6 and 7 of hindwing separated, almost parallel *Inguromorpha* H. Edw.

1. Genus: **Cryptobia** H.-Schäff.

The ♀♀ are large strong insects, the ♂♂ much smaller and of a darker colouring. ♂ antennae pectinated only in the basal halves, plain in the ♀. Vein 11 of forewing arises close before the base of the long narrow areole which extends far behind the discal cell from the apex of which 7 and 8 arise stalked, 9 arising from the base of the stalk; 10 shortly before it; the discal veins are broadly forked in both wings. 6 and 7 of the hindwing arise distantly separated, 8 free.

Type: *C. mucorea* H.-Schäff.

C. mucorea H.-Schäff. (181 a) is at once discernible by the yellow hindwing with a narrow margin. The *mucorea*. brown ground of the forewing is striped brownish black. Brazil.

C. musae H.-Schäff. (= *muscae* Ky.) (181 a). HERRICH-SCHÄFFER figures a ♀ from the Rio Grande. *musae*. in the National Museum there are specimens from Mexico, Central America, Ecuador, and Colombia. The ab-

domen is densely clad with black spatulate hair. Both wings are finely reticulated with black, creating the impression of a large *Neuroptera*. The ♂ is indistinctly marked, the ♀ exhibits a large quadrangular blackish spot at the cell-end and a few irregularly angled black lines and small spots between the veins at the apex of the wing. If — as the name says — the larva of this large *Cossida* bores in the trunk of bananas, it would surely do much harm occasionally, yet nothing has been reported about this so far.

phobifera.

C. phobifera *sp. n.* Wings long and narrow, the hindwing sharply triangular, excavated at the distal margin. Forewing dark brown, black at the costal and inner margins, the colours unnoticeably passing over into each other, veins blackened, the ground-colour scantily strewn light. Body black, the thorax in front projecting far beyond the bases of the forewings. Hindwing black. Expanse of wings: 32 mm. According to a much damaged ♂ specimen, the distal margins of the forewings broken, the hindwings partly without scales. The type in the National Museum at Washington. Paraguay, Villa Rica, taken in March (P. JÖRGENSEN).

2. Genus: **Xyleutes** Hbn.

Both sexes similarly marked, the ♀♀ much larger than the ♂♂ and generally somewhat more indistinctly marked. Forewing with a long narrow areole, projecting far behind the cell, veins 7 and 8 arising stalked from its apex, 9 united with them or on a short stalk; 10 arises from before the end of the areole, 11 from near its base; discal vein forked in both wings. Cell of hindwing flatly incurved, veins 7 and 8 remote from each other, 8 free. ♂ antennae bipectinate in the basal halves, plain at the tips, plain in the ♀.

Type: *X. crassa* Drury from West Africa.

xylotriba.

X. xylotriba *H.-Schäff.* (181 b, c). A very large species, the thorax covered with dingy white scales. Forewing broadly wood-brown along the costal margin almost to the apex, more or less lighter yellowish along the middle, bordered below by an irregular black band which is several times angularly indented or interrupted, so that a quadrangular spot is in the centre. Interior area dingy white, reticulated black, the inner margin shaded darker. Hindwing shaded dull wood-brownish, the reticular marking often blurred. ♀ lighter and less distinctly marked, only slightly brown at the costal margin. Costa Rica to Argentina.

ramosa.

X. ramosa *Schs.* (= *aetes* *Drc.*, *ramuscula* *Dyar*) (181 c). Small or medium-sized, the costal-marginal half of the forewing rusty brownish, turning more blackish at its upper and lower edges with a black dent along the base of vein 2 as far as the submedian vein; this brown area generally reaches the apex, not always in more southern specimens (from Brazil and Bolivia); the interior half of the wing is white with vertical black striae which are reticularly confluent at the distal margin. Hindwing white. ♀ with more rounded wings, similar markings, the hindwing dark grey. Texas, Mexico, Guatemala, Costa Rica, Panama, Colombia, Bolivia, Brazil, Paraguay.

desdemona.

X. desdemona *sp. n.* Head and collar black, thorax and abdomen dingy white. Costal half of forewing quite blackish brown except a few black reticular markings towards the distal margin; interior half dingy white, striated black, assuming a reticular marking towards the margin. Hindwing tinged with grey. It may be merely a form of *ramosa*, though none of my 37 specimens agrees with them. According to 1 ♂ from Espiritu Santo, the type in the U. S. National Museum, November (J. ARP, Coll. DOGNIN).

pyracmon.

X. pyracmon *Cr.* (= *pyracmonides* *Schs.*, *putrida* *Perch.*, *palmarum* *H.-Schäff.*, *cognata* *Drc.* nec *Wkr.*), *fracta* *Wkr.* (181 d) is a well known and common species; forewing dingy white, with black transverse striae, more reticulated outwardly; a large blackish brown wedge at the base of the costal margin, connected with, or separated from, a brown undulated longitudinal band through the centre of the wing growing narrower outward. Hindwing more or less tinged with brown, reticulated towards the margin. Fringe spotted black. The ♀ is larger, the markings are sometimes very indistinct. —

lelex.

lelex *Dgn.* is based upon an indistinctly marked ♀ from Merida (Venezuela), but similar specimens may be occasionally found everywhere. Mexico to Brazil. The larva presumably bores in the trunks of palms, if HERRICH-SCHÄFFER's name be well founded.

strigillata.

X. strigillata *Fldr.* resembles *pyracmon*, but the body and wings are throughout dull smoky brown, the dark longitudinal band on the forewing is black. From Argentina.

melanoleuca.

X. melanoleuca *Burm.* is a dark smoky brown species like *strigillata*, but the markings are more distinctly reticular and the dark longitudinal band is divided into 3 spots, the basal costal-marginal spot of which is quite indistinct, the middle one quadrangular, and the exterior one thin. Argentina.

masoni.

X. masoni *Schs.* (167 e). Body and forewing light smoky grey, the black central longitudinal band is narrow in the basal third of the costal margin and in the lower half of the cell as well as at the base of the veins 4 and 5, and bordered below by a broad dull brown area which extends to the submedian vein; a discal

spot is often traceable and occasionally also a black streak at the end of the areole and along the stalk of the veins 7 and 8. Mexico, Guatemala.

H. comisteon *Schs.* (167 e). Dingy white like *pyracmon*; the longitudinal stripe is brown, somewhat ex-*comisteon*. tinct, a costal-marginal spot is in the second distal third; the markings consist of brown transverse striae which are only here and there forked or reticular. Costa Rica; Panama.

X. discreta *sp. n.* (167 e) is smaller than *comisteon*, though the size is of little importance in this group; *discreta* the central band is dark brown, distinctly marked, coherent; the brown striae distinct, not any of them being reticularly confluent with another. Hindwing reticulated with many striae which are absent in *comisteon*. Body very densely and abundantly clad with dingy white scales, white and smooth in *comisteon*. Type: 1 ♂ from Brazil (J. ARP, Coll. DOGNIN) in the U. S. National Museum.

X. cognata *Wkr.* (= *mathani Schs.*, *oberthuri Houlb.*, *mexicana Houlb.*) (181 d). Dingy whitish and *cognata*. marked like *pyracmon*, but the markings are composed of small distinct spots, often circular, never reticular; the markings are generally brownish black, sometimes also of a brown tan-colour. The species varies much in size like all the *Cossidae* do. *cognata* was founded upon a small specimen, *mexicana* is the same. SCHAUS and HOULBERT considered the larger specimens (*mathani* and *oberthuri*) to be separate species, but I cannot find the least specific difference between them. From Mexico to Brazil and Peru.

X. strigifera *Dyar* (181 d). Dingy white, the forewing with rather densely arranged thick greyish black *strigifera*. striae which are irregularly confluent at the cell-end, forming a discal spot which has often a bent shape; costal margin densely spotted; a smaller species, generally smaller than *ramosa Schs.* Mexico and Central America.

X. albogrisea *Dogn.* (167 f). Forewing throughout dingy dark grey, the markings only traceable as *albogrisea*. brownish grey clouds, a broader brownish one of which cuts off the basal area obliquely, a more or less developed broad brown median band is also present. A diminutive species from the Amazon Region of Brazil. This small insignificant *Cossida* presumably represents the southernmost branch of the following group.

Subordinate group: **Psychonoctua** *Grt.*

The following 12 species represent a group widely distributed in the Antilles, on the northern coast of the continent, and from Arizona through Mexico to Central America. It is so difficult to distinguish them specifically, that I found it best to separate them geographically. The larvae bore in the trunk of coffee, in the Antilles in Cassia. Each island seems to have its particular species. On the continent there are at least two species which have a very wide range.

X. jamaicensis *Schs.* Light grey, slightly clouded and reticulated darker; a broad dark basal area is *jamaicensis*. somewhat obliquely cut off outside; a round black dot in the disc; there are often traces of a broad brown shadow through the centre of the wing as in *albogrisea*. The ♀ has less distinct markings, the dark basal area is brownish and faded. Jamaica.

X. lillianae *Linds.* (167 f) is exactly like *jamaicensis* except the somewhat lighter colouring; the dark *lillianae*. basal area of the forewing is pale, somewhat more obliquely cut off and receding a little below the cell; the brown central shadow is absent, but the discal dot is black. The ♀ is more faded brownish, the dark basal area is entirely absent, the discal dot is indistinct or quite absent, the ground indistinctly striated. From Antigua, Montserrat, and Barbados. The specimens before me were bred on coffee and Cassia glauca.

X. muricolora *sp. n.* scarcely differs from *lillianae*, the dark markings are still more indistinct. The ♀♀ *muricolora*. are grey with but feeble traces of the rosy brown suffusion of *lillianae*. From Porto Rico, bred on coffee. Type from Aguadilla (Porto Rico), in January, in the U. S. National Museum.

X. personalis *Grt.* (167 f) shows very contrasting colours, the striae insignificant or obsolete: the light *personalis*. grey ground-colour predominates; the discal spot is black and distinct, the basal area likewise distinct, but confined to a stripe along the costal margin, the brown median band is generally distinct. The ♀ exhibits distinct black striae on a purely grey ground, the discal dot moderately distinct, the basal area not dark. Cuba.

X. benestriata *Hmps.* This form which is not at hand has, according to HAMPSON, whitish forewings *benestriata*. scantily marked with scattered brown striae which are black behind the middle of the costal margin; a small

black lunule at the cell-end; apparently there is no dark basal spot. Described according to 1 ♂ from the Bahamas (Abaco).

punctifera. **X. punctifera** *Hmps.* Smoky brownish grey, the striae often faded; a dark basal area is usually absent, but traceable in some specimens; discal dot absent, but a small quadrangular spot in the submedian area below the base of vein 2. The ♀ shows rather the same colouring as the ♂, with faded striations, but without any dark markings. Grenada.

poam. **X. poam** *Dyar* (167 f) is a robust species of variable sizes with narrow, apically pointed forewings. Dingy white, the grey striae scanty, but clear, the dark basal area intermixed with blacker streaks and bordered by an indistinct line extending obliquely inward. Above the black discal spot at the costal margin there is more or less blackish shading, also in the submedian area below it. The ♀ is apparently not yet known. Mexico, Guatemala.

atra. **X. atra** *B. & McD.* (181 e). Forewing narrow, only slightly pointed at the apex, all over shaded with dark grey, the dark striae faded; an oblique indistinct subbasal line indicates the border of the dark basal area. Arizona; Mexico (Tehuacan), in September.

gilensis. **X. gilensis** *B. & McD.* (167 f) I only know from the figure; a small species with rather obtusely rounded forewings, the dark basal area distinctly reticulated, and distinctly defined at the distal margin; a line of intensified reticular markings extends through the centre of the wing. Arizona.

unilinea. **X. unilinea** *Dyar* (181 e) is a small species with obtusely rounded wings, light grey, scantily striated; the dark basal area is marked by a distinct oblique black line; a single darker strigiform spot behind the middle of the costal margin. Mexico. I am convinced that this species is the same as *gilensis*.

terrafirma. **X. terrafirma** *Schs.* (= *nullifer* *Dyar*) (181 f). A smaller or larger species, generally light grey, but sometimes suffused with a warm red colour; the striae show an inclination to reticulation, especially towards the distal margin; discal dot distinct, the dark basal area very oblique, and notched in its lower part, so that it is chiefly confined to the costal-marginal part. The only ♀ at hand, the type of *nullifer*, shows no markings and is of a greyish salmon-colour. A few ♂♂ from the same habitat are marked very light and likewise suffused with salmon-colour, while others from the same habitat are normally marked and without a reddish tint. Specimens from Colombia (Coll. DOGNIN) belong to the normal grey form. Costa Rica; Panama; Colombia.

xuna. **X. xuna** *sp. n.* (181 f). Like *terrafirma*, but with broader wings, less pointed at the apex. The colouring is almost grey, less whitish than *terrafirma*, the dark basal area rather brown than black, less notched below the costal-marginal part. Wings with distinct postmedian reticular markings; discal dot small, black. Type: 1 ♂ from Mexico (Colima), April, in the U. S. National Museum.

3. Genus: **Zeuzera** *Latr.*

Neuration same as of *Xylentes* except vein 11 of the forewing arising from the cell before the origin of the areole; 6 and 7 of hindwing connected by a strong bar which forms a part of the cell-end. In America but one species exists, imported from Europe. *Z. canadensis* *H.-Schäff.* evidently belongs to *Azygophleps asylas* *Cr.* from Africa and is wrongly labelled.

pyrina. **P. pyrina** *L.* (= *aesculi* *L.*, *decipiens* *Ky.*) (Vol. II, pl. 52 g). White, scantily scaled. Thorax with six small black spots, the abdomen also spotted. Wings with small oval bluish black spots in rows between the veins. Atlantic Coast, Massachusetts, New York and New Jersey, evidently spreading farther. The larva bores in elms and other trees.

4. Genus: **Schreiteria** *gen. nov.*

Forewing with a very long and narrow areole extending basad as far as the centre of the cell, the lower branch being delicate; discal vein long-forked; 7, 8 and 9 arise separately from the end of the areole, 10 from before its end, 11 from its basal third. Cell of hindwing flatly angled, discal vein broad and long-forked, 6 and 7 separated and parallel, 8 free. Three quarters or more of the antennae are pectinated, the pectinations decreasing in length towards the end, ♀ antennae plain.

Only 1 species:

pectinicornis. **S. pectinicornis** *sp. n.* (167 g). Dingy silvery white marked with small black spots and striae, with dense transverse internerval striae which turn into small round spots in the basal part of the cell, basally forming a condensation which is oblique, but not distinctly defined; the cell and the area right below it less spotted, so that there seems to be a lighter band; at the cell-end the spots are denser, behind them again a lighter area, below which the striae are denser, so that a darker shadow crosses the disc, behind it more uniformly and scantily

striated as far as the margin. Hindwing white, tinged with grey in the ♀, with rows of grey striae between the veins, which are more numerous and darker in the ♀. Expanse of wings: ♂ 35, ♀ 46 mm. Argentina (Tucuman), types in the U. S. National Museum.

5. Genus: **Carohamilia** *gen. nov.*

Areole long, triangular, 7 and 8 arise stalked from its apex, also 9; 10 close before it, and 11 near the base; discal vein plain, shortly forked only in one specimen. Discal vein of hindwing shortly forked, 6 and 7 separate and parallel, 8 free. The type of the genus shows the anal veins of the forewing connected by a bar near the margin, while they are free in the other species.

Type: *C. ophelia* Schs.

C. ophelia Schs. resembles a small dark-coloured *H. terrafirma* (181 f); basal area small, uniformly dark, *ophelia*. obliquely cut off, a small spot at the costal margin above the distinct discal dot; reticular markings fine, clear, grey, but not conspicuous. Guatemala.

C. itys Drc. Dingy white, alternately grey and white between the reticular markings in the distal half; *itys*. a subbasal oblique black band composed of 2 confluent spots situate at the costal margin and in the submedian area; a similar spot at the distal third of the costal margin; the striae are distinctly connected reticularly, large and clear, uniformly scattered over the whole wing. Colombia.

C. lineaplana Dgn. (167 g). Dingy white, the forewing densely striated black, not only between the *lineaplana*. veins, but single striae cross them; hindwing not striated. In half of the specimens at hand veins 7 and 8 of the hindwing are connected by a bar which, however, is only delicate and not as in *Zeuzera*. The discal vein is mostly plain, in two specimens it is forked on the hindwing. French Guiana; Amazons (Obidos).

6. Genus: **Trigena** Dyar.

Veins 2—5 of forewing arise radially from the lower cell-angle; discal vein long-forked, the areole long, oval, its lower branch delicate, not projecting beyond the end of the 3rd discal cell; 7—9 stalked (or 9 connected with the base of the stalk); 10 arises from the areole and 11 from its centre. Cell of hindwing not notched, uniformly rounded, all the veins separate, 8 free; discal vein long-forked. ♂ antennae bipectinated to the tips, those of the ♀ singly long pectinated to the tips. This difference of the sexes is very remarkable and induced me 26 years ago to place all the ♀♀ to the genus *Hemipecten* Dyar, the ♂♂ to *Trigena*.

Type: *T. parilis* Schs.

T. parilis Schs. (= *ecparilis* Schs.) (181 f). Forewing dark blackish brown with coarse black reticulations *parilis*. intermixed with finer ones; the coarse ones form a submarginal line which usually forms a loop or a circle at the height of the cell. Hindwing dingy white, reticularly striated brown in the ♂, the ♀ tinged with a deeper brown. Brazil (Rio de Janeiro).

T. horrifera Schs. Only the ♂ is at hand, it is larger and darker than *parilis* (181 f), with somewhat *horrifera*. differently arranged reticular markings on the forewing. Brazil (Rio de Janeiro).

T. crassa Schs. is exactly like *parilis* (181 f). Hindwing light, whitish in the disc, the coarse black reticular markings on the forewing more rectilinear, almost linearly arranged. Costa Rica and San Salvador.

T. amarosa Dyar (181 b). Forewing dark lilac grey, the thick black striae form well marked subbasal, *amarosa*. median and subterminal lines. Hindwing white, only the anal area feebly shaded. Mexico (Cuernavaca).

7. Genus: **Cossula** Bailey.

A considerable number of species with a variable neuration, similar to *Trigena*. All the veins may arise separately, or 7, 8 stalked, 8, 9 stalked, or 9, 10 stalked, but 7 is never stalked with 8 and 9 as in *Trigena*. The ♂♂ have an enormously long frenulum thorn, half as long as the whole hindwing, extending into a noose of the subcosta of the forewing, while the ♀♀ exhibit a small tuft of bristles. Antennae pectinated or bipectinated, but without a sexual difference, at least as far as one can judge from the ♀♀ at hand.

C. coerulescens Schs. (182 g). Blackish, with greenish white diffuse streaks in the submedian area, a *coerulescens*. fiery red spot traversed by darker veins in the marginal area, traversed by a curved black band. Hindwing black with an intense violettish blue reflection. Veins 7 and 8 of forewing distantly separated, arising from the

exterior edge of the areole, 9 and 10 on a short stalk from its apex, 11 from its centre. ♀ not known. Costa Rica.

- abnoba*. **C. abnoba** Schs. (167 g). Dark violettish grey with white scales in the submedian area and before the marginal spot which is yellow, extending from the costal margin to the anal angle, covered with dark brown except the apical area and in several other smaller parts, traversed by a large curved brown strigiform spot which is strangulated below the middle; a round white spot at the cell-end with a black dot in it, and a quadrangular dark submedian spot in the basal third. Hindwing without the blue reflection. 7 and 8 of forewing separated, arising from the areole, 9 and 10 together from its apex, 11 from the basal third. Only the ♀ is known. From Brazil.
- ardosiata*. **C. ardosiata** Dgn. (167 g). Forewing dark violettish grey, lighter in the ♀, coarsely striated darker; a diminutive white brightening before the marginal spot, the spot itself dull yellow, strewn with brown with an irregular brown marking at the interior edge and a small isolated spot beside it; it extends from the costal margin to the anal angle. Hindwing dark. Veins 7 and 8 of forewing separately from the areole, 9 and 10 on a short stalk in one specimen, arising together in another one. French Guiana.
- orima*. **C. orima** Drc. (= *stoica* Dgn.) (169 i). Forewing dark grey, finely striated blackish, an extensive white area before the large straw-coloured marginal spot; the spot itself is black at the costal margin and anal angle and contains 2 large roundish black spots slightly projecting outwards, the lower one extending to the margin. Veins 7 and 8 of forewing on a long stalk from the areole, 9 and 10 together from its apex, and 11 from the basal third; one specimen shows the stalk of 7 and 8 shorter. Brazil, Bolivia, Peru.
- magna*. **C. magna** Schs. (181 f). Dark grey, intensely speckled whitish, with an extensive light, though not contrasting area before the marginal spot; the latter is dull ochreous, with an angled brown marking inside and an ochreous crescent before it, from which streaks proceed above and below, the upper one angular, the lower one extending to the margin; costal margin, anal angle and fringe brown. Hindwing dark. Veins 7 and 8 of forewing distantly separated from the areole, 9 and 10 on a short stalk from its apex, 11 from the centre. Only 1 ♀ known from British Guiana.
- magnifica*. **C. magnifica** Stkr. (= *norax* Drc.) (181 a) is very similar to *magna*, but it is much smaller, the white areas on the forewing clear and distinct, especially that before the marginal spot; the latter is somewhat lighter yellow than in *magna*, the upper end of the dark marking not angled and the two horns of the crescent often reach the margin. Veins 7 and 8 of the forewing arise on a long stalk from the areole, 9 and 10 likewise stalked, but the stalk only half as long, 11 from the centre of the areole. Florida, Mexico, Guatemala. The larva is said to bore in the trunks of oak and hickory.
- omaia*. **C. omaia** Schs. (167 h). Forewing long and narrow, pointed. Forewing dark red-brown with a small subbasal black transverse streak in the middle; the lighter parts yellowish like the marginal spot, especially a round spot at the cell-end and before the marginal spot; the latter contains an irregular brown basal line, streaks at the costal margin and anal angle and two large irregular central spots, the lower one extending to the margin. Veins 7 and 8 of forewing arise separated and parallel, 9 and 10 together from the apex of the areole, 11 from its centre. Only the ♂ is known. From British Guiana.
- arpi*. **C. arpi** Schs. (= *nigripuncta* Dgn.) (167 h). Forewing narrow and pointed in the ♂, less in the ♀. Light grey, speckled white, with a large subbasal quadrangular black spot. Marginal area dull brownish yellow and greyish, the fringe dark, but not so contrasting as usual, the costal-marginal and anal-angular spots and the central marking dark velvety brown, variable, mostly quadrangularly lobate, the lower angle extending to the margin. 7 and 8 of forewing separated, 9 and 10 together. From Guatemala, Costa Rica, Panama, Colombia and Guiana.
- oletta*. **C. oletta** sp. n. (167 h). Forewing of ♂ narrow and pointed, dark grey with black transverse striae and lines, a whitish quadrangular spot submedianly in the discal area, and a slight brightening before the marginal spot; the striae form a straight black line in the basal third, and a more irregular one before the marginal spot; the spot itself is light yellow, the fringe dotted brown, the costal-marginal and anal streaks brown, in the middle with a brown strigiform spot which despatches below a strong arm to the margin. Hindwing dark brown. Veins 7 and 8 of forewing arise separately and parallel from the areole, 9 and 10 together from its apex, 11 before its centre. Medina (Eastern Colombia), 500 m; type in the U. S. National Museum (A. H. FASSL leg., Coll. DOGNIN).
- gaudeator*. **C. gaudeator** Schs. (182 g) is very similar to *magna* (181 f), the ♀ of which has bipectinated antennae (♂ unknown), while the antennae of *gaudeator*-♂ (♀ unknown) are singly pectinated outside, though there are very distinct short double pectinations at the base. The markings are different: while *magna* shows the brown

colour in the marginal spot separated from the inner margin by a narrow yellow line, the brown marking proceeds here to the centre of the yellowish brown marginal area. Veins 7 and 8 distantly separated and parallel, 9 and 10 on a long stalk, and 11 arises from the basal third of the areole. Costa Rica.

C. cossuloides Schs. (182 g) is very similar to *magnifica* in its size and colouring, but the antennae exhibit a series of long pectinations and a series of short angular serrations, while those of *magnifica* are uniformly bipectinated. Forewing more smoothly scaled grey, less speckled, the brown in the marginal spot strangulated or divided into two spots, the lower one of which reaches the margin. Veins 7 and 8 of forewing distantly separated and parallel from the areole, 9 and 10 together from its apex, 11 from the basal third. Guiana and Venezuela.

C. albimacula Dgn. (167 h). Forewing shaded with dark brown at the costal and inner margins, a white spot at the cell-end, from which a broad ray extends, widening in the middle and pointed at the end; central area of forewing mixed with dark yellow and striated dark. Marginal area light yellow with brown spots at the margin, a large one at the anal angle, and a rather small one in the middle, the lower angle of which reaches the margin. Hindwing dark brown. Vein 7 of forewing from the discal cell, 8 from the areole, 9 and 10 separately from its apex, and 11 from the basal third. I only know the ♂ type. Bolivia.

C. tacita Drc. (167 h). The species is not at hand, but DRUCE's figure seems to be clear. I presume the antennae to be singly pectinated. The specimen figured may be a ♀. The whole wing is suffused with dark yellow with a faint brown discal shadow and dark striae, the marginal area of the ground-colour, speckled with white; a dull red band extends down from the apex, getting narrower below, a triangular brown spot before it. Honduras.

C. salara Drc. (= *corita* Schs.) (169 i) is bright grey with a whitish tinge, more or less shaded dark at the costal and inner margins, traversed by dark strigiform lines; a dark submedian spot in the middle area of the wing; a dark grey marginal marking apically, a narrow black arcuate streak before it, more or less connected with the costal margin and distal margin by reticular markings; a narrow dark grey band at the margin, with reticular marking before it. Hindwing almost white with but narrow marginal markings. Vein 7 of forewing from the discal cell, 8 from the areole, 9 and 10 separately from its apex, and 11 from the basal third. Colombia.

C. interrogationis sp. n. Light grey, striated dark, and darker grey at the costal and inner margins; the middle area with a large round brownish black submedian spot, parted brown along vein 1 b; the apical marginal spot dark grey, a thick bent black marking before it, with a round dot below it, like a large interrogation mark on the left wing, reversely on the right wing; the narrow marginal line dark grey, an irregularly dentate blackish brown line before it. Vein 7 on the forewing continues the lower edge of the areole, 8 above it, 9 and 10 on a very short stalk, 11 from the centre of the areole. Merida (Venezuela); the type, 1 ♂, not well preserved, in the U. S. National Museum.

C. arpiodes Dgn. (169 i). Forewing brownish grey, speckled white, one speckle forming a round discal spot, all traversed by blackish striae; a large dark brown spot in the base of the cell and in the basal third of the submedian area, a submedian double spot in the distal third; the apical marginal marking is uniformly dark brown, an anal spot below it. Hindwing dark brown. Vein 7 of forewing from the discal cell, or 7 and 8 from the areole, 9 and 10 on a short stalk from its apex, and 11 before its middle. Two ♂♂ before me, DOGNIN's type and co-type, badly preserved, the apex of the wing in the type severely frayed. Very similar to *C. arpi* Schs., whence it evidently derives its name, but the antennae are only singly pectinated. Brazil (Amazon District).

C. duplex sp. n. (182 g). A well preserved single ♀ from BUSCK's collections in Panama is before me. I can in no way distinguish it from *arpiodes*, except that the outer pair of submedian spots are lighter and more with a leaden gloss than the interior spots; that may also be the case in *arpiodes*, but owing to the bad preservation of the types it cannot be decided; in any case, however, *duplex* seems to me to be much too small as *arpiodes*-♀ and may therefore be better separately named for the present. Cabima (Panama), type in the U. S. National Museum, taken in May.

C. cleptes Dyar (169 i) resembles *arpiodes* and *duplex* (182 g), but it is much smaller, more smoothly grey, without white speckles, the dark spots reduced to blurred shades. Veins 7 and 8 of forewing from the areole, 9 from its apex, 10 from the upper exterior third, and 11 from the basal third, all the veins as far as the apex free. The only ♂ type is before me. British Guiana.

C. tapajoza sp. n. (167 h). Larger than *cleptes*, without the dark anal spot, no white arcuate streak before the black apical area; forewing light grey, striated black with a dark shadowy spot in the submedian distal third. All the veins on the forewing separated, 10 less conspicuous at the apex of the areole than in *cleptes*. Amazons, Rio Tapajoz; type 1 ♂ in the U. S. National Museum.

- elegans*. **C. elegans** Schs. (167 h). Small, light grey with a brownish black costal-marginal border, the inner-marginal part shaded with brownish, the wing more dotted than striated; marginal marking blackish brown, the lower part with a circular bluish-white intermixture with a black central dot, which when the wings are closed must look like a pair of false eyes. Veins 7 and 8 of forewing separated, 9 and 10 on a short stalk, 11 from the middle of the areole. 2 ♂♂ are before me. Brazil: Castro (Parana) and São Paulo.
- striolata*. **C. striolata** Schs. (169 i). A small species, only 1 ♀, light grey, almost white, but the specimen appears to be faded; a black marking in the centre of the costal margin, a double brown submedian spot in the median area; a large brown spot fills the apex more or less, and another spot is in the middle of the distal margin; wings scantily dotted brown. Hindwing brown, white along the costal margin. Vein 7 of forewing from the discal cell, 8 from the areole, 9 and 10 separated from its apex, 11 from the middle, all the veins free. (Brazil (São Paulo).
- marmorata*. **C. marmorata** Schs. (167 h). Forewing yellowish, with a slight golden gloss, many small dark brown spots along the costal margin and on both sides of the median vein, the latter ones roundish extending to $\frac{2}{3}$ of the wing; apex with a slight brassy gloss, with 3 light brown bands. Hindwing light brown. Forewing: vein 7 from the discal cell, 8 from the areole, 9 and 10 from its apex, and 11 from before the middle, all the veins free. French Guiana.
- manes*. **C. manes** Drc. (167 h) is not at hand, DRUCE's figure shows a larger form allied with *marmorata*, without spots, all the markings composed of transverse striae, the apex similar. Panama.
- niveogrisea*. **C. niveogrisea** Schs. (183 a). Thorax and the outermost base of the forewing white; forewing dark grey, indistinctly striated, a few accumulated white dots in the discal area and along the costal margin; marginal area yellowish white, enclosing a brown more or less interrupted bow, the yellow before it somewhat darkened. Hindwing yellowish white or blackish. Vein 7 of forewing from the discal cell, 8 from the areole, 9 and 10 on a short stalk from its apex, 11 from the basal third. I have not seen any ♀. Guiana, Venezuela, and Costa Rica.
- nigripennata*. **C. nigripennata** Dgn. (183 a). Thorax and base of forewing white. Forewing smoothly scaled grey, distinctly reticulated darker; marginal spot yellow with a coherent brownish black arcuate margin, a yellow stripe at the apex and a black patch above it. Forewing: 7 and 8 from the areole, 9 and 10 on a short stalk, 11 from the basal third. Hindwing blackish. Both sexes before me. Panama; French Guiana; Brazil (Amazons).
- notodontoides*. **C. notodontoides** Schs. (181 g). Forewing narrow, with parallel margins, pointed in the ♂; thorax white, also the base of the forewing in the ♀, not so in the ♂; the centre of the forewing yellowish white, basally shaded with brown, also behind the centre, passing over into black, the marginal area reticularly dotted on the yellowish white ground. Hindwing of ♂ tinged white with dark veins, of ♀ dusted brown on the yellowish ground. Veins 7 and 8 from the areole, 9 and 10 on a moderately long stalk, 11 from the basal third of the areole. Brazil (Rio de Janeiro and Joinville).
- philobia*. **C. philobia** Drc. (181 g). Forewing dingy white, tinged with yellow along the costal margin, slightly speckled; 3 large grey spots in the median area, and 2 large round brownish black coherent spots obliquely below the apex. Veins 7—11 of forewing from the areole, 9 and 10 together from the apex, 11 from the basal third. Mexico, Panama, Ecuador (Zaruma).
- praeclara*. **C. praeclara** Schs. (= ockendeni Drc.) (181 g). Forewing dingy white with brown transverse striae and 3 or 4 broad irregular leaden glossy stripes; 2 large round brown spots in the marginal area are sometimes confluent (*ockendeni*). Veins 7—10 of forewing separately from the areole, only in one specimen 8 and 9 together. The ♀ is not at hand. Brazil, Bolivia.
- bistellata*. **C. bistellata** Dgn. Only doubtfully different from *praeclara*, the lead-coloured bands are narrower and of a less intense leaden gloss, less contrasting, the marginal spots browner, the neurulation the same. Both sexes of this form at hand. French Guiana.
- alfarae*. **C. alfarae** Schs. (183 a). Forewing dingy white, densely striated brown and occasionally with small spots of a bronze gloss, a round spot before the apex, one below it is not rounded, but variable, distorted; more or less distinct spots also along the submedian area. Forewing: vein 7 from the areole, 8 and 9 on a rather long stalk, 10 and 11 from the apex of the areole; ♀ not at hand. Guatemala; Costa Rica; Panama.
- rotundopuncta*. **C. rotundopuncta** Schs. (183 a). A small species, suffused with reddish brown except the anal area, a small round brown spot before the apex; the submedian area shows reddish spots in the middle and one spot at the inner margin. Forewing: 7—10 from the areole, 8 and 9 on a rather short long stalk, 7 connected with the base of the stalk; this obliterates the difference between *Trigena* and *Cossula*, but I believe there cannot be any mistaking. Brazil.

C. discopuncta Schs. (183 a). Dingy silvery whitish, 3 brown spots in an oblique row in the centre of the wing, the discal one large, the others small; faint grey speckles are condensed at the distal margin and anal angle, forming a border and a streak above the anal angle. Hindwing white. Forewing with veins 7 to 11 from the areole, 7 and 8 nearing each other at the base, 9 and 10 together. ♀ unknown. Brazil (São Paulo).

C. rille sp. n. (183 b). Like *discopuncta*, but the spots are smaller, the middle one extinct; anal angle and margin as far as the apex with a broad area of grey striation. Neuration as in *discopuncta*, but 7 and 8 more separated. Brazil (Rio de Janeiro and Novo Friburgo); type in the U. S. National Museum.

C. ryssa sp. n. (183 b). Forewing whitish grey, with brown transverse striae which are more densely arranged in the exterior half of the wing; a narrow brown shadow along the costal margin and broadly across the anal angle almost to the base, 3 round brownish black spots in the middle, the discal one the largest. Forewing with veins 7—11 from the areole, all free, 9—10 nearing each other or together. Bolivia (Rio Songo); Carabaya (Peru); type in the U. S. National Museum.

C. maruga Schs. (181 g). Like *ryssa*, but the stripes in the distal half of the wing much more intense, the violettish grey bands intermixed with orange brown, producing an iridescent impression; the 3 discal dots doubled by smaller ones outside. Veins 7—11 of forewing arise freely from the areole. ♀ not known. Brazil (Castro, Novo Friburgo, Joinville, São Paulo); Dutch Guiana (Geldersland).

C. centrosema sp. n. (183 b). Forewing broader and more quadrangular than in *maruga*; yellowish white, forewing feebly tinged with brown, densely striated dark brown, connected by brown shading in the centre of the distal half, a large irregularly rounded velvety black discal spot before it. Veins 7—11 of forewing from the areole, free, 9 and 10 also separated. Hindwing without markings. From Colombia (Buena Vista); type in the U. S. National Museum.

C. julius Schs. (181 h). Dingy white, apex of forewing very pointed, longitudinally shaded with brown, hardly reticulated or striated; darker shaded along the inner and outer margins, inside of it a parallel shadow to the apex and a short stripe above it, bordering on a double white stripe to the apex; the disc with a large irregularly round dark brown spot, double and tinged with black downward. Forewing with veins 7—10 from the areole, 9 and 10 connected. Only the ♂ type is known. Brazil, Novo Friburgo.

C. acutipennis Schs. (183 b). Smaller and with less pointed wings than *julius*. The distal half of the wing is filled with olive shading and spots, traversed by the double white apical stripe, the discal spot smaller and extinct, more olive brown, with a doubling below it and a third spot at the inner margin. The ♀ is larger, the hindwing tinged with black, forewing scarcely pointed, the white apical stripe present, but more bent. Forewing dingy white, feebly speckled; distal and inner margins above the anal angle crossed by brown and reddish shadowy bands; the discal spot round, very large, velvety dark brown. Forewing with veins 7—11 from the areole, 9 and 10 more or less distinctly connected. French Guiana and Bolivia (Rio Songo).

C. cor-regis sp. n. (183 b). Thorax yellowish brown in front, white behind. Forewing dingy white, tinged with dark yellow in the cell, the lower half of the inner margin, and especially below the apex; a white stripe extends through the centre of the wing to the apex; anal area intensely speckled purple brown, filled with white in the middle; the small irregular discal spot is situate in dark clouds; a small dark spot near the inner margin inwardly. Veins 7—11 from the areole, 9 and 10 connected. Hindwing dingy white. Brazil (Novo Friburgo); type in the U. S. National Museum.

C. vinnea Schs. (183 b). White, with interrupted brown and black reticular markings forming an oblique shadow above the anal angle; discal spot large, brown, with a small doubling below it. The ♀ is darker, with grey hindwings, the distal third more intensely smoky. Forewing with veins 7—11 from the areole, all separated, or 9 and 10 connected. Guatemala.

9. Genus: **Heterocoma** B. & McD.

Forewing with veins 1 and 1b separated, the discal vein forked, 7—10 from the areole which is only small, 11 from the discal cell near the base. Discal vein of hindwing forked. 6 and 7 well stalked as in *Cossus*, 8 free. Only 1 species:

H. albistriga B. & McD. (181 h) is not at hand, according to the figure it is of a stout structure, with rather obtuse wings; the ground-colour is grey, a white stripe along the costal margin, another stripe along the submedian vein as far as half the length of the wing, finally a short one from the cell-end obliquely to the

anal angle. The ♂ is darker, the light markings contrasting, the ♀ is lighter, the markings not prominent. Arizona (Cochise County).

10. Genus: **Miacora** Dyar.

Veins 1 and 1b of forewing distantly separated, 2—5 arise from the lower cell-angle, discal vein forked; 6 from the cell-apex; areole small, half of its length projecting beyond the discal cell, 7—9 stalked from it, 10 above it, 11 from the discal cell near the base. On the hindwing the cell projects far, the discal vein is not forked, 7 and 8 are separated, but nearing each other. The frenulum is only small in the ♂, or absent altogether.

Type: *M. tropicalis* Schs.

- tropicalis*. **M. tropicalis** Schs. (183 c) is a large whitish grey species with dark shading through the centre, so that more purely whitish areas appear basally and apically, with fine and coarse striated reticular markings; the coarse ones form an X-shaped marking in the marginal area. ♂ antennae plain, flattened. British Guiana (Omai).
- diffidens*. **M. diffidens** Dyar (181 h) is smaller and darker than *tropicalis* with the same formation of the antennae, the two lines in the distal area of the forewing are bent and about parallel, not crossing each other. Mexico (Zacualpan).
- adolescens*. **M. adolescens** Dyar differs from *diffidens* in coarsely and shortly serrated antennae in the ♂. The wing is shaded darker; the distinct black lines in the distal area are separated and almost parallel, distantly remote from each other. Panama (Taboga I.).
- subtropicalis*. **M. subtropicalis** sp. n. (183 c). As in the following species, the ♂ has here bipectinate antennae. Dark grey, reticularly striated with fine and coarse black lines; a distinct line from the exterior third of the costal-margin to the lower third of the distal margin; right behind the middle two lines form an X-shaped marking extending from the costal margin to the inner margin. Hindwing grey. San Salvador, Guatemala; type in the U. S. National Museum.
- perplexa*. **M. perplexa** Neum. & Dyar (181 i) is not at hand, but the figures of BARNES & MCD. are excellent. Forewing grey with a silky gloss, very finely reticulated, a Y-shaped forked line almost in the middle, another one in the distal area. Hindwing monotonously light grey with a silky gloss. Colorado and Arizona.
- leucegchytes*. **M. leucegchytes** Dyar (183 c) is smaller than *perplexa*, the striation still finer, the dark exterior lines differently placed. Mexico (S. Luis Potosi).
- luzena*. **M. luzena** Barnes (181 b). A smaller species, marked like *leucegchyta*, but the striation coarser. Only ♀♀ known. The formation of the ♂ antennae therefore does not allow for the present to fix the position definitely. Arizona (Cochise Co.).

11. Genus: **Psychopsis** gen. nov.

A small species with triangular wings. Forewing with veins 1 and 1b separated, 2—5 arise from the lower cell-angle; discal vein forked; 6 from the upper cell-angle; 7—9 stalked from the end of the small areole, 10 from it and 11 far back from the discal cell. Cell of hindwing very long, especially the lower angle far produced, veins 3—5 short, the discal vein shortly forked; 6 and 7 separated, but very close together from the upper cell-angle, 8 free. Antennae of ♂ bipectinate, the ♂ with a slender, rather long frenulum-thorn. Only 1 species.

- infantilis*. **C. infantilis** Schs. (182 g). Small, black, resembling a Psychid; forewing clouded somewhat lighter and with indistinct fine and coarse linear striae, the coarse ones forming an irregularly forked line in the marginal area. Only 1 ♂ known. Costa Rica.

12. Genus: **Chilecomadia** gen. nov.

Veins 1 and 1b of forewing separated, the cell uniformly rounded, veins 2—6 arising at equal distances, the discal vein long forked; veins 7—10 from the small areole, 7 and 8 on a short stalk, 11 from the centre of the discal cell. Hindwing likewise with a rounded cell, veins 2—7 all separated and at equal distances, 8 free; discal vein forked. Antennae of ♂ serrated on one side. ♂ with a long thick frenulum.

Type: *Ch. moorei* Silva Figueroa.

- moorei*. **Ch. moorei** Silva Figueroa (183 c). Light grey, the disc often tinged with greenish, with fine lines and large coarse dark striae. Hindwing light grey, interruptedly reticulated. Both sexes similar. Chile. Bred by Dr. SILVA in great numbers from trunks of willows, a large series from this breeding in the National Museum at Washington.

Ch. valdiviana Phil. is at once discernible from *moorei* in both sexes by the black hindwings. Forewing *valdiviana*, more pointed likewise in both sexes. Forewing of ♂ profusely dusted black, that of the ♀ more resembling the forewing of *moorei* and only shaded blackish in the median area. Chile. The larva likewise bores into willows.

13. Genus: **Hypopta** Hbn.

Veins 1 and 1b of forewing separated, the discal veins forked on both wings. Veins 7 + 9 of forewing stalked from the small areole, 10 from it, 11 remote from it from the discal cell. The cell on the hindwing is projecting, veins 5—7 arise from the same base, 8 free.

Type: *H. caestrum* Hbn.

H. nana Stkr. (181 c). The small grey species resembles a tiny *Cossus cossus*, shaded somewhat lighter *nana*, and darker and reticulated with black lines, especially in the disc and marginal area, 2 lines being particularly prominent, the interior one forked in the middle, a whitish spot in the triangular area formed thereby, the exterior line likewise forked, but only shortly below the apex; another whitish spot in the interior lower half of the median area. Only the ♀ is known. Texas.

H. nina Schs. (183 c) has narrower wings and a very long abdomen; forewing simply grey with scanty *nina*, black striae. The frenulum in the ♂ is a long slender spine extending into a reverted fold of the subcosta of the forewing. Costa Rica.

H. connecta B. & McD. (181 i), described as *Acossus*, is presumably better ranged here; it recalls *nana*. *connecta*. Thorax light brownish, forewing smoky brown in the basal half, lighter outside and dusted with silvery white; the black transverse striation forms two lines connected by a thicker longitudinal streak on the submedian half, the outer one bifurcating near the costal margin; faint reticular markings along the distal margin. Hindwing lighter, only with traces of reticular markings. Texas (San Benito).

H. redtenbacheri Hammerschmidt (= agavis Blasq. chilodora Dyar) (181 i). Forewing grey in different *redtenbacheri* shades, the striae marked by shades; costal margin rather broadly white, or at least striped whitish on two thirds; whitish scales bordered by black ones form 2 raised-looking transverse lines which may be increased to 4. Hindwing generally dark grey. Antennae of ♂ bipectinate, of ♀ plain. ♂ frenulum as in *nina*. Mexico. The larva lives in the trunks of Agavae.

H. engelhardtii B. & Benj. This species and the following ones have been ranged in the genus *Comadia engelhardtii* by their authors, but they belong to this genus here. Forewing whitish, strewn with black with a faded brownish shading below it, with a black median vein, the cell also often scaled black. Hindwing light, sometimes dusted blackish brown. Thorax broadly scaled. Expanse of wings: 31—34 mm. Utah.

H. dolli B. & Benj. shows the thorax more covered with hair-shaped scales, like the following species, *dolli*, too. Ground-colour of forewing yellowish white, strewn with blackish scales forming reticular markings; the veins indistinctly marked black, especially at the lower discocellular vein; the reticular markings may become very distinct, but they may also disappear nearly altogether. Hindwing grey. Expanse of wings: 28—35 mm. Nevada; Utah.

H. subterminata B. & Benj. Forewing white, so densely scaled black that it appears dark grey, some *subterminata* of the scales being confluent and forming reticular markings; a feeble band is formed subterminally in some specimens; the transverse vein is usually strongly scaled black. Hindwing blackish brown. Expanse of wings: 37—49 mm. Arizona (Redington).

H. stabilis B. & Benj. Ground-colour of forewing light, so much darkened by scattered black scales *stabilis*, that it appears grey; veins, especially the median vein, blackish, particularly at the lower discocellular vein, the subcostal area somewhat lighter than the rest of the wing. Hindwing dull blackish brown with darker veins. Expanse of wings: 35—37 mm. Utah.

H. bertholdi Grt. (182 a). Silvery grey, shaded blackish brown with a blackish basal streak below the *bertholdi*, subcosta, the median vein also narrowly blackish, farther outside faded between the cell-branches. Fringe speckled dark. Hindwing grey. Colouring and marking most variable. Colorado, New Mexico, Utah, California, Arizona. — **fusca** B. & Benj. is a form more intensely dusted brownish black, the marking also darker, *fusca*, Colorado.

H. edwardi Neum. & Dyar (= *edwardsi* Dalla Torre) may be merely a form of *bertholdi*. Body black, *edwardi*, antennae white with black pectinations. Forewing white, strewn with black, most densely so in the apical part and below the median vein and vein 2, whereas the cell remains lightest; some brownish faded shading between the bases of the veins 2—5. Hindwing brownish grey, fringe as on forewing white with brown ends. Expanse of wings: 40 mm. Only the type, 1 ♂ from Colorado, is known.

- intrusa*. **H. intrusa** B. & Benj. is so very closely allied to *bertholdi* that it is only comparatively to be separated. It is somewhat larger, with a stronger body, the dark dusting between the median branches more distinct, brownish, forming a dark roundish spot between 2 and 3. Hindwing brown. Expanse of wings: 37—47 mm. South California. The larva lives in the trunk and roots of Lupinae.
- manfredi*. **H. manfredi** Neum. (182 a) is the smallest and lightest species. Body and forewing including fringe yellowish white, with tiny light brownish speckles and a discal blotch of the same colour. Hindwing monotonous, somewhat darker. Expanse of wings: 30 mm. Arizona.
- henrici*. **H. henrici** Grt. (182 a) is as large as *bertholdi* which it also resembles somewhat, though it is more interrupted by white, the costal margin broadly silvery white like the median vein, too, the rest of the wing brownish, slightly dusted over with ochre. Hindwing dark blackish brown in the ♀, lighter in the ♂. Arizona.

14. Genus: **Pernambis** Schs.

Forewing without the areole, the discal vein with a long fork, the veins 1 and 1b separated; vein 2—11 from the cell, 4 and 5 arising together, 6 and 7 on a short stalk. Discal vein of hindwing forked, veins 3 + 4 together from the sharp lower cell-angle, the cell itself angularly bent inward; 6 and 7 separated with an oblique connecting bar far outside; 8 free. Antennae of ♂ bipectinate, of ♀ flattened laminate.

Type: *P. intervenata* Schs.

- intervenata*. **P. intervenata** Schs. (183 d). Forewing dark mouse-coloured grey, all the veins broadly striped white. Described from a single ♀ which is much damaged. Brazil (Pernambuco).
- fuscescens*. **P. fuscescens** Dgn. (183 d). Forewing dark mouse-coloured brown, all the veins narrowly striped white, only the median vein somewhat more broadly striped. According to a single ♂ from Argentina.
- albescens*. **P. albescens** Dgn. (183 d). Forewing grey, all the veins broadly striped white, subcostally flown together and forming a broader stripe. Hindwing white with grey internerval spots at the margin. Only 2 ♀♀ known, one from Venezuela, the habitat of the type not known.

15. Genus: **Acosus** Dyar.

Veins 1 and 1b of forewing separated, discal vein forked on both wings, areole narrow, projecting beyond the discal cell, 7—9 from the apex, 10 before it and 11 more remote from the discal cell. Cell of hindwing entering with a flat angle; 6 and 7 stalked; the upper edge of the cell projecting angularly with a bar to vein 8.

Type: *A. undosus* Lint.

- undosus*. **A. undosus** Lint. (= *brucei* French) (182 b). Collar ochreous, thorax grey; the white ground of the forewing finely transversely striated black with 2 thicker lines through the middle and before the distal margin. Abdomen and hindwing light grey, the latter less striated. Colorado; Wyoming. Larva probably in poplars.
- centerensis*. **A. centerensis** Lint. (182 b) is well distinguished by the very scantily scaled hindwings with black fringes and a blackish-haired basal part of the inner margin. Distal part of forewing likewise more scantily scaled, the basal part more densely scaled black, everywhere finely transversely striated, often connected into fine lines. Northern States, to the west as far as British Columbia. The larva lives in poplars.
- populi*. **A. populi** Wkr. (182 b) differs from *undosus* in the absence of the thicker transverse lines; forewing very light ash-grey, very finely transversely striated and reticulated. Hindwing even much lighter and scarcely striated. North-Western North America. — **generosus** Dyar is more or less shaded black, a much darker form from the Northern Rocky Mountains. — **angrezi** Bailey is another form, perhaps also a distinct species, with a black thorax and yellowish grey collar, the forewing more irregularly shaded black, for instance in the apical and marginal thirds, inwardly widened obliquely downward, with longer internerval streaks before the margin.
- ore*. Hindwing yellowish grey. Nevada. — **ore** Stkr. (182 b) which many consider to be a distinct species, is again a lighter form, but not so light as *populi* and densely and irregularly mixed with dark. Colorado. The larva lives in poplars.

16. Genus: **Prionoxystus** Grt.

Sexes dissimilar; antennae pectinate in both sexes. Thorax covered with flat scales. Distal margin of hindwing concave in the ♂, rounded in the ♀. Neuration as in *Acosus*.

Type: *P. robiniae* Peck.

P. robiniae Peck (= *crepera* Harr., *plagiatus* Wkr.) (182 c). A most variable species as regards the *robiniae*. markings. Forewing grey, reticulated black and irregularly spotted blackish. Hindwing of ♂ ochreous, basal area, costal margin and a narrow marginal line black, grey in the ♀. Distributed all over the United States. Larva in different trees. — **reticulatus** Lint. (= *querciperda* Pack.) has more diaphanous wings, especially in *reticulatus* the distal third, less distinctly reticulated, without any dark spots. Hindwing monotonously smoky brown, scarcely reticulated. An aberrative ♀ form. — **quercus** Ehrm. is likewise an aberrative ♀ form with yellow hind- *quercus*. wings like the ♂. — **mixtus** B. & Benj. is a race with lighter forewings and hindwings, the ♂ with much reduced *mixtus*. black on the hindwing. Colorado. — **subnigrus** B. & Benj. is darker, the hindwing of the ♀ with a faint yellow- *subnigrus*. ish tint. The south-western race from Arizona. — **flavotinctus** B. & Benj. is as light as *mixtus*, the black of *flavotinctus*. the ♂ hindwing somewhat more increased, with a rounder interior angle, the ♀ hindwing of a distinct yellow tint, without attaining the aberration *quercus*. California. — **zabolicus** Stkr. is a ♀ form with more intensely *zabolicus*. blackened hindwings, from Florida.

P. macmurtrei Guer. (= *querciperda* Fitch.) (182 c). ♂ very small with almost hyaline forewings, with *macmurtrei*. black transverse striations, blackened at the inner margin in the basal two thirds like the hindwing. ♀ much larger, likewise very scantily scaled, with fine and extensive transverse striations, a somewhat more coherent line from the exterior two thirds of the costal margin to the anal angle. Atlantic States to the west as far as Minnesota.

17. Genus: **Givira** Wkr.

Anal veins of forewing united; 6 and 7 of hindwing arising from the same base or stalked; discal veins forked in both wings. Antennae of ♂ shortly bipectinated, of ♀ plain or serrate. One of the largest Cossid genera.

Type: *tristis* Wkr.

Section I. Hindwing with a cross-vein between 7 and 8 (*Givira* Wkr.).

G. quadra Schs. (= *gnoma* Schs.) (182 d). Grey, brightened with whitish or reddish flesh-colour; a *quadra*. round dark punctiform spot at the cell-end and a larger spot basally above the interior margin below the median vein. Brazilian specimens are mixed with dull reddish flesh-colour, northern ones almost white in the middle, but the types of the two names are from Brazil; I avoid, however, using a new name. Brazil; Panama; Costa Rica.

G. superquadra Dgn. (183 d) is somewhat larger than *quadra*, and more marked; the dark basal spot is *superquadra*. incised on both sides by a reddish area which is connected by a light line; the discal spot is larger and more quadrangular, with dark shading behind it and below it. French Guiana.

G. argenteolaminata Dgn. (183 d) is a still more variegated species of the *quadra*-type. Dark brown, *argenteo-* *taminata*. the dark basal spot more divided into roundish spots and filled with a large quadrangular silvery spot; a dark shadow behind the large discal dot as far as the margin, which is strewn with blue scales and contains a series of larger brown spots. Only the type is known. French Guiana.

G. binubila Dgn. (183 e). The brown basal spot is divided into single badly defined speckles; the cell is *binubila*. striated brown, the area between veins 2 and 3 lighter and not marked. Hindwing brownish black. Only the type is badly preserved. French Guiana.

G. aroa Schs. (182 d). Forewing covered with large, velvety dark brown spots which, however, do *aroa*. not contrast much with the lighter, less velvety ground; a larger submarginal spot is above veins 2 and 3, others however, are similarly conspicuous. Hindwing blackish brown. Mexico; Central America; Venezuela; French Guiana; Bolivia.

G. juturna Schs. (182 d) is very similar to *aroa*, but there is a dark spot in the light area below vein 2 *juturna*. in the submedian area, so that the light area does not reach the cell, which is the case in *aroa*. Hindwing whitish, more or less speckled. Mexico; Costa Rica; Panama; Brazil.

G. obidosa Dgn. (183 e). Here the spots are angular on a more lilac grey ground, with an oblique whitish *obidosa*. subbasal line, another line from the costal margin bent on vein 3 to the distal margin, and an oval oblique discal ring. Hindwing whitish, feebly reticulated violettish grey. Only the type is known from the Amazons (Obidos).

G. amanosa Schs. (183 e) generally resembles *obidosa*, but with reverse colours, the dark spots angular, *amanosa*. the lighter interspaces rounded. Costa Rica.

G. egipan Dgn. (183 e). Distal half of forewing light, large dark speckles on the light brown ground *egipan*. only along the costal margin, basally and at the interior edge of the fringe. Hindwing without markings. Only the type is known. A large species from Brazil.

G. tigrata Schs. (183 e). Brownish yellow with a silver reflection, the markings richly red-brown; thorax *tigrata*.

and abdomen equally coloured; the forewing with rows of dark brown spots. Hindwing light, slightly speckled. Only 2 ♂♂ known. Costa Rica.

- rufiflava*. **G. rufiflava** Dgn. is not so bright yellow as *tigrata*, the whole apical part of the forewing broadly suffused with dark brown, without a darker median band. Only 1 badly preserved ♂ specimen. French Guiana.
- invenusta*. **G. invenusta** Schs. (183 e) is a larger species; of a reddish brown flesh colour, shaded with velvety blackish; subbasal line shaded darker along the submedian line outward; a blackish shadow from the cell-end to the anal angle, a triple stripe at the apex. Hindwing of ♂ triangular, of ♀ rounded, black, deeper black in the ♂. Veins 6 and 7 of hindwing only on a very short stalk, and perhaps the species would be better ranged among *Langsdorfia*. Brazil.
- triplex*. **G. triplex** Schs. (183 f). Grey with many angular brown spots intermixed with a bright yellowish brown colour; 3—5 black internerval stripes, the veins themselves reddish; apex and anal angle as far as vein 2 broadly light. French Guiana and Amazons. Brazilian specimens differ in the black stripe being only present between 3 and 4, and the dark spots at the cell-end being rounded and more concentrated. Taperinha.
- sabulosa*. **G. sabulosa** Schs. (182 d). Brown, somewhat yellowish, densely reticulated forming spots, the only real markings being submarginal interrupted reticulations; the lighter parts are incompletely rounded spots with darker ones between them. Hindwing dark. Brazil.
- sterila*. **G. sterila** Dgn. (183 f). Grey with faint fine darker reticular markings and a black irregular oblique line from the costal margin near the base outward to vein 1, coarse reticular marking across the apex. Hindwing likewise well reticulated. French Guiana. A doubtless *Langsdorfia*.
- fidelis*. **G. fidelis** Schs. (183 f). Dark red-brown, quite indistinctly reticulated black, mixed with reddish flesh-colour at the costal margin; a strong black streak along the inner margin for $\frac{2}{3}$; margin somewhat lighter, with a reticulated submarginal parallel line. Guatemala, Costa Rica, and Peru.
- clathrata*. **G. clathrata** Dgn. (183 f). Of a warm dark brown with fine extinct reticular markings and coarser black striae, the latter forming irregular transverse lines submarginally and in the basal third, connected by a line along vein 1. Only 2 ♀♀ at hand, veins 6 and 7 of hindwing on a very short stalk or quite separated. French Guiana. Probably a *Langsdorfia*.
- morosa*. **G. morosa** Schs. (183 f). A dark brown species with uniformly fine reticular markings, without coarse lines. Of a warm dark brown colour, not scantily scaled, the reticular markings dense; only an extinct darker antemedian line extends obliquely from the inner margin outward to the costal margin. Costa Rica and Bolivia (Rio Songo).
- mucida*. **G. mucida** H. Edw. (182 e). Forewing greyish brown, rather feebly striated and partly confluent to reticular markings, finely dusted darker grey, but an area in and below the cell remains lighter, whitish; a dark diffuse spot at the cell-end; fringe speckled brown and white. Hindwing dingy whitish, speckled with brown. Arizona.
- guata*. **G. guata** Schs. (183 f). Forewing light reddish brown with a lilac tinge, a dark shadow from the centre of the costal margin to the anal angle comprises the apex; the striae are chiefly transverse, dark brown, blurred; more reticular on the lighter hindwing. Guatemala.
- tecnessa*. **G. tecnessa** Schs. (183 g). Dark red-brown, the forewing with broad bands of transverse spot-like striae, especially prominent an undulated transverse dark shadowy line. Hindwing lighter except the submarginal area. Only the single type is known, from Brazil.
- difflua*. **G. difflua** Dgn. (183 g) resembles the following *arbeloides*, but it is somewhat more yellowish, and the macular markings of the forewing form a broad subterminal band in the distal third of the wing. Argentina.
- arbeloides*. **G. arbeloides** Dyar (= *flavescens* Dgn., *felicoma* Dyar) (182 e) is yellowish brown, with darker purple brown spot-like speckles, so that rows of spots are formed between the veins, especially along the inner margin, in a broad submarginal area and at the cell-end. The lighter hindwing is feebly speckled darker, with a large dark discal spot. Southern United States (Texas), Mexico and Central America. — **rufescens** B. & McD. shows brighter red-brown spots, so that the insect looks much redder. Described from Missouri (Greenville).
- talboti*. **G. talboti** Dgn. (183 g). Thinly scaled, especially the hindwing diaphanous, the shape of the wings more roundish, pointed at the apex. Ground-colour dusty grey, the reticular markings strigiform, dark carmine, especially at the costal margin, rather uniformly coarse. Hindwing with dark veins and a dark shaded inner margin, with faint red apical reticular markings. Only the type known, from Bolivia.
- rubida*. **G. rubida** Dgn. (183 g) has somewhat more quadrangularly pointed forewings, the hindwing not dia-

phanous. Forewing uniformly dark red-brown, feebly speckled darker, hindwing dingy white, fringe red-brown, and with a red-brown wedge-like spot before the anal angle. French Guiana.

G. tristis *Wkr.* Forewing dull red-brown, with slightly darker spots, hindwing tinged yellow, light or *tristis*, rather dark covered all over with small indistinct spot-like reticular markings. Venezuela.

G. modisma *Schs.* (183 g). Similarly marked as *tristis* and perhaps the same species; but while in *tristis modisma*, the reticular lines in the distal area form separated oblique spots, there are here two lines parallel with the distal margin. The two specimens before me do not differ from each other, but one of them has much darker hindwings. Guatemala.

G. harcour *sp. n.* (183 g) resembles *tristis* and *modisma*, but the wings are narrower and more pointed, *harcour*, the dark red ground with hardly any reticulations, and before the margin there are no linear markings; spotted costal-marginal markings are prominent owing to their being edged with yellowish. Hindwing yellowish, slightly strewn at the distal margin, the margin itself spotted dark brown, and a reddish shadow extends before the inner margin towards the base. 1 ♂ from the Amazons (Teffé), type in the U. S. National Museum.

G. modia *sp. n.* (183 h) has the shape of wings of *arbeloides* which it resembles, but the ground-colour *modia*, is a uniformly soft red-brown; the reticular markings striated or spotted, darker brown, blurred; a darker cloud at the cell-end, and an accumulation of dark scales before the middle of the inner margin, at the same place where there is a feeble discal spot on the hindwing. Hindwing only somewhat lighter than the forewing, otherwise similar. 1 ♂ from the Amazons (Praniha); type in the U. S. National Museum.

Section II. Hindwing without a connecting bar between 7 and 8 (*Lentagenia* Dyar).

G. eureka *Schs.* (183 h) has long wings, with parallel margins and an obtuse apex; forewing light lilac *eureka*, grey, between the base of veins 2 and 1 with a large triangular brown spot edged with whitish, the interspaces of the cell-branches blackish and a bent blackish shadow from above 4 to the apex; a brown area below vein 1 at the inner margin. Only the type, 1 ♂, is known, from Guatemala.

G. guiguasia *Dgn.* (183 h). Forewing grey with linear transverse striae, with a large dark brown spot *guiguasia*, near the base enclosing an oval silvery spot on vein 1, a small brown spot at the cell-end. Hindwing blackish. Only the ♂ type is known, from Venezuela.

G. ornata *Dgn.* (= ? *saladota* *Dgn.*) (183 h) is a very small species with differently arranged markings; *ornata*, white subterminally and above the anal angle on the rusty brown ground, with irregular small brown spots in the subterminal area and with an oblique row of spots through the middle of the cell to before the anal angle. From Argentina. The *saladota*-type is no more recognizable, oily, worn and broken, the size and habitat the same; it may nevertheless be another species.

G. perfida *Schs.* (183 h). Dark brownish, densely speckled and spotted, the spots basally more or less *perfida*, confluent; an angled white-dusted antemedian band and a small spot at the cell-end; the small spots lighter than the ground. Hindwing dark with lighter punctiform spots; fringe white. Guatemala.

G. carisca *Schs.* (183 h) is smaller than *perfida*, the punctiform spots darker than the ground, the yellow- *carisca*, ish white oblique band extends to before the anal angle, the discal spot is rusty brown. Mexico.

G. minuta *B. & McD.* (182 e) is still much smaller than *carisca* which it resembles, though it lacks the *minuta*, light oblique patch to the anal angle. Forewing light ochreous brown, yellowish white at the costal margin, shaded brownish black behind the cell; a smoky brown spot at the base of the costal margin, a larger triangular one behind it, further spots in the centre of the cell and at the end, and a large one above the centre of the inner margin, behind which spots there is white dusting, another white spot in the middle of the distal margin. Hindwing dark smoky brown. Arizona.

G. vassilia *Schs.* (183 i) is a brown species, the body more whitish; the brown spots on the forewing *vassilia*, are large, one near the base, one behind it and 2 subapical ones; veins striped white; vein 2 terminates into the anal angle, a double white stripe below it. Veins 6 and 7 of hindwing stalked, then almost parallel, only slightly separated, as in *Langsdorfia*. Hindwing black with light-edged marginal spots. Guatemala.

G. plagiata *Schs.* (= *daphne* *Drc.*) (182 f). Forewing dark lilac grey, with distinct rounded dark brown *plagiata*, small spots, scantily scattered over the wing, 1 near the base, 2 in the middle, and 3 subapical ones. Hindwing blackish. Mexico; San Salvador; Guatemala; Costa Rica; Panama; Colombia; Venezuela.

G. pulverosa *Hmps.* is very similar to *plagiata*, but all the spots are much smaller, but while in *plagiata pulverosa*, the subapical spots are situate in a straight or slightly concave line, they are in a convex row parallel to the distal margin in *pulverosa*. Lesser Antilles.

G. pardana *Schs.* (183 i) differs from *pulverosa* in larger spots arranged in 3 dense rows. Ground colour *pardana*.

brown, the spots darker brown. Hindwing dark brown, with slightly darker spots. Only the ♂ type from Brazil is known.

- racana.* **G. racana** Dgn. (183 i). Dark grey with distinctly rounded black spots, 5 in a row near the base, 2 larger ones in the subterminal area, and 4 small subapical ones. Veins 6 and 7 of hindwing stalked, then almost parallel as in *Langsdorfia*. Only the ♂ type from Argentina is known.
- tristani.* **G. tristani** Schs. (182 f). Forewing lilac grey, subterminally speckled lighter; a large dark spot in the centre of the inner margin, composed of an upper oblong velvety black spot and a long dark brown shadow below it, the latter traversed by striae. *G. brunnea* Köhler, from Argentina, is probably the same species. Mexico, Guatemala, and Costa Rica, also from the Amazons (Teffé).
- circumpunctata.* **G. circumpunctata** Dgn. (183 i) resembles *plagiata*, but it is much smaller, and the subapical spots are absent; only one spot in the cell. Only the ♀ type from French Guiana is known.
- salome.* **G. salome** Dyar (182 f) looks very much like *tristani*, but the spot above the inner margin is short and triangular and does not extend below vein 1. Mexico.
- gemina.* **G. gemina** Dgn. (183 i). Forewing lilac grey with numerous small dark spots and 2 larger ones above the middle of the inner margin obliquely above each other, separated by the submedian vein. Venezuela.
- invida.* **G. invida** Dgn. (183 i). Delicately lilac grey with small roundish brown spots, a spot above the inner margin and with 2 rather large spots in the otherwise spotless submarginal area, a subapical one, and one in the middle. Hindwing whitish, fringe spotted dark. The only ♂ type from Venezuela is before me.
- invidiosa.* **G. invidiosa** Dgn. (184 a). Forewing lilac grey, differently shaded; a rusty brown area in the centre of the inner margin, and a series of 5 small brown subapical spots. Hindwing grey with dark marginal spots. Brazil (Amazons District). Only the ♀ type is known.
- delicata.* **G. delicata** Schs. resembles *invidiosa*, but it is more delicately grey and without the small subapical spots. Hindwing white with small indistinct dark spots on the fringe. Guatemala; only the ♂ type is known.
- cleopatra.* **G. cleopatra** B. & McD. Dark grey, with somewhat lighter spots; three small black subapical spots in whitish rings, small double spots at the margin; an angular line, no spot, above the inner margin. Hindwing blackish, fringe lighter. Utah.
- philomela.* **G. philomela** Schs. (184 a). Forewing reddish flesh-coloured grey, with scanty striae forming irregular lines; interior area shaded darker; a small round black punctiform spot at the cell-end. Hindwing dark brown. Brazil (Rio de Janeiro).
- nudaria.* **G. nudaria** Schs. (182 f). Forewing rather dark grey, somewhat diaphanous, clouded; near the base with an interrupted black transverse streak from the costal margin and a shorter one through the cell. Guatemala; Costa Rica; Panama; Venezuela and Guiana.
- tucumanata.* **G. tucumanata** Dgn. (184 a). Forewing dark grey; densely dusted black, the striae reticular; a whitish area at the cell-end encloses a bent black discal streak; only the ♀ type from Argentina is known.
- rolis.* **G. rolis** sp. n. (184 a). Forewing dark grey, irregularly reticulated black, a subterminal line being most conspicuous; a slightly oblique black streak at the cell-end. Hindwing somewhat lighter grey, interruptedly reticulated. Expanse of wings: 29—39 mm. Argentina (Tucuman); type in the U. S. National Museum.
- actileuca.* **G. actileuca** Dyar (184 a) has short and broad wings. Forewing dusted dark grey, lighter at the margin; 3 small black diffuse spots subapically; a whitish bow encircles the cell below and outside as far as the costal margin; no discal spot present. Hindwing light, speckled with dark, and with small dark marginal spots. Mexico: only the type is known.
- nigrisparsata.* **G. nigrisparsata** Dgn. (= *giacomellii* Köhler) (184 a) resembles *rolis*, hindwing of ♂ whitish, the reticular markings coarse and thick, forming a triangular spot above the middle of the inner margin and a subterminal row of spots. Hindwing of ♀ reticulated grey. Argentina. DOGNIN's type is a ♀, before me there are 8 other ♀♀ and 1 ♂ from La Rioja, taken by GIACOMELLI, so that the species founded by KÖHLER, based upon 1 ♂, is most probably the same species.
- francesca.* **G. francesca** Dyar (184 b). Clouded dark grey with quite indistinct traces of dark markings formed by somewhat coarser reticulations. Hindwing blackish. Florida, only the ♂ type is known.
- cinerea.* **G. cinerea** Schs. (184 b) is larger than *francesca* and more finely reticulated; brownish grey with small indistinct dark strigiform spots on both wings; forewing with small dark marginal spots extending also to the fringe. Guatemala and Costa Rica.

G. rabidan *sp. n.* (184 b). Small, hindwing black; forewing dark grey, the basal two thirds shaded *rabidan*. with brownish, the marginal third with coarse black reticular markings, the basal part only slightly marked black. Expanse of wings: 20 mm. Only 1 ♀, no habitat mentioned, type in the U. S. National Museum.

G. cornelia *Neum. & Dyar* (= *caerulea Dalla Torre*) (184 b). The subsequent species exhibit a more *cornelia*. triangular shape of the forewing with but very insignificant markings. Body and wings white, slightly tinged brownish behind the cell, a rather large round punctiform spot at the cell-end; small strigiform spots at the inner margin and on the hindwing. Colorado.

G. theodori *Dyar*. White, the thorax slightly mixed with light grey; basal half of forewing without mark- *theodori*. ings, only a few black dots at the costal and inner margins, with large purple grey spots behind the cell, traversed by the white veins; distal half of hindwing striated light purple grey. — **kunzei** *Dyar* is somewhat smaller, *kunzei*. the postmedian spots are inclined to be confluent. Arizona.

G. durangona *Schs.* (184 b) differs from *theodori* in the large spots in the postmedian area being replaced *durangona*. by but scanty small strigiform spots; a few reddish striae at the inner margin. Colorado.

G. carla *Dyar* is the same, but the grey markings in the distal area are more reticulated. It is doubtful *carla*. whether it is a separate species. South California.

G. lucretia *B. & McD.* is larger; forewing white with a dark macular band from the centre of the inner *lucretia*. margin obliquely to the upper cell-angle. Texas.

G. albicosta *Schs.* (184 e). Mouse-coloured, forewing shaded reddish at the base and apically, the costal *albicosta*. margin rather broadly greyish white, the wing covered with indistinct dark striae. Hindwing grey. The ♂ frenulum is a stout short thorn, finely pointed. Costa Rica.

G. pallidicosta *Schs.* (184 e) is smaller than *albicosta*, hindwing white with small grey marginal spots *pallidicosta*. and fringe. The ♂ frenulum is a delicate fine short thorn. Brazil.

G. nais *Drc.* (= *naida Dyar*, *albipuncta Schs.*) (182 f). Grey with a reddish tint and a slightly darker *nais*. discal cloud on the forewing and a silvery white marginal stripe at the inner margin from the base to the middle; indistinct darker striae and a white discal dot are occasionally traceable. Hindwing of ♂ whitish grey, of ♀ somewhat darker. The ♂ without a frenulum. Mexico, Guatemala, and Costa Rica.

G. anna *Dyar* (184 c) resembles *nais*, but it is darker grey without the reddish brown tint. ♂ likewise *anna*. without the frenulum. Florida.

G. lotta *B. & McD.* (184 e). Like *anna*, but the fringe more spotted; a white discal spot is usually *lotta*. absent, basal area slightly darkened with brown. Hindwing dark smoky brown, slightly reticulated, fringe speckled. Arizona and Colorado.

G. neceros *Dyar* (184 e). Dark reddish brown with a dark oblique shadow through the centre of the *neceros*. wing. Hindwing blackish brown. ♂ like the preceding species without a frenulum. Panama.

G. marga *B. & McD.* (184 e). Dark grey, somewhat dustedly strewn with a narrow white discal streak; *marga*. the ♂ has neither a frenulum nor a costal-marginal reverted fold. One specimen lacks the upper branch of the discal vein on the hindwing. South California.

G. ethela *Neum. & Dyar* (184 d). Light grey, spotted darker; a white discal dot at the cell-end and *ethela*. a black one below it. ♂ without the frenulum and the costal-marginal reverted fold. The larva lives in *Purshia tridentata*. Colorado, Utah, and Nevada.

18. Genus: **Psychogena** *Schs.*

The genus has the same neuration as *Givira*, but the veins 6 and 7 on the hindwing are on a long stalk, and 7 and 8 are connected by a bar. Hindwing of ♂ sharply triangular.

Type: *P. miranda Schs.*

P. miranda *Schs.* (184 d). Body shaggily clad, abdomen with lateral black scale-tufts. Forewing reddish *miranda*. brown, interruptedly reticulated, a black spot basally, a triangular one at the inner margin, and a large round one at the cell-end; the apex is broad, the distal margin narrow black. Hindwing black. Only the ♂ type from Costa Rica is known.

P. duplex *Schs.* (184 d) has monotonously blackish brown forewings. Hindwing whitish, diaphanous, *duplex*. black along the inner margin. Only 1 ♂ type from French Guiana is known.

19. Genus: **Langsdorfia** Hbn.

Discal vein forked in both wings; veins 6 and 7 of hindwing separated and almost parallel or at least almost separated. The ♂ typically lacks the frenulum and the costal-marginal reverted fold, but the costal margin of the hindwing is very often widened, which may accomplish the same purpose of holding together the wings in flying. The typical forms exhibit veins 7 and 8 connected near the cell-end by a bar. Everything else as in *Givira*.

Type: *L. franckii* Hbn.

- franckii*. **L. franckii** Hbn. (182 h). Lilac brown, lighter along the costal margin and spotted here, broadly shaded dark at the margin, with a thick light arcuate streak at the apex, the subterminal area lighter lilac; a dark shadow extends from the base through the cell; 3 or 4 silvery spots near the base towards the inner margin, the spot above vein 1 being the largest. Brazil and Bolivia.
- lunifera*. **L. lunifera** sp. n. (184 d). Like *franckii*, but the dark median shadow is broader and despatches a wedge-shaped branch to the costal margin behind the middle, by which a light crescentiform spot is cut off; the apical light arcuate streak is thinner and less bent. Mexico, San Salvador, Guatemala; Costa Rica; Trinidad; Venezuela; Colombia; French and British Guiana. Type in the U. S. National Museum. The larva, according to MOORE, in the lower end of the stalk and main roots of "pigeon pea".
- rufitincta*. **L. rufitincta** sp. n. (182 h) is likewise very closely allied to the two preceding species, shaded dark, the markings less contrasting, more or less tinged rusty brown subapically and along the inner margin; the light subapical spot is more quadrangular than crescentiform and less sharply defined along the lower edge than in *lunifera* of which species it may be merely a form. Mexico; San Salvador; Guatemala; Venezuela. Type in U. S. National Museum.
- dukinfieldi*. **L. dukinfieldi** Schs. (182 h) is dark mouse-coloured brown with a white-dusted subterminal band which is angular subcostally and bends back from the anal angle to before the middle of the cell; near the base a dark brown bent lobate band enclosing a silvery spot; a mahogany-brown triangle at the cell-end and a larger one in the angle of the white subterminal line. Hindwing of ♂ light, of ♀ dark brown. Brazil and Argentina.
- adornata*. **L. adornata** Dgn. (184 d) differs from *dukinfieldi* in the whitish submarginal line not bending up to the cell; large whitish ringed spots behind it; the angularly lobated basal band contains a silvery spot; a narrow discal spot despatches a stripe outward along vein 5. Only the ♂ type from Ecuador is known.
- plataea*. **L. plataea** Schs. (184 e). Dark brown, the markings not very prominent, the veins striped light; a large oval silvery spot near the base with a small one before it; silvery spots at the margin between the veins. Hindwing without a costal convexity, but a long slender frenulum is present, penetrating into a reverted fold of the costal margin of the forewing. Brazil and Argentina.
- moche*. **L. moche** Dgn. (184 e). Blackish brown with blackish reticular markings and angled striae; an irregular subterminal line of spots. A large oval yellowish silvery spot near the base below the cell; inner margin red-brown. Hindwing light. Only the 1 ♂ type is at hand with a typical *Langsdorfia* structure. Peru.
- malina*. **L. malina** Dgn. (184 e). Dark brown, of a variable tinge; right across the apex there is a dark brown triangular spot with a more apically situated dot, continued as an irregular subterminal line of spots, which is outwardly bordered with silvery whitish; a large subbasal spot with a yellowish silvery spot below; disc cloudily darkened, straightly cut off inside. Colombia; Bolivia; Ecuador and Peru.
- metana*. **L. metana** Dgn. (= *argentata* Köhler) (184 e). Light brown, the markings distinctly prominent; as in *malina*, a large, below narrowed spot subterminally at the costal margin, continued below as a narrow line feebly bordered with light; a triangular spot in the disc and a quadrangular subbasal spot with an oval silvery spot below it on vein 1. Hindwing dark. The species is closely allied with *dukinfieldi*. Argentina.
- coresa*. **L. coresa** Schs. (184 e). Dark brown with many small darker spots; a large costo-subapical spot bordered with light, continued below in subterminal punctiform spots. Body very strong, the structure of the body typical. Colombia.
- watsoni*. **L. watsoni** Schs. (= *invetita* Dgn., *obscura* Köhler) (184 f). Forewing brownish grey, of a variable tint and distinctness of the markings, the latter being brownish black; the apical spot is more or less distinctly continued below as a dark, lighter bordered submarginal band; the wing slightly marked with lighter small diffuse spots and a few striae; a small triangular spot in the middle of the inner margin and a larger one near the

base, containing a silvery spot; dark submarginal spots at the ends of the veins. Hindwing dark. Brazil; Paraguay and Argentina.

L. minima Dgn. (184 f). Forewing grey mixed with brown; the subbasal spot shows angular projections *minima*, and instead of the silvery spot a spot of the ground-colour; small costal-marginal spots, a submarginal line and interrupted reticular markings are dark brown; discal shadow reddish brown. Hindwing dark. A very small species; the ♂ shows in spite of a costal-marginal projection on the hindwing also a slender frenulum and a corresponding costal-marginal reverted fold. Ecuador.

L. garasia Dgn. (184 f). Brown, the spots dark brown; a large lobate, submedianly thickened spot is *garasia*, at the base, bordered with silver outside, and 3 large roundish-angular spots bordered with silver are in the distal area; rather large spots at the costal and distal margin, the latter ones extending to the fringe. Structure of frenulum as in *minima*. Veins 6 and 7 of hindwing either separated, arising together or even stalked. From Argentina.

L. argyrotoxa sp. n. (184 f). Dull wood-brown, with a large lobate dark brown subbasal spot bordered with silver outside, submedianly forming a larger inward lobe; a median band thickened at the inner and costal margins, narrowed or interrupted in the middle; a fine subterminal line is thickened at the anal angle, without a silver border; a blackish shadow behind the cell between the veins; hindwing blackish. Structure of frenulum as in *minima*. Expanse of wings: 25 mm. Peru (Lima); the type in the U. S. National Museum.

L. bellaria Dgn. (184 f) is hyaline without scales in the distal area of the forewing and on the whole hindwing, but the fringes of both wings are intact; the ground is almost white with 5 large dark brown spots and many small spots and striae. Structure of wings typically *Langsdorfia*-like, without a frenulum. Only the ♂ type known from Colombia.

L. brunneomaculata sp. n. (184 f). Forewing light wood-brown with large round red-brown spots bordered with white; a large bent subbasal spot, a round one at the cell-end extending to the costal margin; a submarginal row of 3 spots, the lowest small and produced to the anal angle. Hindwing whitish with a double dark marginal line. Of a typical *Langsdorfia* structure, without a frenulum. Expanse of wings: 36—45 mm. The species is very much like *L. marmorata* Maassen which I do not know in nature, but it shows single differences. Peru (Lima); type in the U. S. National Museum.

L. ambigua Hbn. (= *tigrina* Bsd.) (184 g). Light tan-coloured, marbled with light brown spots bordered with whitish; hindwing whitish with light brown marginal spots and apically with a submarginal row. Of a typical *Langsdorfia* structure. Argentina and Uruguay.

L. chielin Dgn. (184 g) resembles *ambigua*, but the dark brown spots are narrow and prolonged with white edges; these spots form a series near the margin, a larger one is below the cell, narrowed at the end and bent downward. Structure typical. Peru.

L. demissa Maassen I do not know in nature, but the figure is so much like a dark *aquila*, that I believe to be right in ranging it here; separated by blackish hindwings. Ecuador.

L. aquila Dgn. (182 i). Forewing reddish brown, brighter at the costal and inner margins, the veins rather broadly white. Hindwing light whitish or tinged with brown. Of the typical *Langsdorfia* structure, but owing to the broad obtuse wings and the strongly bipectinated antennae it looks like a *Lasiocampida*. Colombia and Bolivia.

L. basiplaga Schs. (184 g). Forewing long triangular, grey, coarsely striated, with a large triangular brown basal spot and discal spot. Hindwing with a long slender frenulum which penetrates into a projection of the base of vein 12 of the forewing. Forewing with a tiny areole arising from vein 10, the veins 7 + 9 stalked from the end of the discal cell; described as *Ravigia* to which it cannot belong, because the discal veins of both wings are stalked. British Guiana.

L. macrochir Schs. (184 g). Forewing light tan-coloured covered with roundish brown spots, partly darker, partly lighter; a larger one is subterminal on vein 4, and one subapical. Hindwing similar, but less distinctly spotted. Structure normal. Brazil (Rio de Janeiro).

L. caestroides H.-Schäff. (184 g). Ground-colour light yellowish straw-coloured, dark at the margin; a large oblique dark brown subbasal spot extends from the costal margin to vein 1; behind the cell above the discal veins as far as near the anal angle there is a large dark area composed of red-brown, blackish brown and violettish grey small quadrangular spots. Only 1 ♀ before me. Brazil (Rio de Janeiro).

L. centrosoma Dyar (182 i). Dark grey, reticulated black; a narrow black line in the antemedian area and accumulated black and violettish grey scales behind the cell-end. ♂ antennae biserrate and tuftedly ciliated. Hindwing with a moderately slender frenulum penetrating into a convexity at the base of vein 12 of the forewing; veins 6 and 7 of hindwing well separated, no bar connecting 7 and 8. Mexico.

- beatrix*. **L. beatrix** Schs. (184 g). Forewing light grey, interruptedly reticulated black, with a black antemedian oblique band, another one across the apex. Costal margin of hindwing with a moderate lobe, the frenulum is a small degenerated small thorn without a function; a bar at the cell-end connects the veins 7 and 8. Guatemala.
- infans*. **L. infans** sp. n. (184 h) is darker grey than *beatrix*, with striated reticulations, the interior black line less oblique, another line in an opposite oblique direction extends from the centre of the inner margin to the cell, a third irregularly across the apex and an arcuate streak across the anal angle which is situate in dark clouding; reticular markings at the margin show fork-like formations with the ends of the dark markings. Hindwing light grey, with a short stout frenulum which is evidently without function; a bar between 7 and 8; antennae bipectinate. Paraguay (San Bernardino); type in the U. S. National Museum.
- sobrana*. **L. sobrana** Schs. (184 h). Forewing dark reddish brown, scantily striated grey, a lighter stripe along the median vein extends to the anal angle widened above 2 and 3. Hindwing red-brown, without spots. Of the normal *Langsdorfia* structure without the frenulum. French Guiana, Bolivia, Brazil (Sa. Catharina, Novo Friburgo, Amazons).
- palmata*. **L. palmata** B. & McD. (184 h). Forewing white, strewn with dark smoky brown along the inner margin, below the cell as far as the anal angle and behind the cell along the veins 5 and 6, the latter up to the apex, also the veins, triangularly widened towards the margin, striped brown. Hindwing light smoky brown with darker veins and whitish fringe. Arizona.

20. Genus: **Puseyia** gen. nov.

Neuration the same as in *Givira*, but the discal veins on both wings plain, not forked; veins 6 and 7 of hindwing on a long stalk, a bar between 7 and 8 at the cell-end. The ♂ frenulum is a moderately thick thorn penetrating into a fold of the subcosta of the forewing. Antennae shortly bipectinate.

Type: *P. puseyiae* Dyar.

- puseyiae*. **P. puseyiae** sp. n. (184 h). A larger light brown species, with traces of reticular markings, an oblique dark line through the centre of the wing with a more oblique side-line inside below; a bent dark line encircles the anal angle, filled with violettish grey inside. The median area between these lines is lighter inward, darker outward. Hindwing dark greyish brown. In the marking it resembles *Inguromorpha roseobrunnea* Dogn. Expanse of wings: 40 mm. Peru (Callao); type in the U. S. National Museum.
- hiscelis*. **P. hiscelis** sp. n. (184 h) is a smaller species, light grey, with darker striations and reticulations; a black spot in the middle of the inner margin above vein 1, absent in the ♀. Hindwing without a bar between 7 and 8. Expanse of wings: ♂ 20—23 mm; ♀ 24 mm. Amazons (Coary; Fonteboa); type in the U. S. National Museum.
- ban*. **P. ban** Dyar (184 i) is darker grey, speckled dark; a black spot above the middle of the inner margin, 3 behind it in one line towards the apex, and a subbasal spot before it, all these, particularly the large median one is bordered with lighter yellowish; an indistinctly marked spot at the cell-end. Hindwing dark grey, the veins 6 and 7 on a very long stalk, no bar between 7 and 8. Expanse of wings: 22 mm. The only type known is without the abdomen. From La Rioja, Argentina.

21. Genus: **Inguromorpha** H. Edw.

Discal veins on both wings plain, not forked. Veins 6 and 7 of hindwing separated, a bar connects 7 and 8 at the cell-end; ♂ with a slender frenulum penetrating into a costal fold of the forewing. Antennae bipectinate.

Type: *I. slossonii* H. Edw.

- basalis*. **I. basalis** Wkr. (= *slossonii* H. Edw.) (169 h). Whitish grey, reticulated black, with a straight narrow black band near the base and an arcuate streak or a rounded spot before the apex. Hindwing dark grey. WALKER described the species from an unknown habitat, but I ascertained later the identity with EDWARD's *slossonii*. Florida; Missouri; Texas; Mexico (Santa Cruz).
- sandelphon*. **I. sandelphon** Dyar (= *clymene* Schs.) (182 i). Violettish grey, dusted darker in the interior half; irregular bands of quadrangular spots are in the basal and median areas, a thick bent band across the apex. Hindwing blackish. Veins 6 and 7 of hindwing on a short stalk. Mexico and Guatemala.
- arcifera*. **I. arcifera** Dyar (= *gabriel* Dyar) (182 i). The light lilac ground which only remains as the borders of the spots is densely dusted with brown; the interior band is divided into spots, the exterior one oblique, extinct above, bordered with light outside; a thick shadow from the anal angle up to above vein 5 contains a black arcuate line; a brown bow at the apex is bordered with white. Hindwing dark with lighter reticulated striae. South Texas; Mexico.

I. triarectata *Schs.* is similar to *acrifera*, but the light lilac ground predominates; the band in the basal area coherent, dusted, the anal arcuate streak also coherent, confluent with reticular markings. Only the ♂ type is known. French Guiana.

I. roseobrunnea *Dgn.* (169 h). Forewing rosy grey, the basal area almost as far as the middle reddish brown, bordered by a black oblique line which extends from the interior third of the inner margin to the middle of the costal margin; forewing with scanty spotted reticulations; a thick black streak across the anal angle encloses a blackish area and bends up to the costal margin by 3 or 4 small punctiform spots. Hindwing blackish, striated darker. Only the ♀ type (without its abdomen) is known. French Guiana. *roseobrunnea*.

I. polybioides *Schs.* Ground-colour of wings whitish, brown costal-marginal and inner-marginal shadows are connected in the middle by a band; reticular markings form a tridentate bow above the anal angle, a thick irregular spot is at the apex. Only 1 ♂ type from Brazil is known. *polybioides*.

I. itzalana *Stkr.* (169 h) resembles no other species; large, forewing grey, strewn with black atoms; the veins striped black with single interruptions; black striae at the base of the inner margin and before the apex. Hindwing lighter grey, similarly strewn. Arizona. *itzalana*.

I. polybia *Schs.* (= *inguromorpha Schs.*, *crassiplaga Schs.*) (182 i) resembles *basalis*, the light ground is intermixed with whitish spots, reticulated black, with a fine interior oblique line and a bow above the anal angle, a bent black spot at the apex, slender or also thicker. Hindwing without a bar connecting 7 and 8. Guatemala; Panama; Colombia; Venezuela; Guiana; Brazil. *polybia*.

I. ramulosa *Dgn.* has blackish grey wings marked as in *polybia*, but without white spots and with finer reticular markings; the apical spot is not more prominent than the other reticular markings. Argentina. *ramulosa*.

I. entone *sp. n.* (169 h). Thorax and forewing yellowish grey; abdomen light at the base, with a black band behind it, laterally shaded dark. Forewing with a black interior band which is widened at the costal and inner margins and united with a bent band above the inner margin extending to the cell-end; distal half with spotted reticulations, in the only type with hardly any scales caused by flying, though one wing exhibits yet a round black spot before the apex. Hindwing grey, densely reticulated black. Expanse of wings: 39 mm. Panama, La Chorrera; type in the U. S. National Museum. *entone*.

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* signifies that the form is also figured at the place quoted.

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Family: Hepialidae.

By R. PFITZNER †. Revised by M. GAEDE.

A strange group differing from all the other lepidopteral forms and separated by extremely old marks of distinction; the “*Jugatae*”, thus styled by COMSTOCK because of their being provided only with a skinny lobe (jugum) instead of the frenulum (*frenatae*), comprise the two families of the *Micropterygidae* inclusive of the *Eriocraniidae* and *Hepialidae* (*Micropterygina*). The *Hepialidae* have developed from the *Micropterygidae* without any closer relations, as there are no connecting links. The *Micropterygina* are the most primitive lepidopteral order and, in their neurulation, they immediately approximate the *Trichoptera*. The age specially of the *Hepialidae* is traced back to the Jurassic epoch, when this family may have been represented by gigantic forms, lepidopteral “saurians”, only single remnants of which have been left to this day, as for instance the gigantic *Phassus giganteus* (100 d) in South America. The marks of the primitive habitus of the *Hepialidae* are both morphological and biological. The extremely slim shape similar to that of a dragon-fly, most obviously exhibited by the *Phassus* which are especially well developed in America, the mostly very feeble antennae and the absent palpi and oral parts, the strong shaggy legs, the peculiar position of the forewings and hindwings exhibiting an interstice, the hair on the wing-membrane, the more or less hair-like scales on the wings, the neurulation being the same (12 veins) on all the four wings, the subterranean or endoxyle habits of the larvae which resemble the grubs of cockchafer (bare with tubercles and a hard shiny head and strong biting organs), the mobile pupa provided with limbs, the peculiar flying habits of many species resembling those of certain Ephemeroidea — all these peculiarities prove the *Hepialidae* to be one of the primitive types of lepidoptera. This is corroborated by the fact that most of the members of this family are to be found in the isolated Australian Region abounding in archaic forms. America is not only absolutely but also relatively poorer, since only about 90 species occur there, compared with more than 100 Indo-Australian species. We must, moreover, consider the immense extent of the region and, besides, the enormous development of its lepidoptera, in order to be able to realize the difference of the two faunas compared; especially since, including the forms and synonyms, more than 15 000 names of American *Rhopalocera* have been dealt with in Vol. V (GAEDE).

Owing to the immense extent of the region covering two continents, the *Hepialidae* show of course a very different exterior in the various parts of this range. The North-American (neoarctic) forms are closely related to the European and palaearctic ones in a restricted sense, belonging for instance to our *ganna*, *hectus*, *velleda* and *carna* groups. The habitus of the antarctic forms (*Pielus*, *Callipielus*) approaches that of the South-Australian and Tasmanian species. Between the two subregions, in the tropical zone extending from Mexico to Paraguay, the *Phassus* and *Dalaca* are inserted, to which most of the American *Hepialidae* belong. Great numbers of other forms are yet to be expected from this region, since every expedition of collectors will probably yield new forms.

The *Hepialidae* are very unequally distributed over America. In general, the mountainous districts of the west (Rocky Mts., Cordilleras) are much preferred. In North America, California abounds most in Hepialid species. From the Equator to the southern point of America, the number of species decreases remarkably; quite poor, however, is the subregion of the Antilles from where, as far as I know, not any Hepialid species has yet been brought. A peculiar fact, which, however, is not unique (cf. Madagascar); still, no satisfactory explanation for it is known to me *).

With the American *Hepialidae* we are still more confronted by the difficulty of a somewhat unbroken description than with the Indo-Australian ones. Especially the South-American forms, above all *Dalaca*, need sifting, since a lot of undescribed material, which is constantly increasing, sticks in the collections. Another difficulty is offered by the impossibility of obtaining authentic specimens. Nearly every family presumably contains descriptions that are based upon a single type. Yet this is most extensively the case with the *Hepialidae*, especially the American ones, more perhaps than with any other lepidopteral group.

*) The cause may be that the *Hepialidae* are an old family and therefore to be found more in (the old) Australia, but hardly in the (volcanic) New Antilles (GAEDE).

The Hepialid genera occurring in the American Region are: *Hepialus* F. with the subordinate genera *Phymatopus* Wlgr., *Sthenopsis* Pack. and *Cibyra* Wkr., then *Philaenia* Ky. (= *Pharmacis* Möschler), *Dalaca* Wkr., *Triodia* Hbn., *Pielus* Wkr., *Callipielus* Btlr., *Philanglaus* Btlr., *Osrhoes* Drc., *Phassus* Wkr., *Pseudophassus* Weym.

1. Genus: **Hepialus** F.

Head and thorax with woolly hair. Antennae shorter than the thorax, eyes bare, no accessory eyes. Palpi tiny; proboscis absent, two round knots instead of it. All the wings with 12 veins and an inserted cell between veins 4 and 5. Hindwing also with 2 or 3 branches arising from the anterior median vein and extending into the costal margin. Larvae subterranean, on roots. Metamorphosis in a web. In America more in the west, in mountainous districts. Besides the genuine *Hepialus* the subgenera *Phymatopus*, *Sthenopsis* and *Cibyra* are represented.

a) *Hepialus* F.

- hectooides*. **H. hectoides** Bsd. (= *inutilis* Edw., *modestus* Edw., *sangaris* Strck.) (99 a). With this species which is similar to the European *hectus*-♀ and has also the same shape and size we begin the series of the North-American *Hepialus*. Forewing brownish ochreous with dark red markings. Hindwing brownish grey, margin ochreous.
- lenzi*. California, Arizona. I received specimens from Obispo, where the species flies in May and June. — **lenzi** Behr (99 a) is mostly smaller, more reddish, with a very indistinct marking.
- sequoiolus*. **H. sequoiolus** Behr (= *mendocinulus* Behr) (99 a) is a closely allied species, likewise from California. Darker, with more greyish brown markings. It inhabits the higher parts of the Rocky Mts.; I received specimens from Colfax, Cal., 5000 ft. FRANCIS WILLIAMS reports details about the larva and its habits. Head slightly bilobate, round, partly hidden below segment 1, diaphanous reddish brown, oral parts black, size 4 mm, with a few hairs. Body cylindrical, segments 2 and 3 somewhat thickened, 12 and 13 tapering. The larger segments with a subdivision, wood-brown, segments 12 and 13 dingy white. Body: dorsal shields with tubercles set with brownish hairs, thoracic legs yellow; all the thoracic segments with large umber-brown dorsal shields of different sizes. On the sides of all the segments (except 13) there are 4 tubercles each above the spiracles in two rows. Segments 4, 5, 10, 12 with one large dorsal tubercle each with 2 hairs. — In trunks of *Eriophyllum staedifolium* and roots of *Helenium puberulum* and in the large yellow lupine. It bores a longitudinal tunnel close above the soil and closes the opening with its excrements. Larval stage about 2 years, grown up in June. In captivity the larvae attack one another. Common near San Francisco, Alameda,
- behrensi*. Mendocino. — **behrensi** Stretch (= *tacomae* Edw.) is a very closely allied species, likewise from California. Salmon-coloured brown, with hardly any spots, 3 parallel bands, the 1st and 2nd in the lower third spotted
- montanus*. with silver, the 3rd often absent. — **montanus** Strck. may also belong to this group. Dark brown or yellowish brown, 3 paler bands of spots, bordered with dark, hindwing of the same colour or darker. Size same as of *behrensi*: about 55 mm. The synonyms *anceps* Edw., *baroni* Behr, *desolatus* Strck., *rectus* Edw. are perhaps identical with subordinate forms of the apparently very variable species. Widely distributed, California to Nevada.
- californica*. **H. californica** Bsd. (99 a), very closely allied to the European *carna* forms the transition to the following group. Forewing dark grey, in a certain exposure to light we see towards the apex a few whitish parallel stripes enclosing smaller round spots of a darker colour. Hindwing blackish grey. Size of *hectus*. It inhabits more the higher mountains of California, Plumas (10 000 ft.), Pomona. June.
- mustelina*. **H. mustelina** Pack. (99 a) and the following species represent the European *velleda*-group in North America. *mustelina* is brown, forewing finely speckled with a lighter brown and an irregular whitish band
- labradoriensis*. along the distal margin from the interior angle to the apex. — **labradoriensis** Pack. (27 mm) is a form with a black shadow above this band along the inner margin. The specimens from the United States seem to be somewhat larger and paler, semitransparent, judging from 1 specimen of my collection from Massachusetts
- gracilis*. (33 mm); North-Eastern America. — The allied **H. gracilis** (= *furcatus* Grt.) is likewise feebly scaled, dark brown, the whitish transverse band is rather broad, but not dentate, the rest of the wing clouded dark with black and brown scales without distinct spots; distal margin white, fringe spotted black. 33 to 40 mm. Northern States as far as Canada.
- lemberti*. **H. lemberti** Dyar (99 a). Dull ochreous, with rows of hyaline dark-edged spots of a most variable distinctness and size; some may be absent, others confluent. Hindwing blackish. 30—35 mm. California, on high mountains (1 specimen from Cisco, taken in June).

We append now first of all the species from the antarctic zone of South America.

- staudingeri*. **H. staudingeri** Wgn. (*antarcticus* Stgr.). 1 specimen from Paramo (Sebastian Bay on the eastern coast of Fuegia); the name had to be changed, because *antarcticus* was already preoccupied by a South-African species published by WALLENGREEN. Description according to STAUDINGER (Magelh. Sammelreise): 1 ♀, 59 mm. Fringe longer than in *Pielus luteicornis* (pl. 99 h), a band-like marking on the forewing, similar to

that in the palaearctic species *amasinus*-♀*) or *varius*. Ground-colour light smoke-brown or greyish brown, but not so transparent as in *luteicornis*. The broad light fringe speckled dark. 7 or 8 tiny oval round spots before the lighter places in the margin. Behind them a long narrow silvery white transverse band beginning 2 mm below the apex and terminating at the 1st median branch, almost parallel with the distal margin. Distally bordered by a slightly undulating dark transverse line, inwardly by a twice as broad dark band. The latter is followed by a light greyish brown transverse line which is partly bordered with dark inwardly and behind which, especially upward and downward, there is an irregular whitish line bordered with dark. At the 2nd median branch, this white line unites semicircularly with a short whitish linear marking extending to the lower part of the discal cell. 2 or 3 tiny oval dark spots below the costal margin, about 6—8 mm distant from the apex; somewhat farther inward, below between veins 7 and 8, there is a short white longitudinal streak pierced by dark; below the basal half of the costal margin in the upper part of the discal cell which is long here, there is a long whitish longitudinal streak bordered with dark above; a similar one seems to have been before the inner margin above the submedian vein. This part of the wing is unfortunately rubbed off, but it has contained larger dark patches, on the left forewing one notices yet that the basal part between the median vein and the median branch was filled with dark. On the dark smoke-brown under surface of the forewing only the white distal-marginal band shows feebly through; fringe less speckled dark, only the extreme tips remain light. Hindwing dingy greyish brown, somewhat lighter on the inner-marginal part, irregular lighter places are hardly discernible; fringe very feebly speckled dark in the middle. Hair of thorax dark olive brown, vertex lighter grey. The short slightly serrated antennae dark brown, the thin dark palpi, 1½ mm long, hang downward. Legs hairy, olive brownish grey; tarsi and abdomen more violettish grey.

H. dimidiatus Berg. Description according to BERG. This species of which only 1 ♂ is at hand, collected in Concepcion (Chile) on the 26th of February 1879, is easily recognizable by the yellow middle part of the forewing somewhat forming a longitudinal band; the costal third and the middle basal part of the inner margin is of a dark brownish grey strewn with a few dark dots. Head, palpi, anterior part of thorax, and the costal third of the inner margin, the marginal dots of the forewing as well as the legs brownish grey. Length of forewing: 42, of hindwing: 35 mm. Chile. *dimidiatus*.

The following species are from the neotropical part of America:

H. helga Schs. Body and forewing pinkish reddish yellow, with very fine dark rings and lines in the marginal third and at the inner margin. Hindwing salmon-coloured, more pink at the margin. Broad olive grey lines at the veins near the margin are connected by similar shadows. 56 mm. According to 1 ♀ from Sa. Catharina. *helga*.

H. munona Schs. Thorax cinnamon red, abdomen paler. Forewing ochreous orange, paler at the margin. Costal margin narrowly dark brown, with brownish spots, not extending to the cell, a few spots also at the inner margin. Slightly darker from the base of the cell to the middle of the inner margin, pinkish brown below it. Hindwing pale orange. 35 mm. 1 ♂ from Sa. Catharina. *munona*.

H. paropus Drc. Forewing yellowish fawn-coloured. Costal margin slightly shaded with yellow, head, thorax, abdomen and legs yellowish fawn-coloured. Antennae dark brown. About 44 mm. Ecuador (Sarayacu). *paropus*.

H. pharus Drc. (185 a). From Guatemala, Las Mercedes (3000 ft.) and Duenas (CHAMPION); Costa Rica, Irazzu 6—7000 ft.); the figure according to a specimen from Las Mercedes, somewhat darker than the others; the specimen from Costa Rica is much paler; that from Duenas is intermediary. Forewing dark brown, spotted lighter. A large brown spot below the cell-end. Behind it an exterior and submarginal dark brown band. One short silvery streak each in the base of the cell, at its end near the apex. Hindwing darker, with reddish brown hair at the base and inner margin. 56 mm. *pharus*.

H. pretiosus H.-Schäff. (185 a). Thorax olive brown, abdomen lighter, forewing rather variegated. Yellowish brown at the base at the costal margin and inner margin. Of the same colour is the V-shaped band from $\frac{2}{5}$ costal margin to $\frac{2}{3}$ inner margin and from there again to $\frac{2}{3}$ costal margin. Beginning from the base of the costal margin, the band is set with small red spots. Greenish before it in the cell and behind it at the distal margin. Dark brown at the middle of the inner margin and spot-like between the sides of the V-shaped band. Hindwing pale yellow, rusty yellow at the margin. ♂ 52 mm. Brazil. *pretiosus*.

b) P h y m a t o p u s Wllgr.

A circumpolar group represented in the palaearctic region by *ganna* and *macilentus* with subordinate forms. Forewing brown with white bands, of an Arctiid-like habitus.

Ph. hyperboreus Mschlr. (= *pulcher* Grt.). Shape and size of *ganna* which it resembles so much that some American authors formerly considered all the *hyperboreus* to be forms of *ganna*. Forewing pale brownish with a salmon-coloured tinge on the forewing; easily discernible from the form *mcglashani* (99 a) by the light angular band being interrupted several times and the other light marking being also broken up into smaller

*) Cf. the remark to this species in Suppl. II, p. 247 (Dr. SEITZ).

spots, as also in many *ganna*-♀. According to BARNES & BENJAMIN, *hyperboreus* shows silvery spots on the forewing, the hindwing with a dark brown band from the apex almost to the base of the wing. — American authors have mistaken the species or form **roseicaput** Neum. & Dyar for *hyperboreus*. *roseicaput* is sexually dimorphous. Forewing of ♂ with an open V-shaped silvery marking, not very irregular, only partly split up, the other silver marking divided. Hindwing blackish brown, pink at the margin. The ♀ has a more or less black V on the forewing. British Columbia, Oregon. — **mutatus** Barn. & Benj. denotes ♀♀ which are exceptionally marked like the ♂. From Oregon. — **demutatus** Barn. & Benj. are ♀♀ with a more or less unmarked forewing. Oregon. — **mcglashani** H. Edw. (99 a) has a much more irregular V on the forewing, often with one or more spurs on the V, the ♀ also sometimes with a divided V. From California. — **confusus** H. Edw., from Alaska, exhibits (on the left forewing) an oblique silvery E with additional spurs. The marking is divided, the parts connected by black. Hindwing uniformly dark brown. — **pulcher** Grt. has an almost coherent E-marking. Hindwing salmon-coloured dusted with blackish. Colorado, Utah. — The following forms show the silvery marking confined to a broad open V connected with the base. Only at the costal margin 1 or 2 spots, a few below vein 1 and at the base of the fringe. — **mathewi** H.-Edw. (99 a) has a black spot at the cell-end of the forewing. The apical end of the V is mostly black. Hindwing with yellow or salmon-coloured hair at the base. Vancouver I. — **noviganus** Barn. & Benj. may also be a race of *roseicaput*. Separated from *mcglashani* by a more neatly marked V, the marginal spots are always faded also in otherwise distinctly marked specimens. Separated from *mathewi* by the absence of the black spot in the cell-end and at the V outside. Hindwing less spotted. Typical *noviganus* have a somewhat brown or reddish brown ground-colour. From Ontario. — **mackiei** Barm. & Benj. is pinkish salmon-coloured. Alberta.

H. labradoriensis Mschlr. Dark brown sand-coloured. Forewing with a black angular spot in the middle, surrounded by light brown, a straight light band before the margin. Size of *mathewi* (99 a). Labrador.

c) *Sthenopis* Pack.

This well defined and characterized group inhabits the North-Eastern United States as far as Canada. Large species, the size, shape of wings and marking resemble those of *Phassus shamyl* (Vol. II, pl. 54 a). Forewing with silvery or golden maculae.

H. argenteomaculatus Harr. (= *alni* Kell., *argentata* Pack.) (99 b). Forewing with a produced apex, dark brown, marbled grey, two silvery spots near the base. Hindwing brown, apex more or less spotted. 65—105 mm. North Atlantic States. — **perdita** Dyar. Dark brown, marbled sandy brown, the maculae sometimes extinct. Hindwing somewhat diaphanous. Habitat not stated. — **purpurascens** Pack. is more purple brown; from White Mountain larvae: according to BEUTENMÜLLER the head is light yellowish brown above with black oral parts, the body with rows of black hairy dots. The 2nd and 3rd segments paler than the head, legs yellowish. 30 mm. It lives for two years in the roots of alder-trees, in the 3rd it ascends to the trunk. In the spring of the 3rd year it bores itself to the surface, closing the opening partly with refuse and discharging the imago in June.

H. auratus Grt. Yellowish brown with a metallic bronze reflection and indistinctly white-edged spots which are most prominent on the two parallel transverse bands; a posterior transverse line and the submarginal line, the latter with 2 or 3 small silvery white triangles below the apex. 48 mm. New Jersey, New York, New Hampshire. Rare.

H. quadriguttatus Grt. (99 b). From a pale salmon-colour to olive brown, with golden brown bands shaped as in *argenteomaculata*, two costal bands and a marginal one; the latter extended at the interior angle and enclosing a paler shadow; 2 silvery spots near the base of the forewing; hindwing salmon-coloured, more or less reddish. 55—90 mm. In the mountains of New England and farther to the north; Sullivan Mts., 2500 ft., in June; Montreal in June; Winnipeg, Manitoba in July. Assiniboine, Alberta, common. — **semiauratus** Neum. with an intense golden gloss, of the same range.

H. thule Strk. (99 b). Bone-white, brownish ochreous at the costal margin, 2 small silvery spots each close together at the base and in the centre of the wing. 60—75 mm. Canada (Montreal), Wisconsin. July.

d) *Cibyra* Wkr.

The European representative of this subgenus is *H. sylvinus* (Vol. II, pl. 54 g). 5 Brazilian species.

H. dorita Schs. Head and thorax dark brown, abdomen fawn-coloured, forewing violettish brown costally as well as at the inner margin, the space between veins 2 and 7 dull golden, traversed by reddish veins, and dull lilac brown spots edged with reddish. A silvery spot at the base of the cell, another one before vein 2, a large silvery spot at the cell-end, and a series of silvery spots between veins 5 and 7. Hindwing leather-brown, shaded reddish from the base to the distal margin, fringe basally dark, paler at the end. 33 mm. Castro (Parana).

H. poltrona Schs. Head and thorax brownish ochreous, abdomen tan-coloured, forewing brownish *polltrona*. ochreous at the costal and inner margins, ochreous between them, indistinct transverse lines in the distal half, darker than the ground-colour, bordered paler inward. The lines form spots. Hindwing red-brown, somewhat rosy in the cell. 40 mm. Castro (Paraná).

H. dormita Schs. Head and thorax dark brown, abdomen light brown; forewing reddish brown, shaded *dormita*. grey at the basal half of the inner margin and within the exterior line, especially towards the costa; a dark oblique shadow from the subcostal base to the middle of the inner margin. Exterior line fine dark grey, shaded lighter grey and followed by a broad red-brown shadow. Greyish antemarginal spots between the veins. A few silvery spots surrounded by black: one at the base of the cell, a larger oblique one at the cell-end, a few tiny spots at veins 5 and 6 beyond the exterior line, and at vein 2. Hindwing blackish brown, distal margin and fringe light brown, ♀ with white apical spots between veins 7 and 8 as well as 8 and 9. ♂ 40, ♀ 68 mm. Petropolis.

H. brunnea Schs. Body brown, forewing light brown, costa spotted black, a basal row and a double *brunnea*. interior oblique row of dark brown spots, a median row of larger brown spots, prolonged below the costa, and with a fawn tint above the interior margin on both sides. Three silvery spots at the origin of vein 6; a broad exterior brown shadow forms spots below vein 5. These spots are bordered with blackish brown and fawn-colour on both sides. An antemarginal row of dark lunar spots bordered with fawn-colour outside. Fringe fawn-coloured, speckled darker. Hindwing deep blackish brown. 31 mm. Aroa (Venezuela).

H. tupi sp. n. (99 c). 36 mm. The strongly rubbed off specimen at hand exhibits a bright brownish *tupi*. yellow ground-colour. Dark spots at the costa. A Hepialid triangle and an inner-marginal spot pale flesh-coloured. Thorax greyish brown, hindwing and abdomen dark yellowish brown, 1 specimen in Coll. SEITZ. From Southern Brazil (Ypanema).

2. Genus: **Philaenia** Ky. (Pharmacis *Mschlr.*)

Hardly separated from *Hepialus* in the neurulation, according to BUTLER near *Oncopera*. Antennae of the ♂ very short, with two rows of pectinations. Palpi very small, hidden. Anterior and middle legs thick, with long and dense hair as far as the tips of the tarsi, middle legs $\frac{1}{3}$ longer than the former ones. Hindlegs feeble, only $\frac{1}{3}$ of the length of the middle legs. Their femora and tibiae less hairy, the tarsi only with appressed scanty hair. Abdomen projecting beyond the anal angle by $\frac{2}{3}$. Forewing with a rounded apex and a rather straight margin, hindwing somewhat longer than the forewing (MÖSCHLER).

Ph. lagopus *Mschlr.* (99 c). Antennae, head and thorax yellowish brown, abdomen greyish brown, legs *lagopus*. yellow, with brown hair. Forewing yellowish brown, broadly dark brown at the costal margin, a similarly coloured dark stripe from the base along the inner margin and a similar oblique stripe behind the middle of the inner margin towards the margin. The whole wing is crossed by transverse rows of blackish tiny cross-streaks edged with yellowish. Fringe dark brown. Hindwing dark brown, fringe scarcely lighter. Forewing beneath yellowish brown, darker at the margins, spots indistinct; hindwing beneath dark brown, dusted yellowish brown at the margin. 28—35 mm. 2 ♂♂ from Central Surinam. — A form from the Upper Rio Negro and Amazons (Pebas) with a silvery stigma in the cell, the forewing ochreous, hindwing grey, basal parts and apex ochreous, fringe throughout ochreous, may be introduced as a subspecies **omagua** *form. nov.* 36—40 mm. *omagua*.

3. Genus: **Dalaca** Wkr.

Body rather slender, slightly hairy, mouth and palpi stunted, antennae thick, bristle-shaped, abdomen projecting a little beyond the hindwing. Legs rather slender, slightly hairy. Wings rather narrow, costa straight, apex somewhat rounded, distal margin rather oblique and slightly convex. Neurulation similar to that of *Hepialus*. Antennae of ♂ dentate, as long as the thorax, somewhat shorter in the ♀; hind tibiae long-haired. Forms from more than middling sizes to small sizes. Apparently the largest genus inhabiting the whole neotropical region from Mexico to Chile. — Another focus of the genus *Dalaca* is situated in Tropical Africa. Cf. Vol. XIV, p. 555 seq. and pl. 80. — A number of American species were newly established. The names are chiefly derived from the language of the Indian tribes inhabiting those districts.

D. epigramma H.-Schäff. (185 a). Ground fawn-coloured. Abdomen brownish, forewing darker basad, *epigramma*. lighter towards the apex. A white angular line from the base of the wing to the centre of the inner margin and then to $\frac{4}{5}$ of the costal margin. Behind it a parallel white submarginal line. Hindwing pink. 46 mm. Brazil.

D. exclamans H.-Schäff. (185 a) resembles *epigramma*. Discernible by the note of exclamation at the *exclamans*. cross-vein. The white lines are absent. 50 mm. Brazil.

D. assa Drc. (99 c). Forewing from yellowish brown to brown-red, 3 undulate transverse lines from *assa*. the costal margin to the inner margin. A dark central spot sometimes shows a silvery centre. Hindwing reddish. 45—50 mm. Widely distributed and common in Central America, from Guatemala to Panama.

- chiriquensis*. **D. chiriquensis** *sp. n.* (99 b). The ♂ is much larger (75—85 mm), body as long as 39 mm. Darker; forewing more brown; the ♀ with chocolate forewings, hindwings dull dark claret. From the Chiriqui Volcano.
- indicata*. **D. indicata** *Strd.* likewise belongs to this group. Separated from *assa* (99 c) by the following: forewing with rather hard-marked black lighter-edged small roundish and oval spots, about 8 of which form an oblique row from shortly without the middle of the inner margin to the costal margin 4 mm from the apex, while 7 spots are rather regularly arranged along the costal margin. Single spots in the centre of the dorsal area, an antemedian oblique band of small spots, and several dense irregularly arranged small spots in the basal half. 3 silvery spots near vein 6, the black longitudinal stripe at the base absent, hindwing somewhat darker than in *assa*. 47 mm. Length of body 26 mm. Macas (Ecuador).
- serta*. **D. sertae** *Schs.* Body reddish brown, somewhat grey at the inner and distal margins; linear transverse stripes pierced by the veins cover the wings with a great number of grey lunules shaded outward, being most numerous in the distal third of the wing. Hindwing red-brown. ♂. Mexico (Jalapa).
- usaque*. **D. usaque** *) *Pf.* (99 f). 40 mm. Smaller and darker than *assa* (99 c), more red-brown; forewing with a tiny golden dot in the basal part; a golden comma-like mark in the centre of the wing between the bands, hindwing dark red-brown, abdomen and base of hindwing bright red. I obtained this species besides others through A. H. FASSL from Colombia (Muzo, 700 m).
- sladeni*. **D. sladeni** *Hmps.* Antennae of ♂ very little dentate, the dents symmetrical; head, thorax and abdomen fox-coloured, mixed with brown. Forewing fox-coloured with numerous pale stripes and reticular markings; costal area, median area below the cell and the space between veins 3 and 6 filled with dark brown. Pale stripes form an oblique irregularly curved line from the costa before the middle as far as behind the centre of the inner margin, where it meets an oblique slightly bent line from the costa before the apex. A curved white marking composed of 2 small spots at the origin of veins 5 and 6. Hindwing red-brown, costa spotted ochreous. 34 mm. Chapadu (Central Brazil, A. ROBERTS).
- terea*. **D. terea** *Schs.* Forewing dull fawn-coloured with a slight reddish tinge. A small dark stripe at the cell-end, behind which there is an interrupted dark transverse line, besides with numerous short pale, distally brown transverse stripes. Hindwing very light red. 42 mm. Mexico: Paso San Juan. — A similar much larger form *muysca*. (80 mm) of a paler colouring and marking I got from the Chiriqui; I denominate it: **muysca** *form. nov.* (99 f).
- coscinophora*. **D. coscinophora** *sp. n.* (100 b). Size about 45 mm. Forewing dull loamy yellow, with a darker sieve-like marking. Hindwing and abdomen very dull yellowish red. Beneath as above, still duller, without any marking. From Nivac (Matto Grosso).
- obliquestrigata*. **D. obliquestrigata** *Strd.*, according to the figure, seems to be allied to *olivescens*, but lighter, more reddish brown, most of the interior area light greyish, hindwing more ochreous, feebly red towards the base. Expanse of wings: 52 mm. Length of body: 27—28 mm. From Peru and Ecuador (Upper Madre de Dios and Macas).
- olivescens*. **D. olivescens** *Pf.* (99 e). Size of *assa* (99 c). Forewing olive brown, watered silvery grey at the base at the inner margin and in the distal area. 3 rather parallel steep transverse lines on the costa, the last very much bent outward and shortened. Abdomen and hindwing coffee-brown. Received from A. H. FASSL, from Sosomoco (Colombia), 800 m. 1 specimen, 52 mm.
- trilinearides*. **D. trilinearides** *Pf.* (99 c) resembles *olivescens*, but the thorax and forewing bright red-brown, the stripes more oblique, the last not bent and shortened. Hindwing and abdomen light cinnamon red. 47 mm. Sosomoco (Colombia). From A. H. FASSL. 1 specimen.
- vibicata*. **D. vibicata** *Pf.* (99 c) resembles *trilinearides*, but the thorax and forewing pale yellowish grey, the 3 transverse lines distinctly defined, like raised streaks; abdomen and hindwing very pale reddish ochreous. 38—48 mm. Sosomoco, 800 m. By A. H. FASSL.
- michaeli*. **D. michaeli** *Pf.* (99 d) resembles *vibicata* in its colouring, but much paler; lines indistinct. More than twice as large. Thorax and forewing very pale yellowish grey, hindwing and abdomen very pale reddish in the ♂, tinged with yellowish in the ♀. 2 specimens from the Chanchamayo (1000 m), 1 from the Upper Amazons, received from OTTO MICHAEL. ♂: expanse 78 mm, length of body 37 mm. ♀: expanse 96 mm, length of body 48 mm.
- cuprifera*. **D. cuprifera** *Pf.* (99 f). 88 mm. Robust; body relatively short, head, thorax, legs and forewing copper red, the lighter transverse bands partly filled with blackish streaks. Hindwing dull copper brown, somewhat diaphanous, abdomen dull brown; under surface brown, costa of forewing spotted light. Peru (Coll. STAUDINGER).
- manoa*. **D. manoa** **) *Pf.* (99 d). A ♀ of this new prominent species which I place to *Dalaca* for the present (others range it among *Phassus*) I received from FASSL who captured it in February 1911 near Villavicencio in Eastern Colombia at an altitude of 450 m. Expanse of wings: 112 mm. Length of body: 62 mm. The forewing

*) Usaque: title of the Indian rulers of Colombia.

**) Fabulous Indian empire = Eldorado.

exhibits the marking of *Dalaca*, from the *assa*-group perhaps. Very light brownish cinnamon with light brownish olive bands and spots. Body and hindwing darker cinnamon, antennae short. — The parcel in which this lepidopteron was sent to me contained also a little bottle with the very abundantly deposited eggs. The egg is globular, glossy black and has a diameter of hardly $\frac{1}{2}$ mm.

D. subfervens *Btlr.* ♂ variable, forewing golden light red-brown, with a slight reddish lustre, smoke-*subfervens*. brown markings, brownish ochreous with subsequent red-brown markings. Costa with a series of mostly rounded spots partly pupilled black; a broad very irregular band from the base along the median vein to the centre of the disc, filling the basal half of the median area and uniting, towards the other end, with a series of obliquely confluent patches extending in a decreasing series to the costa. This band shows black spots and lines; its basally extended part projects from the inner margin in a rather large oblique black patch above which the margin is golden, light red-brown, coherent with a similarly coloured distal margin. Submarginal and marginal rows of black dots. Fringe pale red-brown. Hindwing pale dark smoky grey, fringe light red-brown. Thorax dark brown, antennae light red-brown, abdomen pale greyish brown. Under surface grey, body beneath dingy white, legs somewhat reddish. 32—38 mm. The ♀ has more red forewings with less distinct markings, and more bluish grey hindwings. Thorax redder than in the ♂. Abdomen darker. 47 mm. Chile (Las Zonas), February.

D. pallens *Blch.* is closely allied to *subfervens*. Forewing greyish brown marbled with white spots on *pallens*. which there are black dots. Chile.

D. violacea *Btlr.* This and the following species are likewise from Chile. Forewing of ♂ slate-grey with *violacea*. a violet gloss, a costal spot as in *subfervens*; a small irregular light red-brown spot in the centre of the disc, above which there are 2 brown spots. An irregular shortened dark brown longitudinal line with a chestnut red upper margin and a pale yellowish lower margin. A few black spots along the distal margin. Fringe reddish brown. Hindwing greyish brown with a bronze lustre, antennae smoky brown; abdomen greyish brown, with silky hair. Wings beneath greyish black with sandy yellow fringe, forewing with a sandy yellowish or brownish costal margin with 1 or 2 black dots on it. Body beneath whitish. 1 ♂. Expanse of wings: 32 mm.

D. marmorata *Btlr.* Forewing creamy, divided by intersecting greyish brown bands into spots and pieces *marmorata*. on which there are black markings. Hindwing grey, 2 black subapical spots; fringe creamy; thorax blackish brown, paler in the middle; head and antennae smoky brown, abdomen greyish brown. Basal segments and markings whitish. Wings beneath greyish brown, silky, basal part and fringe pale blackish brown; ventrum whitish. 32—37 mm. Chile, taken in February.

D. venosa *Blch.* (= *nigricornis* *Wkr.*). ♂ tortoise-coloured, forewing brown with white partly confluent *venosa*. stripes. Hindwing somewhat darker, base paler, fringe white. Length of body: 8—9 mm; length of wings: 23 mm. Chile.

D. hemileuca *Btlr.* is well discernible by the bipartition of the colour on the forewing. ♂ forewing silky *hemileuca*. brown, almost black at the costal margin as far as $\frac{2}{5}$ of its length, a large spot occupying almost the whole inner margin the same. The rest of the wing very light silky brown. A small light red-brown spot in the apical third. Below it 2 oblique silky grey spots, and from the lowest 3 similar ones upward to the apex. An oblique whitish brown stripe divides the exterior end of the dark spot at the inner margin. Hindwing greyish brown, paler at the base. The ♀ is larger and paler. The light and dark areas less contrasting. 30—41 mm. Chile.

D. fusca *Mab.* (185 b). 27 mm. Taken by Dr. HYADES at the Orange Bay, Chile. Blackish brown; fore-*fusca*. wing intensely brown, reddish at the base, a grey macula in the middle with two black dots, and a broad ante-marginal band. One ♂. — A probably closely allied species I received from Chile. I found it nowhere described. 30—40 mm. Brown, marking very variable, forewing with a black basal ray at the inner margin and 2 light, dark-edged, more or less visible maculae. The distinctly marked specimens show a Noctuid-like habitus of the forewing. According to 8 specimens. Valdivia. I denominate the species: **noctuides** *sp. n.* (99 e). *noctuides*.

D. mummea *Schs.* Very light grey with a paler exterior and submarginal band, the latter composed of *mummea*. coherent square spots. 40 mm. Petropolis (Brazil).

D. prytanes *Schs.* Forewing greyish brown with a few white stripes along the costa; a short oblique *prytanes*. dark brown basal stripe bordered with whitish; a dark brown shadow, enclosing a few small silvery spots, from the end of the cell to the interior angle; a brownish submarginal transverse band, darker, as far as it touches the above mentioned shadow; besides, the forewing is crossed by indistinct transverse lines. Hindwing and body brown, brownish beneath, the costal margin loamy yellow with dark brown spots. 33 mm. Petropolis.

D. oreas *Schs.* Forewing dark brown, indistinctly marbled, with slightly pale lines; a small dark shadow *oreas*. and 2 tiny silvery spots above the cell. An exterior dark transverse line and 3 silvery spots at the distal margin below the apex. Hindwing and thorax velvety brown, abdomen brown. Under surface dark brown. 43 mm. Petropolis.

- verresi*. **D. verresi** Schs. is somewhat similar to *oreas*. Thorax and abdominal end brown, the base cinnamon brown. Forewing brownish grey, darker at the costal margin and at the apex, with white spots before the latter at the costal margin. An oblique silvery brown-edged luna in the cell near the base. A triangular brown spot in the cell-end is divided by an oblique silvery line, below it interrupted extending obliquely inward. An ochreous spot below the cell-end. Exterior band pale brownish grey, bordered outside by a dark line, parallel to the margin. From this line a broad white horizontal stripe between vein 5 as far as above vein 6. Hindwing brown or cinnamon brown. ♂ 35 mm. Sa. Catharina.
- basirubra*. **D. basirubra** Schs. Head and thorax dark brown, lighter behind, abdomen brown, with long red hair on the dorsum. Forewing dark grey, shaded dark brownish ochreous between the subcostal and median vein. A small golden spot near the base of the cell, three similar ones at the origin of vein 6. A few similar scales above the bar between veins 2 and 3; an exterior row, a subterminal one and a marginal one of dark and ochreous brown spots, the exterior row shaded light ochreous between 4 and 7; two dark velvety brown spots above vein 1b, bordered with grey behind. Hindwing light brown, with long red hair at the base. 80 mm. Peru.
- tesselloides*. **D. tesselloides** Schs. Body and forewing pale brown, the cell and the space between the veins uniformly filled with double dark stripes forming incomplete rings edged with tan-colour; a line behind the cell from vein 4 to 7, inwardly shaded with tan-colour. Hindwing from light red to brown. 62 mm. Paraguay. — Here a form may be inserted from the Coll. SEITZ, showing predominantly tan-coloured forewings with darker markings.
- stigmatica*. Size 55 mm. We denominate it: **stigmatica** sp. n. (100 b).
- guarani*. **D. guarani** Pf. (100 b). Expanse of wings: 62 mm, body 35 mm. Forewing tan-coloured, all the veins distinctly visible. Strewn with rows of tiny white-granulated dots in the distal part and at the margin. Hindwing pale light red. Beneath as above, without any marking. Body tan-coloured, reddish in the central part.
- katharinae*. From Sa. Catharina, Brazil. — From the same district I received an allied though very small species: **katharinae** Pf. 30 mm. Forewing intensely darkened except the distal part, dots very indistinct, hindwing light red.
- thisbe*. **D. thisbe** Drc. Head, antennae, thorax and abdomen dark brown, abdomen beneath yellowish brown, legs darker; forewing yellowish brown, darkest along the costa; a metallic golden spot at the inner margin near the base; a series of metallic golden spots cross the wing behind the middle, from the costa to the inner margin; 2 golden postcellular spots and a marginal row of gold spots from the apex to the anal angle. Fringe brown; hindwing uniformly pale brown. 38 mm. Colombia (Don Amo). — An evidently closely allied form was sent to me by FASSL from Sosomoco, Eastern Cordilleras of Colombia (800 m); the main difference is that the rows of spots do not reach the costa, but extend only to the centre of the wing. 35 mm. It may be called: **hemichrysea** form. nov. (99 g).
- saguanmachica*. **D. saguanmachica** Pf. (99 g). 2 specimens are at hand, expanse 30 and 39 mm. Dark brown, the rings oblong, in rows; a tripartite silvery-golden marking in the centre of the forewing; the smaller specimen with another one, half way to the distal margin. Hindwing dark brown, margin brownish ochreous; body dark ochreous, under surface brownish ochreous, all the margins of the wings ochreous. From the Eastern Cordilleras of Colombia (Buena Vista, 1200 m). A. H. FASSL.
- fasslii*. **D. (? Triodia) fasslii** Pf. (99 f). 2 ♂♂, 1 ♀, received from FASSL from Sosomoco, Colombia, 800 m, and Villavicencio, 450 m. At the latter place he captured a couple in copula, which had flown from the direction of the Llanos to the carbid-light and were thus captured. Expanse of wings of ♂♀ 35 to 52 mm, length of body: ♂♂ 20—22 mm, ♀ 34 mm inclusive of the anal tuft. ♂ ochreous brownish grey, a broad whitish stripe from the base into the anal angle. The forewing is crossed by transverse rows of indistinct rings. A tiny silvery stigma at the cell-end. Hindwing and abdomen brownish ochreous. ♀ dark grey with a slight dark violet lustre, especially on the hindwing. Forewing filled with brownish ochreous in the middle, the whitish patch very indistinct; marbled with rows of rather round dark greyish brown ring-spots, instead of the silvery stigma a dark spot in the cell. Thorax greyish brown, abdomen with a violettish black lustre. Marking similar to that of *saguanmachica*, but colouring different.
- tapuja*. **D. tapuja** Pf. (99 e). Smaller, lighter; forewing dotted dull yellowish black, especially at the costal margin. A small black spot at the cell-end, a larger one above the inner margin. Southern Brazil (Leopoldina). 1 specimen from Coll. SEITZ.
- cocama*. **D. (? Triodia) cocama** Pf. Expanse of wings: 43 mm, length of body: 25 mm. Forewing dull tan-coloured, a black dark median shadow, otherwise marked by black comma-like streaks forming loosely indicated transverse rows. Hindwing greyish brown, bordered with ochre; body yellowish brown, posterior half of abdomen yellowish. All the wings beneath brownish ochreous. North Peru (Huancabamba), 6400 ft. — Very closely allied is: **D. niepelti** Pf. *). ♂♀ 59—62 mm. Expanse of wings: 34—39 mm. ♂ forewing yellowish brown, the space between the veins with dark comma-streaks, a silvery stigma at the cell-end on a darker ground. Hindwing earth-coloured with an ochreous margin, head, thorax and end of abdomen earth-coloured; the middle of the abdomen lighter. Under surface smoky brown, all the wings with an ochreous margin, ♀ stouter, wings

*) Described and figured in the Rhop. Niepeltiana, p. 59, pl. XI 14.

rounder and broader, darker brown, forewing with broad dark transverse shadows from $\frac{3}{4}$ of the costa to the inner margin, without a stigma. Costa marbled dark. The comma-like markings are united forming indistinct, irregularly defined circles. Thorax, head and antennae dark brown; hindwing and abdomen earth-coloured. Fringe brown. Under surface smoke-brown, abdomen and costal region of forewing yellowish brown. From Macas (Ecuador). — Another tiny Hepialid form belongs to this place; it was sent to me by FASSL likewise from the Eastern Cordilleras. I denominate it: *D. (? Triodia) nannophyes form. nov.* Expanse: 22 mm. Length of body only 13 mm. The much rubbed forewings merely exhibit an originally dark brownish ochreous ground-colour and to the left a silver central stigma. Hindwing darker brownish grey, margin brownish ochreous, body greyish brown, thorax, head, antennae more brownish ochreous. From Sosomoco. 800 m. — 1 specimen (type); it is not well enough preserved for being figured, the marking being quite extinct in some places. *nannophyes.*

D. (or gen. nov.?) **perkeo** Pf. (99 g) is likewise a somewhat doubtful tiny species which I range here provisionally. FASSL sent it to me from the Eastern Cordilleras of Colombia. He captured it on the Paso del Quindiu (3800 m), where he observed the ♀♀ depositing their eggs on the grass in the midday-sun; unfortunately, only two badly preserved specimens were sent. Expanse of wings: 25 and 27 mm; length of body: 14 mm; antennae 5 mm. Forewing dark reddish ochreous, with blackish oblong dots and strigae. Hindwing diaphanous grey, fringe everywhere broadly dark brown, body dark brownish grey, anal angle of forewing not rounded, but distinctly with an obtuse angle. The habitus of the insect resembles that of certain *Tineidae* which FASSL sent me from the same locality. *perkeo.*

4. Genus: **Triodia** Hbn.

Allied to the preceding ones, antennae longer, abdomen very long. Living in the High Andes.

Tr. monticola Mssn. (185 b). Length of body: 18 mm, length of forewing: 18 mm. Head and thorax dark greyish brown, antennae ochreous, abdomen yellowish grey, projecting far beyond the hindwing. Forewing dark greyish brown, with a white inner-marginal stripe from the base to the centre, from where it extends to the apex of the wing as a band broken up into spots. These spots exhibit dark rings in the middle, and their colour is light grey. Between this band and the distal margin there is yet a fine row of white dots, and between the latter and the base a light yellowish grey stripe with a dark ring in it. Hindwing grey, yellowish grey at the inner margin. All the fringes brownish grey. Under surface unicoloured brownish grey, yellowish grey at the interior angle of the hindwing. Very variable, sometimes with hardly any marking. Ecuador (Sincholaguar), 4200 m. Swarming in great numbers in a November night. Habits similar to those of the palaearctic *Hepialus hectus*. *monticola.*

Tr. lucicola Mssn. (185 f). Length of body: 22 mm, length of forewing: 20 mm. Similar to *monticola*, somewhat larger, much lighter, more yellowish grey, the band of spots more ochreous, based to it several such spots; the white dots between the band and the distal margin indistinct, because the distal margin in its whole extent is almost as light as the band. Fringes of all the wings ochreous. Under surface unicoloured brownish grey. Fringes ochreous speckled with brown. Ecuador (Putzulagua near Latacungo). 3600 m. Like the following *remota*, it may be merely a local form of *monticola*. *lucicola.*

Tr. remota Pf. (99 e). Size 45—46 mm. Body very long (23—25 mm) and slender, dark brown, antennae long (7—8 mm). Forewing: ground-colour dark ochreous, marbled lighter, the long fringes speckled. The scheme of markings resembles that of *H. sylvinus* the triangular marking is light flesh-coloured, broad, intense, distinctly edged with dark. Parallel to the distal margin a double row of fine irregular rings partly centred silvery in the apex. Hindwing light ochreous, less dusted towards the base, fringe unicoloured brownish ochreous. Under surface: light ochreous. From Challabamba, Peru, at an altitude of about 4000 m. Types (2 specimens, one of them much damaged) in the Coll. PFITZNER in the Museum Senckenberg in Frankfurt on the Main. *remota.*

5. Genus: **Pielus** Wkr.

Antennae strongly pectinated. Robust, of a Bombycid-like habitus. The most magnificent representatives of the genus occur almost exclusively in Australia; merely one relatively small species in America.

P. luteicornis Berg (99 h). Thorax greyish brown, abdomen intensely covered with ochreous hair. Antennae brownish ochreous. Wings hyaline, diaphanous, forewing brownish ochreous, with whitish markings, hindwing lighter, costa ochreous. 45—55 mm. My series comprising about 20 specimens shows that the species does in general not vary much. — However, there occurs, without any transitions, a form without any markings, similar to *Hep. gallicus*. I denominate it **popperi** form. nov. (*luteicornis* was formerly ranged as “*Hep. popperi popperi* i. l.”). Patagonia, Fuegia, and particularly at the Magellan's Str. Taken near Punta Arenas from March 13th to 17th (flying about in especially great numbers after a cyclone); Rio Grande, Eastern Fuegia, in February. *luteicornis.*

6. Genus: **Callipielus** Btlr.

Neuration very similar to that of *Pielus*. Wings shaped as in *Charagia Wkr.* (Vol. X, p. 828), broad, forewing triangular, costa rather straight, apex obtuse, exterior angle rather uniformly rounded. Body very long, rather thin, thorax long-haired, antennae short, thin. Legs rather short and stout.

arenosus.

C. arenosus Btlr. (185 e). Habitus similar to that of *Pielus australis Wkr.* (Vol. X, pl. 77 b). Forewing pale flesh-brown, clouded dark, very scantily watered with pale yellow, covered with irregular silvery dots and spots which are bordered with dark brown. A submarginal silvery stripe bordered with brown does not reach the costa. A marginal series of small oval silvery spots bordered with brown; a silver streak bordered with black through the cell; sometimes 1 or 2 black streaks at the discocellular veins, and a series of oblique discal streaks before the silvery submarginal stripes. Hindwing sandy ochreous. Under surface everywhere sandy ochreous. 78—81 mm. Chile (Valdivia). A beautiful series of this rare species is in the Berlin Museum, from which we have figured a specimen here.

7. Genus: **Philanglaus** Btlr. *).

Habitus of the *velleda*-group, but the antennae pectinated as in the Australian genus *Porina* from the *Oxycanus*-group. Forewing truncately triangular, veins uncommonly plain. Hindwing almost triangular. Apex rather pointed, thorax very robust, head short, palpi short and stout, not projecting beyond the head. Antennae rather long, of $\frac{2}{5}$ of the length of the forewing, pectinated. Abdomen rather broad at the base, compressed behind, legs rather long and stout.

ornatus.

Ph. ornatus Btlr. Forewing of ♂ above white in the costal area, the oblique area, crossed by the median vein and the radial veins, greyish brown, exterior and interior parts pale sandy brown with distinctly marked dark brown markings edged snow-white: 2 basal spots, 1 irregular transverse spot, from the base of the costa to the exterior third of the inner margin, its centre almost square, separated by a white edge from an indistinct semicircular spot at the basal third of the inner margin. Two small darker spots before the centre of the costa; the oblique band passes through the cell-end; 2 or 3 small dark spots at the disc and a light irregular discal band. Fringes traversed by 2 pale brown lines, a white line between them. Hindwing pale silky sand-brown, a feebly undulated dark postmedian line, fringes as on the forewing. Thorax whitish brown, striped grey, collar white with a brown spot on each shoulder; head brown, vertex white; antennae white, pectinations brown, abdomen greyish white. Under surface pale sand-brown with brown bands. The markings of the upper surface show through beneath. Hindwing bordered with white at the curved part of the costa, a black spot behind it, a bipartite costal spot and a triangular apical spot, fringe with a pale basal line, bordered by a grey line, behind which there are 1 or 2 white spots. 55 mm. Chile.

8. Genus: **Osrhoes** Drc.

Head very small, palpi short, long-haired, the 3rd joint very tiny. Antennae very short, thorax, abdomen, legs slender. hindlegs of ♂ with dark hair. Forewing long, very round at the anal angle, cell long, narrow; hindwing long, narrow, apex rounded.

coronata.

A. coronata Drc. ♂. Head, antennae, collar, palpi and thorax golden brown, abdomen and legs dark brown. Forewing golden brown, hindwing pale brown, all the fringes brown. ♀: forewing dark brown, with some very indistinct dark brown maculae at the inner margin. Distal margin from the apex to the anal angle watered with grey scales. Both sexes with an expanse of wings of 33 mm. Colombia, Sierra del Libano.

9. Genus: **Phassus** Wkr.

This highly specialized genus is most characteristic of Tropical America, where it reaches the climax of its development, while the other centre of development, the Indo-Australian Region, is far inferior both in number and size of the species. Antennae very short, thin, palpi disappearing, proboscis absent. Abdomen very long; wings broad, separated far from each other (the Hepialid gap), apex of forewing extended. Marbled brown and grey, more or less spotted golden. From medium sizes to gigantic sizes. Larvae in the trunks of trees. Distributed throughout Tropical and Subtropical America.

eldorado.

Ph. eldorado Pf. (99 g). Expanse of wings: 53 mm. Thorax brownish ochreous. Abdomen reddish ochreous. Forewing with a sharp falciform apex. The scheme of markings generally similar to that of *Ph. shamyl* (Vol. II, pl. 54 a) to which the new species appears to be most closely allied, but the ground-colour of the forewing is not brown, but of a bright brown gloss. As in *shamyl*, there is a macula in the discal area and a series of 4 small ones before the costal margin; they are of a lighter golden colour than the ground (silvery golden).

*) The species *ornatus* dealt with here by PFITZNER is probably better ranged among the *Cossidae*.

Before this series of spots, at about $\frac{2}{3}$ of the costal margin (counted from the base), begins a dull flesh-coloured transverse band 2 mm broad, parallel to the distal margin; a similar golden brown interrupted spot is in the apex, 3 others, likewise intermixed with brown, at the costal margin between the base and the transverse band. A dull flesh-coloured blotch extends at the inner margin from the base to the end of the transverse band, with which it rather indicates than represents the well known triangular Hepialid marking. Hindwing of a bright reddish ochreous colour in the distal part, in the anterior part duller, darker, semidiaphanous. From Venezuela (Merida), 1 ♂ in my collection. Denominated according to the legendary "man of gold" (el dorado) whose home was in the same district.

Ph. aurigenus Pf. (99 h). Likewise an isolated species. Expanse of wings: 64 mm, length of body 36 mm. *aurigenus*. Thorax, abdomen and antennae dark brown. Forewing grey, costal half beautifully reddish ochreous, anal half beautifully marbled dark brown. 3 groups of intense golden spots (on the basal part, in the centre and apical part). Hindwing grey, apex and base and the adjoining parts of the body yellowish ochreous. Under surface brownish grey, diaphanous, edged with a bright ochre. 1 specimen from the Orosi, Costa Rica, 1200 m. Type in my collection (Museum Senckenberg in Frankfurt on the Main).

Ph. absyrtus Schs. ♂ light red-brown, forewing behind the middle traversed by 4 darker brown bands from the costa to the median vein; darker shadows and lighter undulated stripes around the interior angle and along the inner margin. ♀ with more indistinct bands traversing the whole wing. 60—85 mm. Brazil (Petropolis). *absyrtus*.

Ph. agrionides Wkr. ♂ brown, antennae yellowish brown, abdomen somewhat paler than the thorax, projecting far beyond the hindwings, pale brown, darker at the apex. Forewing slightly cancellated, numerous eurved transverse stripes between the veins; stripes paler on the inside, darker outside. Length of the body: 25, length of the wings: 50 mm. Brazil. *agrionides*.

Ph. pedipogon Strd. Similar to *triangularis* H.-Edw. Colour of forewing likewise similar, but the base at the inner margin of the forewing and the base on the hindwing with pinkish red hair. At the costal margin also small black spots, more distinct. A light spot at the costal margin near the base, edged with black, resembles the same in *hübneri* (100 c). At the same distance at the costal margin another similar light spot, and a quadrangular spot behind it. The exterior light band extends indistinctly to vein 3. Submarginal band light grey, irregular, similar to that in *triangularis*, with a brass-coloured dot above vein 6. A narrow light band extends from the second spot at the costal margin inward as far as vein 2, a brass-coloured dot below it. Base and interior area as in *triangularis*. The silver spot at the cross-vein is replaced here by a brass-yellow similar spot. Hindwing similarly streaked outside at the costal margin as in *hübneri* (100 c), such streaks also at the distal margin. 126 mm. 1 specimen from Costa Rica. *pedipogon*.

Ph. triangularis H.-Edw. This well-known large species, with its subordinate forms and allies, has a rank in America similar to that of *Ph. signifer* and its allies in the Indo-Australian Region. The range of the *triangularis*-group extends from Mexico across the whole of Central America to the Isthmus of Panama. *triangularis* is from greyish brown to yellowish brown; recognizable by the thick brown triangle in the centre of the forewing, at the upper end of which in the cell there is the silver stigma. Body very long, blackish brown, lighter ringed. 96—160 mm. SCHAU reports about its biology: eggs of 3—5 mm diam. Very numerous, at first grey or blue, then brown or black with a sticky coating. The ♀ drops them at random into the underwood. Larva 10 cm; head large and very strong, well withdrawn beneath the strong broad dark brown second segment. The third segment like old ivory, the fourth has 3 such spots, the rest of the body dark velvety brown, a large ivory yellow oval spot on each ring, one small accessory spot each on the 5th and 6th; a small round ivory spot on the sides behind the stigmata, and an ivory line below it. The last segments quite brown. The larva bores a passage almost 3 feet long into the roots of trees, so that often only the outward bark of the root is left. The outlet near the surface of the earth is covered with a hard web of silk and refuse. Before the metamorphosis it spins a silky cover exactly fitting into the opening. On lifting this cover one notices neither a larva nor a pupa, because the insect immediately disappears below on its being disturbed. Pupa almost just as mobile as the larva. The tree the roots of which it inhabits is called "Guzamillo" by the Mexicans ("magot-tree" in English), the Hepialid living in such great numbers in it. It emerges between 3 and 5 p. m. However common the larva is, yet the imago is but rarely found. Nearly all the specimens in the collections were bred. — An allied form from Mexico is: **triangularides** Pf. (100 c). Markings quite indistinctly brownish ochreous, rather unicoloured, without a silver stigma. There are also intermediate forms between this form and *triangularis* with a slightly traceable triangular marking, and numerous transitions. — Of the form **hübneri** Geyer (= *Pharmacis hübneri* Hbn.) (100 c) I received 1 specimen with this label by LÜCK & GEHLEN; it is recognizable by the rosy red hair on the bases of the wings and of the abdomen. Forewing with golden stigmata in a brown triangle and at the apex. 122 mm. 1 specimen from Orizaba (Mexico), August 1909. This form is a transition to the following species: *triangularides*. *hübneri*.

Ph. rosulentus Weym. Greyish brown, marbled by small short light grey transverse striae. 3 darker spots at the costa. Silvery markings at 1 b, at the cell-end, at veins 4, 6, 8 and 9. Hindwing pale rosy red at the base *rosulentus*.

as far as $\frac{1}{4}$ of the costa and the centre of the inner margin, otherwise greyish brown. Inner margin with rosy red hair. Its habitus somewhat similar to that of *Ph. regius* from Tibet (Vol. II, pl. 54 b), but it is much larger (expanse of ♂: 87 mm). Mexico (Jalapa).

n-signatus.

Ph. n-signatus Weym. Whitish grey, partly brownish yellowish grey. Chiefly recognizable by the thick silvery dentate line at the end of the anterior part of the cell, about 5 mm long, N-shaped. The single streaks of this figure are about 1 mm thick, edged with dark brown. Towards the inner margin a pear-shaped olive brown spot, 9 mm long and 5 mm broad; a similar larger one towards the base on vein 3. The rest of the surface on the forewing is covered with greyish brown undulate transverse lines. Hindwing dark greyish brown, light ochreous at the apex. Expanse of ♀: 150 mm, length of body: 69 mm. Distinguished from *triangularis* by the differently shaped brown spots, the differently shaped silver mark, the dark angular markings at the distal margin, and the almost straight costa; from the following *marcius* by the marks mentioned above and besides by its considerable size and the absence of golden spots. Guatemala.

marcius.

Ph. marcius Drc. (100 a) forms the transition to the *argentiifera*-group. Forewing pale greyish brown, densely marked with grey and darker brown lines, a double row of blackish brown oblong spots, from the costa near the apex to the inner margin, and a series of oblong bent lines around the distal margin from the apex to the anal angle. A rather long golden stripe broken up into 3 spots, at the cell-end; 2 tiny golden dots towards the distal margin; hindwing pale greyish brown, palest at the base, a few darker maculae at the costa near the apex; head, thorax and abdomen pale greyish brown; expanse: 105 mm. Mexico, near Durango. — Another *Phassus* of my collection presumably belongs to this group, being conspicuous for its monotonous exterior. Expanse of wings: 100 mm, wings dull greyish brown, forewing indistinctly marbled by somewhat lighter and darker lines. In the cell an irregularly defined silvery stripe 9 mm long, parallel to the inner margin, in the prolongation of its direction two little dots situate close together; the marking is somewhat different on the two halves of the wings, more articulate to the left than to the right, 3 small dots against 2, the longitudinal stripe pierced, bipartite. I denominate this species for the present as: **exclamationis** sp. n.

exclamationis.
costaricensis.

Ph. costaricensis Drc. (185 c). Size: 82 mm, found in Costa Rica (by PLATEN). Almost unicoloured dull yolk-coloured, with fine dark streaks, a black spot at the cross-vein and a fine exterior line. The body with light brown hair.

argentiifera.

Ph. argentiifera Wkr. (100 c). Beside *triangularis* the best known American species. Much smaller (65 to 75 mm), more ashy grey, less distinctly marked. 2 silvery spots at the costa, 3 in the disc. Mexico, Costa Rica (Irazu, 6000—7000 ft.); Panama (Chiriqui 2000—3000 ft.). *hübneri* which we likewise figure on pl. 100 c is more intensely reddened, more contrasting, perhaps more similar to *argentiifera* than to *triangularis* where it is already mentioned.

basirei.

Ph. basirei Schs. (100 a, as *triangularis*). Separated from *triangularis* by the different incoherent shape of the triangular marking; the species designed as *triangularis* on pl. 100 a is in reality *basirei*. From Mexico.

phalerus.

Ph. phalerus Drc. (185 f) is a larger species (100 mm) from Mexico; Guatemala (Purala, 4000 ft.). Easily recognizable from the figure.

trojesa.

Ph. trojesa Schs. (100 d). Head and thorax black, behind with pale leather-coloured transverse lines. Forewing grey, striated black, basal third from vein 1 b broadly marbled white; an oblong black spot below this vein at the base; a white spot at the cell-end, close at vein 6; a brownish median shadow from the cell-end to vein 1 b, between which and the median vein it is very dark; a broad brown subterminal band curved outwards between veins 5 and 8; distal margin and fringe dark brown with triangular paler dots. A few white shadows before the apex; costal margin with darker spots. Hindwing greyish brown, light brown hair at the base, fringe light brown, 2 dark spots at the apex. 70 mm. Mexico (Trojes).

smithi.

Ph. smithi Drc. (185 d). Forewing pale fawn-coloured, indistinctly marbled with darker shadows; few lunar spots at the apex and distal margin. Hindwing uniformly reddish fawn-coloured, slightly striped and paler towards the apex; under surface everywhere pale fawn-coloured. Head and thorax reddish fawn-coloured, abdomen and legs pale fawn-coloured, antennae brown. 110 mm. Mexico (Atoyac, Veracruz). Taken by H. A. SMITH; 1 specimen in May 1888. — A closely allied species is **Ph. championi** Drc. (185 d), from Guatemala. Forewing pale reddish yellow, densely striated dark. Small blackish brown spots close at the costal margin, a few also at the inner margin near the base. Hindwing dark brown, lighter brown at the apex and narrowly so at the margin. 150 mm. Described from 1 ♂ from Guatemala.

championi.

umbrifera.

Ph. umbrifera Fldr. (185 f). 75 mm. Body greyish brown. Forewing grey. An irregular silvery band from the centre of the cell towards the apex, extending to $\frac{2}{3}$ of the length of the wing. A similar submarginal band from the apex to vein 2. Hindwing red-brown, narrowly grey at the margin. Brazil.

modestus.

Ph. modestus H. Edw.*). Size 60 mm, body 22 mm, projecting by $\frac{1}{3}$ beyond the hindwings. Shaped

*) A. species *modestus* H. Edw. exists only as a synonym of *Hep. hectoides* (p. 1290). There is also a label inscribed *Phassus modestus* in the Berlin Museum near *Call. arenosus*, but the specimen is missing. It was presumably wrongly determined before. Which species PFITZNER had in view can no more be ascertained.

like *Callipielus arenosus* (185 b), rather robust. Forewing yellowish ochre, tinged with orange. One sharply defined light longitudinal blotch each at the costa and inner margin. The 4 blotches together form a saltier the arms of which extend to half of the costa and inner margin. Hindwing brown, margined with yellowish ochre; thorax, head and legs yellowish ochre. Body and wings beneath yellowish ochre. According to one specimen in the Berlin Museum. South America.

Ph. giganteus H.-Schäff. (100 d) is the largest of all the American *Hepialidae* and one of the largest *Hetero-* *giganteus*. *cera* altogether. The ♂ of my collection has an expanse of 130 mm, the 4 ♀♀ vary from 150 to 200 mm, though there may occur even larger specimens. Dull orange or tan-coloured, the ♂ with darker median shadows and a silver stigma in the cell. Southern Brazil (Sa. Catharina) and Paraguay. — The very closely allied **Ph. hayeki** *hayeki*. *Fötterle* (185 b), from Petropolis, may be only a subspecies or local form; median area of the forewing dark brown with lighter costal spots. A double row of brown, light-edged oval spots at the inner margin of the forewing; sometimes they are also absent or indistinct.

10. Genus: **Pseudophassus** Weym.

The 4 or 5 representatives of the *momus*-group form a well defined genus (perhaps also only subgenus), recognizable by the robust habitus and the strong antennae, as well as by the distinctly marked dark, light-edged trapezoid spot at the lower end of the triangular marking close above the middle of the inner margin. The scheme of markings resembles that of *excrecens* from Japan (Vol. II, pl. 54 a, as *herzi*).

Ps. momus Drc. (185 e). Abdomen and base of hindwing more or less red. *momus* Drc. has fawn-coloured *momus*. forewings, with dark red-brown bands at the costal margin and a large reddish brown triangular spot below the cell-end. A reddish white band crosses the wing at the cell-end and expands at the inner margin; a series of brown marginal spots from the apex to the anal angle. Hindwing fawn-coloured, almost red at the base. Body reddish brown; antennae and legs darker brown. 64 mm. Peru (Sarayacu). FASSL sent me from the Rio Songo (Bolivia) an allied form with a partly very bright vermilion abdomen and base of the hindwing. It is the form denoted by WEYMER as **metricus** (Weym. i. l.) *form. nov.* (99 h). The red-tinged subspecies I denominate: **songoensis**. *metricus*. *songoensis*. There are much more intensely coloured specimens. Described according to 7 specimens from the Rio Songo. 45—65 mm. — **metellus** Drc. (99 g) is mostly without any red, more yellowish brown, a golden stigma in the *metellus*. cell, antennae and legs black. Size of *momus*. Peru (Sarayacu, Upper Madeira, Chanchamayo).

Ps. prosopus Drc. Body reddish brown, forewing pale reddish fawn-coloured, marbled darker, interior *prosopus*. part near the base reddish. 3 interrupted greyish bands traverse the wing behind the middle from the costa to the inner margin, fringe dark brown, hindwing pale reddish brown. Expanse: 75 mm. From Colombia (Bonda).

Ps. mahagoniatus Pf. (99 h). 36—43 mm. The ♂ dark mahogany red-brown, shaded dark red-brown *mahagonia-* *tus*. in the distal half. A triangular marking in the median area, similar to that of *triangularis*, very distinct, dark red-brown, a silver stigma in the cell. Body dark brown, abdomen and base of the hindwing with reddish hair. ♀ larger, duller, without a reddish tinge (violetish brown). Marking of forewing blackish brown. Hindwing transparent at the base, without any red. Base of abdomen with very pale reddish ochreous hair. A couple captured by FASSL on the Rio Songo in 1912.

Alphabetical List

with reference to the original descriptions of the forms of the American *Hepialidae*.

* signifies that the form is also figured at the place quoted.

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giganteus Phass. *H.-Schäff.* Außereur. Schmett. f. 45. *
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noctuides Dal. *Pfitzner* in Seitz, *Macrolep.*, Bd. 6, p. 1295. *
noviganus Phym. *Barn. & Benj.* Pan Pacif. Ent. 2, p. 82.
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Family: **Dalceridae.**

By Dr. HERBERT SICK.

This family established by DYAR is closely allied to the *Limacodidae*. It ought to have been placed right after them, but it was omitted by mistake and is now appended here. It is a small family of mostly unicoloured yellow or whitish species occurring almost only in the neotropical faunistic region, very few species advancing also to the North American region. They are species with roundish broad wings, short pectinated antennae which are less strong in the ♀. Palpi small, proboscis rudimentary or absent. A few species bear tufts of scale-hairs on the antennae, particularly conspicuous in *Dalcera abrasa* whose antennae are covered with rows of longitudinally arranged white scales which, however, are very loosely attached and fall off rather easily. They seem to be scent-organs occurring in both sexes.

The biology is known in but few species. The larva of *Acraga flava* (according to BURMEISTER 1878) is almost "as long as a thumb", green and covered with several rows of tubercles which are gelatinous, colourless transparent and easily fall off on being touched. The larva of *Acraga moorei* (according to JONES 1882) is diaphanous white as if it were of "Venetian glass". The elaspers are absent and only indicated by slight swellings of the skin. The larvae creep along like snails. The pupa of *A. flava* is described to be thin and transparent, the cases of the wings and other appendages of the body are half free. Moreover, according to HOPP, the skin of the larva is almost without any elasticity, because the exterior chitinous stratum is not, or only slightly, developed. For this reason, the moult is also quite different from that of the other lepidoptera. The latter periodically cast the whole chitinous outside skeleton, whereas the Dalcerid larva moults only partly, the skin being thrust off by and by from one segment after the other, starting from the tubercles — 6 on each segment. Even the segments moult again in single sections. The tubercles shine through the cuticula shortly after the moult like small white discs, projecting shortly before it like tiny knobs. In the last stage of the moult, the tubercle peels off from the body and falls off with the part of the cuticula belonging to it. In *Acraga flava* four tubercles are coherent on one cuticular plate which is then thrust off jointly. Since one or several tubercles with their cuticular plate fall off from one segment or another, the larva is moulting continuously. As to the moult of the head or of the anal parts, no observations are known so far, but the process of moulting is presumably the same and as normal here as in the other lepidoptera. Further detailed observations concerning the larvae have been made by DYAR (Ins. Insc. Mens., Vol. XIII, 1925, p. 44—46), being the completest hitherto known. DYAR obtained larvae of *Acraga coa* from Payo Obispo, Quintana Roo, Mexico, defoliating trees in a park. The larvae are whitish ice-coloured, dotted with crimson tubercles and small black markings, smooth, with a thick transparent gelatinous skin. SCHAUS observed the larvae while collecting them at night; in the light of the lamp they looked like big drops of water. The head of this larva is round and only chitinized in its lower part, the rest included in the thorax. The oral part is well developed, with a triangular leaf-shaped spinning wart. The prothorax can be withdrawn into the third segment. Each segment bears round papillary tubercles. The large and round stigmata are situate just above the edge of the ventrum. The pupa rests in a cocoon which is simpler than that of the *limacodidae* and even that of the *Megalopygidae*. The cocoon is usually fixed to the upper surface of leaves, or between leaves.

1. Genus: **Dalcera** H.-Schäff.

Body slender, palpi thin, hardly projecting beyond the head, the second joint much longer than the first, the third small and pointed. Abdomen not projecting beyond the hindwings. Legs thin, wings broad, convex in front, rounded at the apices, rather oblique at the distal margin. Three interior veins, the second equidistant from the first and third.

- abrasa*. **D. abrasa** H.-Schäff. (185 a). Reddish yellow; antennae black, moderately pectinated, with tufts of scales apically; prothorax pale yellow, each side with a brown spot connecting the streak of the two forewings. Tarsi apically black. Forelegs partly black. Forewing reddish, pale yellow along the costa, with a small oblique discal spot; a median stripe and the distal margin brown. Colombia, Venezuela, Guiana.
- laxta*. **D. (?) laxta** Drc. Forewing brownish grey, undulate brown lines from the costal margin to the anal margin. Hindwing dark grey, palest at the base. Wings beneath grey without any marking. Antennae and legs pale brown. Head, thorax and abdomen pale grey. Closely allied to *ampela*. Ecuador, Sarayacu.
- alba*. **D. (?) alba** Drc. Forewing of ♂ white, slightly transparent, pale brown along the inner margin. Head, thorax and abdomen brownish white, antennae pale brownish yellow, legs pale brown. The ♀ is considerably larger than the ♂; forewing somewhat browner at the costal margin, but without the intense colouring at the inner margin. ♂ 13 mm, ♀ 24 mm. Mexico, Presidio (FORRER); Guatemala, Volcano of Atitlan, 2300—3500 ft.
- ampela*. **D. (?) ampela** Drc. (185 a). Forewing white, the costal half slightly hyaline; inner margin and anal angle shaded with pale brown; a brown streak right across the anal angle. Hindwing purely white, slightly shaded with brown at the distal margin near the anal angle. Head, thorax and abdomen pale yellowish brown. Head and antennae somewhat darker brown. Bolivia.
- semirufa*. **D. (?) semirufa** Drc. ♂. Head, collar, tegulae, thorax and abdomen yellow; antennae and legs black. Forewing red, costal margin and distal margin greenish yellow; hindwing yellow, margined with black from the apex to the anal angle; fringe yellow. Both wings beneath yellow, broadly margined with black. 38 mm. Colombia, Rio San Juan, Chaco (G. M. PALMER).
- variegata*. **D. (?) variegata** Jones. ♂ palpi ochreous; head and antennae grey; legs ochreous, tarsi white, their last joints black; tegulae and patagia brown. Abdomen above golden yellow, pale ochreous beneath. Forewing yellow, distal half suffused with brown, very dark at the margin, and a curved undulate antemedian line. A brown spot in the cell. An orange, black-edged line is followed on the discocellular veins by a yellow area. A large macula and a small one at the apex. Hindwing orange. Marginal area and distal margin broadly black. Forewing beneath yellow, distal half with 2 yellow spots at the apex; hindwing yellow, the marginal area broadly yellow. Expanse: 23 mm. Castro, Paraná, Brazil.
- nigrella*. **D. nigrella** Dgn. Wings rounded as in *abrasa*. Forewing divided by two folds, the first before vein 6, the second on vein 7; all the veins originate from the cell separately; 4 and 5 nearing each other, 6—9 at equal distances from each other, 10 somewhat more remote, 11 from the cell. Hindwing: vein 8 free. Frons greyish, head and thorax blackish. Abdomen above blackish, the segments finely bordered with white; ventrum and coxae white. All the wings blackish; hindwing beneath growing paler on half of the abdominalis. Fringe of the same colour; somewhat whitish at the anal angle. 1 ♂, French Guiana.

2. Genus: **Zadalcera** Dyar.

Structures as in *Dalcera*, but vein 11 arises with veins 9 and 10 on a short stalk, whilst 9 and 10 are long-stalked. Type of the genus: *Zad. fumata* Schs.

- fumata*. **Z. fumata** Schs. Palpi and head orange. Collar whitish; thorax and abdomen orange. Forewing above light pinkish yellow, palest along the costa; an oblique black stripe at the end of the cell, below this stripe and from near the base of the subcostal vein almost to the middle of the distal margin there is an intense smoky black shadow from which a similar, though smaller shadow extends to the inner margin. Hindwing light yellow, orange along the inner margin; wings beneath orange, the forewing with a black base of the costa and a black macula at the end of the cell. 31 mm. Castro, Parana.
- arhathdota*. **Z. arhathdota** Dyar. Forewing "greasy" yellow, the costal margin and fringe without any light pink colouring. Hindwing orange. Expanse: 50 mm. Colouring otherwise very similar to that of *Dalcera abrasa*, but the wings are less oval, without a produced apex, but of a more normal shape, and the colouring is less intense. 1 ♀ Rio de Janeiro, Brazil.
- munica*. **Z. munica** Dyar. Similar to *fumata*, but vein 6 much nearer to the lower cell-angle. Discal transverse streak long and narrow. A median grey shadow to the margin is broadly expanded. Expanse: 31 mm. San Bernardino, Paraguay (K. FIEBRIG).
- dierrhoea*. **Z. dierrhoea** Dyar. Similar to *arhathdota*, but smaller. Vein 6 arises above the end of the discal vein instead of forming the continuation of it. Expanse: 35 mm. San Bernardino, Paraguay.

3. Genus: **Dalcerina** Dyar.

Antennae short, bipectinate, with an apical tuft of scales. Head projecting, eyes large. Palpi porrect, thin, projecting beyond the frons by half their length, not reaching the vertex. Legs slender, hind tibia only with a terminal spur, third joint tiny. Costal margin of costa straight, rounded at the apex. Vein 1 forked at the base, not ramified. 1 c present; vein 2 from the centre of the cell; 4 and 5 on a short stalk; cell closed by a widely angled fork of the discal vein; 6 midway between 5 and discal veins 7 and 8 on a long stalk below the upper cell-angle; 9 and 10 on a long stalk as in *Dalcera*, but 11 with 9 and 10 exactly as long; 12 from the base. Hindwing with 3 interior veins, 2 from the centre of the cell; 3 and 4 arise close next to each other; 5 from the lower part of the cross-vein; discal vein as on the forewing; 6 and 7 very far off from each other, parallel. 8 at the end of the cell very near to 8, but separated from it or only connected with it by traces of an anastomosis towards the base, where the vein is rounded towards the costal margin.

D. tijucana Schs. Forewing yellowish white, finely reddish along the distal and interior margins and through the centre of the wing; a black oblique line at the end of the cell and a black shadow along the media. Hindwing light yellow. Head orange, collar yellow, thorax light pink and the abdomen dorsally yellow, orange beneath. Wings beneath yellow, with a small black spot at the end of the cell on the forewing. 35 mm. Tijuca, Rio de Janeiro.

4. Genus: **Acraga** Wkr.

Body slender, proboscis very short, palpi thin, very short. 3rd joint very small. Antennae with very short pectinations. Legs thin, clothed with long hair, posterior tibia with 4 long spurs. Wings broad. Forewing: vein 3 is twice as far away from 2 as 2 is from 1, 4 half as far away from 3 as 3 is from 2. Hindwings projecting very far beyond the abdomen.

A. moorei Dyar (= *ochracea* Mr. nom. praecoc.) (168 d) is easily discernible by the dark-scaled veins. Ground-colour intensely ochreous yellow. ♂ 34, ♀ 44 mm. Brazil.

A. coa Schs. (168 d). Orange, all the veins of the forewing with yellow lines, more distinctly so in the ♂ than in the ♀. ♂ 33, ♀ 44 mm. Coatepec, Jalapa, Mexico. Orizaba; Honduras.

A. conda Dyar (168 d) was described as a variation of the following *ochracea* from which, however, it differs in the different kind of the ground-colour, the orange colouring seems to be spread across a yellow ground and is more intense at the inner margin. Guiana.

A. ochracea Wkr. Antennae not longer than the thorax, with very short pectinations. Wings reddish yellow. Mexico, Tierra Colorado, Costa Rica. Irazu 6000—7000 ft. (ROGERS), Ecuador. South Eastern Brazil, Rio de Janeiro.

A. meridensis Dgn. 22 mm. Palpi, head, antennae, body, legs, fringes and wings yellowish orange, the wings with long hairs at the interior margin and especially at the abdominal margin. Merida, Venezuela. 2 ♂♂. It is very closely allied with *ochracea* Wkr., but more orange.

A. canaquitam Dyar. ♂ of a glaring reddish brown, the veins of the forewing paler. Expanse: 38 mm. Of the shape of *coa* and *moribunda*, the veins with still more distinct pale lines, but of a darker, more uniform ground-colour. It may be that the forms mentioned will prove to be variations of one species. Pao Obispo, Mexico, December 1924.

A. ciliata Wkr. Pale red-brown. Body and legs beneath whitish. Antennae whitish, with brownish yellow scales. Forewing with a rusty red macula at the end of the discal area. Interior margin and the end of the cell distinctly marked brown. Jamaica.

A. infusa Dyar (168 d). Head and abdomen of a deep yellow. Thorax orange, forewing deep yellow. The margins and a stripe along the median vein and vein 4 orange. Hindwing deep yellow, slightly shaded with orange at the anal angle. 19 mm. St. Laurent, Maroni River, French Guiana.

A. melinda Drc. Forewing and hindwing uniformly yellowish orange, the forewing somewhat darker at the inner margin; beneath as above; head, antennae, thorax, abdomen and legs yellowish orange. 50 mm. Panama, Chiriqui.

A. angulifera Dyar. Body and wings pale lemon-coloured. Costal margin of forewing palest. Forewing: a dark brown, inwardly flawed line at the end of the cell, a subterminal brownish shadow below vein 7, bent inwards towards vein 2, then straight to the interior margin. Hindwing with a brown line at the anal angle. 21 mm. St. Jean, Maroni River, French Guiana.

A. leberna Drc. (168 e). Forewing creamy white with a broad reddish brown submarginal band extending from the apex to the anal angle; a small reddish brown spot at the end of the cell. Hindwing creamy white, with reddish brown dots at the anal angle. Wings beneath yellowish white without any marking. Head, thorax, abdomen, antennae and legs reddish brown. Ecuador, Sarayacu.

- arcitera.* **A. arcifera** Dyar is very closely allied with *leberna*, but the colouring is distinctly yellow instead of creamy white. French Guiana.
- flava.* **A. flava** Wkr. (= *sulphurea* Burm.) (168 e). Golden yellow. Antennae moderately pectinated, slightly tufted at the tips. Rio de Janeiro. French Guiana.
- cosmia.* **A. cosmia** Dgn. 30 mm. Palpi and coxae white mixed with yellow; head and thorax white; abdomen yellow, band whitish. Legs white with a few brown hairs. Wings white; forewing above slightly suffused with brown, sometimes hardly visible, extending from the base along the interior margin on the first half, then along vein 2 which it follows as far as close to the margin, rising subterminally to vein 5, above which it bends round and extends to vein 8 where it vanishes. A terminal brown streak at the apex between veins 8 and 9; the discocellulars brownish like the distal end of veins 2—5, too; a brown marginal edge of the anal angle at vein 5; fringe white with a few brown hairs near the anal angle and at the apex. Hindwing above and fringe white, dusted brown at the anal angle. Wings beneath and fringe white. San Antonio, near Cali, Colombia, 2000 m. 1 ♂, April 1909 (FASSEL). — var. **boliviana** Hopp. The Berlin Museum contains a specimen from Bolivia differing from the type in the discal parts of the forewings not being brownish, but the whole forewings being feebly yellowish white in contrast with the white hindwings. The brown marking is only distinct at the interior margin. Chest with yellowish brown spots.
- isotheca.* **A. isotheca** Dgn. (168 f). White and yellow, feet white, the first pair almost entirely covered with yellow scales; palpi yellow, with whitish tips. Antennae, head and body above yellow. Collar and thorax yellow mingled with white scales; ventrum partly whitish. Wings white. Forewing above suffused with yellow, especially the interior region except the extreme base as far as vein 1 c, then postmedianly on vein 2 and behind the interior half of the cellular vein 3 to 5. The suffusion vanishes and is only visible subterminally on veins 6, 7 and 8. White marginal dots of the ground-colour are situate between veins 2 and 5, uniformly touching the corresponding fringes. Margin and fringe from vein 5 to the apex white except a yellow apical spot above vein 8. Margin and fringe of hindwing correspondingly spotted yellow from the anal angle almost to vein 5; spot beneath small. Forewing beneath white with faint traces of the apical spot and a few yellow scales on the fringes. Expanse of wings: 25 mm. Lim, Panama; 2 ♂♂ (FASSEL).
- umbrifera.* **A. umbrifera** Dyar. Body above light brown, beneath white. Collar speckled white. Forewing: markings lighter. A dot at the end of the cell; with a broad postmedian shadow extending as far as the fringe between veins 3 and 5; a narrow shadow along the interior margin as far as the postmedian vein. Hindwing with a pale brown shadow at the anal angle, extending to the fringe. 22 mm. St. Jean, Maroni River, French Guiana.
- ferruginea.* **A. ferruginea** Hopp. The ♀ is rusty red without any marking, forewing somewhat darker at the interior margin; antennae, head and legs brownish ochreous, abdomen rusty red. Expanse: 32 mm. Pachitea, Peru.
- caretta.* **A. caretta** Schs. (168 a). White; forewing with a chocolate brown shadowy submarginal band which is intense at the anal angle, gradually vanishing and altogether absent at the interior margin. The discal cross-vein and the origin of veins 2 and 3 finely marked with brown. 1 ♂, Misantea, Mexico, June 1909 (R. MÜLLER). 1 ♀ Chiriquito, Panama (W. SCHAUS).
- obscura.* **A. obscura** Schs. Dark golden brown. Costal margin of hindwing somewhat paler. Expanse: 22 mm. São Paulo, Brazil.
- hamata.* **A. hamata** Schs. (168 a). Forewing somewhat falciform, slightly produced below vein 4 and rounded. Hindwing bent inwards below the apex, the anal angle produced. Antennae brownish greyish yellow. Head and thorax deep yellow. Hindwing pale yellow. Wings of a glaring yellow. Costal margin of hindwing whitish. Expanse: 28 mm. Juan Vinas. June; Tuis. May.
- elvira.* **A. elvira** Dogn. ♂ 20—21 mm. Forewing above black; interior margin interrupted by white in the centre, dusted with yellow outside. Hindwing above white, superficially dusted, with a black, rather thin marginal line; fringe black with a few pale tiny hairs. Forewing beneath black suffused with white in the centre and at the interior margin. Hindwing beneath as above, but the black margin reduced in the apical region. Fringe of hindwing whitish. Body above black with a few tiny white hairs; body beneath and legs white. ♀ 25 mm. Forewing with a very broad black costal-marginal edge, a thin marginal edge from the base to the interior margin, the other parts of the wing yellow; hindwing with a broad yellow central band blackening the base and the whole surface of the wing as far as beyond the middle of the costal and abdominal margins, finally narrowing down between the broad black marginal bands, at the apex between veins 4 and 5. 1 ♂, July 20th 1908, 1600 m; 1 ♀, August 24th 1908, 1800 m, Colombia.
- mariala.* **A. mariala** Dogn. 32 mm. Wings longer, palpi, head, antennae, thorax, forelegs, forewing beneath and fringe orange; hindwing, its fringe, and all the wings beneath of the same colouring, but paler. The wings are covered with tiny fine hairs, less so beneath and on the hindwing. Bogota, Colombia, 1 ♀, July 8 th 1919.

A. moribunda Schs. Antennae yellowish ochreous. Collar, thorax and the base of the abdomen paler, *moribunda*, the veins yellowish ochreous like the hindwing. Expanse: 33 mm. Volcán de Santa Maria, Guatemala.

A. perbrunnea Dyar. Dark purple; hindwing evidently of the same colour, although it is sorely damaged *perbrunnea*, in the type. Expanse: 25 mm. A ♂ from Oxapampa, 2000 m. (Coll. DOGNIN.)

5. Genus: **Dalcerides** Neum & Dyar.

Head very small, with large eyes, palpi thin. antennae very short, scarcely as long as the thorax, with fine bipectinations. Vein 1 of forewing separate, not ramified, 1 a present, the median vein H-shaped. vein 2 arises behind the middle of the cell, veins 3—5 close together. Cell broad, closed, 6 arises from the middle of the retracted upper half of the cross-vein; accessory cell small and rounded, 7—8 stalked from its pointed end; 9 from the same spot; 10 evidently absent, 11 from the apex of the accessory cell apparently connected with 12 which is separated from the base. Hindwing with two interior veins; veins 2—6 as on the forewing; 7 forms the continuation of the subcostal vein, 8 from the subcostal vein from the centre of the cell to the end of the cell, not divergent. A false discal vein extends to the angulation of the cross-vein between veins 5 and 6. Genotype: *D. ingenita* Edw.

D. ingenita Edw. (168 a). Forewing deep yellow, somewhat orange, but not very light. Forewing of *ingenita*, a somewhat darker colouring. Thorax, abdomen and legs of the same colour. Rather paler beneath. Distinct markings not present. From Arizona.

D. bicolor Schs. ♀: head, thorax, legs, and abdomen beneath reddish orange. Abdomen above blackish *bicolor*, brown. Forewing reddish orange, the veins somewhat darker. Hindwing black, scantily scaled. Expanse: 28 mm. Vollano Poas (Costa Rica), May.

6. Genus: **Anacraga** Dyar.

Antennae short, bipectinate, palpi thin, extending to the centre of the frons. Forewing with separate 2nd and 5th veins; 6 near the upper angle of the cell, a large accessory cell; 7 and 8 on a short stalk, 9 and 10 almost coalescent, likewise from the apex, 11 from the apex of the accessory cell, near the costa and parallel to the base of the subcostal vein. Hindwing elongated, triangular; veins 2 to 5 equidistant from each other. 6 and 7 separated and parallel; 8 connected with the subcostal vein at the exterior half of the cell, at the base separated from the latter and angled. Genotype: *A. citrina* Schs.

A. dulciola Dyar (168 f). Forewing brown; a yellow spot at the base extends to the centre of the interior *dulciola*, margin. Hindwing orange, shaded with brown at the fringes. Expanse of wings: 11 mm. Type from La Chorrera. May 1912 (BUSCK); another specimen from Porto Bello, December 1912 (G. F. CLEVELAND).

A. rebella Schs. Similarly coloured as *A. geos*, but much smaller, and the yellow colour not so bright; *rebella*, neuration different, since the centre of the cell is greatly retracted, whereby the accessory cell and the lower angle seem to be protracted, whereas in *geos* the end of the cell is not so retracted, but almost straight. Quite lemon-coloured with a slight orange tinge. Hindwing somewhat paler than the forewing and somewhat transparent. Expanse: 13 mm. Banana River, Costa Rica, March 1907.

A. citrina Schs. The whole lepidopteron is completely loamy yellow. Expanse: 17 mm. Type found *citrina*, in Trinidad.

A. citrinopsis Dyar is coloured like *citrina* Schs., but considerably larger. The ♂ has an expanse of 25 mm. *citrinopsis*. Only the ♂ is known so far. ♂ type from Callao, Peru (Mrs. M. J. PUSEY).

A. phileterea Schs. ♂ body orange. Forewing orange, darkest at the interior margin. Hindwing orange, *phileterea*, with a broad whitish yellow costal margin. Under surface paler. Expanse: 22 mm. Sixola, La Florida (Costa Rica).

A. sofia Dyar (168 a). Forewing pale cream-coloured: a brown subbasal clouding in the submedian fold; *sofia*, a faint brown clouding extends across the centre of the wing and subterminally; discal dot round, dark brown. Hindwing whitish warming into cream-colour along the interior margin. Expanse: 22 mm. Cuernavaca, Mexico. August 1906 (W. SCHAUS).

A. sororcula Dyar. Similar to *sofia* Dyar, smaller, most of the markings of the wings faint or rudimentary except the discal spot. Expanse: ♂ 12 mm, ♀ 16—17 mm; 4 ♀♀, 2 ♂♂ from Cayuga, May till October, and Misantla, Mexico. September 1910 (R. MÜLLER).

A. geos Schs. Lemon-coloured; the frons slightly grey, the interior margin of the forewing somewhat *geos*, darker; costal margin of hindwing slightly whitish. Expanse: 18 mm. Guapiles (Costa Rica).

A. ria Dyar (168 b). Entirely ochreous. Expanse: 18 mm. 1 ♂, Rio de Janeiro, Brazil (SCHAUS). It *ria*, may be the genuine *D. ochracea* Wkr., in which case this name would have to be cancelled as synonymous.

mesoa. **A. mesoa** *Drc.* (168 b). Forewing chrome yellow, the centre of the forewing from the base almost to the distal margin lead-coloured, hindwing uniformly chrome yellow; head, thorax and abdomen yellow; legs brownish yellow; both wings beneath uniformly pale yellow; the darker colour on the forewing hardly visible. Panama, Bugaba, 800—1500 ft., Volcan de Chiriqui (RIBBE in the Coll. STAUDINGER).

albescens. **A. albescens** *Hopp.* ♂ 16—17 mm. Completely white with a faint orange tinge. Forewing especially on the veins without a streaky lustre. Hindwing with long white small hairs at the abdominal margin. Venezuela: Maracay (P. VOGEL). 2 ♂♂. Type in Coll. HOPP.

luteola. **A. luteola** *Hopp.* ♂ forewing golden yellow, half of the inner margin and the costal margin yellowish ochreous. Hindwing somewhat paler, but darker yellow at the anal angle. Both wings beneath paler. Body light ochreous, head, antennae, palpi and legs yellowish. 22 mm. Para Brazil. (SIEBER.)

nana. **A. nana** *Dogn.* 17 mm. Antennae, head, body and forewing above golden yellow, forewing partly with rough scales, hindwing beneath of a bright lemon-colour. ♂, São Paulo, Brazil.

ingenescens. **A. ingenescens** *Dyar.* Forewing dull golden yellow; colour that of *ria* *Dyar* which DYAR presumes to be synonymous with *luteola* *Hopp* (Journal of the Wash. Ac. of Soc. 17, 1927, p. 557); hindwing pale yellow, more golden at the margin. Expanse of ♀: 32 mm. 1 ♀ known from Madeira, Venezuela. (Coll. DOGNIN.)

phasma. **A. phasma** *Dyar.* White, with faintly yellowish clouded markings in the lower halves of the wings; without a discal spot. Expanse of ♀: 17 mm. 1 ♀ known from Sinaloa, Mexico. (A. KUSCHE.)

7. Genus: **Acragopsis** *Dyar.*

Antennae short, bipectinate, palpi thin and erected up to the centre of the frons. Forewing: veins 2—5 separated, the upper part of the cell retracted to the base, vein 6 from the upper angle of the cell, 7—10 stalked from the same place, 9 and 10 coalescent, a small convex accessory cell from near the base to the end of the discal cell, vein 11 arises from its anterior part. Hindwing: veins 2—5 likewise separated, 6 and 7 separated and parallel; 8 connected with the subcostal vein at the exterior part of the cell, free and curved at the base. Genotype: *A. flavetta* *Schs.*

radians. **A. radians** *Hopp* (168 b). ♂ 14 mm. Forewing yellow, slightly brownish, with a silky lustre, with deepened cross-veins, long-fringed. Hindwing whitish yellow, fringes and abdominal margin yellow. Both wings beneath cream-coloured. Body and appendages pale brownish. ♀ 17 mm. Forewing paler at the base. Hindwing whitish yellow. Sa. Catharina, 2 ♂♂, Santos, São Paulo, another specimen.

flavetta. **A. flavetta** *Dyar.* Body ochreous. Wings lemon-coloured, the veins of the forewing slightly darker. Expanse: 16 mm. San Jean, Maroni River, French Guiana.

chirma. **A. chirma** *Schs.* (168 b). ♂ body and forewing golden yellow; hindwing paler yellow. Expanse: 13 mm. Cayuga, Guatemala.

8. Genus: **Minonoa** *Dyar.*

Antennae short, bipectinate, palpi short, proboscis absent. Veins 2—5 of forewing at equal distances; 6 arises above the discal vein, 7 and 8 as well as 9 and 10 coalescent, 11 near the end of the cell. Veins 3 and 4 of the hindwing nearing each other at the origin, 6 arises above the discal vein, separated from vein 7 and parallel to it, 8 anastomoses with the subcostal vein at about the exterior third of the cell. Genotype: *M. perbella* *Schs.* According to DYAR who, however, has examined neither of these species *D. variegata* *Jones* and *A. elvira* *Dogn.* belong to this place here (loc. cit.).

perbella. **M. perbella** *Schs.* (168 b). Body orange above, paler beneath. Forewing: basal half yellow, partly suffused with brown, with a brown antemedian line. Exterior half dark brown, suffused with orange behind the cell. A yellow dot at the apex; a double darker marginal line is divided by a few orange spots. Hindwing orange; the distal margin broadly shaded with black. Expanse: 21 mm. Petropolis, Brazil.

pachitea. **M. pachitea** *Hopp.* ♂ apical and basal areas blackish brown, a broad orange band between them, forming in the middle a projection into the apical area and widened inside. Hindwing black. Antennae, head, thorax and abdomen blackish brown, legs whitish. Expanse: 19 mm. Pachitea, Peru.

9. Genus: **Minacragides** *Dyar.*

Forewing without an accessory cell; vein 11 stalked with 9, 10 absent; 6 arises above the discal vein, 7 and 8 coalescent.

arnacis. **A. arnacis** *Dyar.* Completely milky white; the only ♂ according to which the genus and species was described, is partly worn, but according to DYAR no traces of markings could be found. ♂ type from Hoorie, British Guiana (C. W. BEEBE).

10. Genus: **Minacraga** Dyar.

Antennae short, bipectinate, with tufts of scales at the tips; palpi oblique as far as the middle of the frons; forewing with a prominent angle, the fringe forming a lobe at the tornus. long spatulate scales. Forewing with equidistant veins 2 and 3; 4 and 5 from a place at the lower angle of the cell, 6 from above the discal vein, 7 and 8 on a long stalk; 9, 10 and 11 stalked. Hindwing: vein 4 from the lower angle of the cell, 5 far above it, 6 and 7 separated from each other and parallel, 8 extends near the subcostal vein to the end of the cell. Genotype: *M. disconitens* Dyar.

M. disconitens Dyar. Palpi dark brown with pale brown tips; antennae dark brown with black. Thorax *disconitens*. light brown. Tegulae dark violettish brown. Forewing pale, metallic dark brown, except at the margins which are pale. A broad dark brown stripe at the base of the interior margin; a black dot at the end of the cell. A subterminal undulating line followed by metallic dark brown spots between veins 3 and 5, these spots followed by a dark brown marginal shadow; the lobes on the interior margin light brown. Hindwing yellowish dark brown, the distal margin shaded with blackish brown, especially towards the anal angle. Expanse: 30 mm. Maroni River. French Guiana.

M. indiscata Dyar (168 e) resembles *disconitens*. Wings without silvery scales, but suffused with pale *indiscata*. brown, while the marginal markings are feeble. Discal dot present. Hindwing pale brownish and with a faint dark shading below the centre of the distal margin. Expanse: 27 mm. French Guiana.

M. argentata Hopp. Discal and inner-marginal areas of a metal lustre with a vertical furrow of pressed *argentata*. scales, bordered outside by a thin brownish ochreous line from the costa to the inner margin. The line vanishes inwards and is convex outwards. A diffuse brownish ochreous stripe at the distal margin is halved by a dot and terminates into the centre of the distal margin the fringe of which is brownish. A short dark brown stripe at the base of the inner margin the lobe of which is lighter and contains 2 tiny dots. A faint discal spot is present. Hindwing brownish at the distal margin. Both wings beneath whitish, the distal margins with the markings of above. Palpi brown outside, white inside. Head, body and legs light yellowish brown. Thorax and abdomen dorsally suffused with brownish. Antennae white with black apical tufts. Expanse: 23 mm. Pachitea, Peru.

M. aënea Hopp exhibits a light bronze lustre, darker towards the distal margins. Forewing strewn *aënea*. with single black dots, the centre of the distal margin blackened. 2 or 3 light lustrous subterminal spots between veins 2 and 4, a small black spot at the end of the cell. Hindwing with a small black spot in the centre of the distal margin, with a fine light, dark-edged line before it extending to the anal angle. Wings beneath creamy with a less intense lustre. Centre and distal margins darker; hindwing with a few scattered small black scales. Chest bronze-coloured. Abdomen silvery. Antennae light, pinnate, with tufts of black scales. ♂ from Sa. Catharina, Southern Brazil; expanse of ♀: 40 mm. Joinville, Sa. Catharina.

11. Genus: **Paraeraga** Dyar.

Antennae short, bipectinate, without tufts of scales; palpi thin, reaching the centre of the frons. Veins 2—5 separated, 6 arises above the end of the discal vein, 7 and 8, 9 and 10 anastomosing, 7 and 9 stalked, 11 arises near the end of the cell. Hindwing long oval, veins 2—5 separated, 6 and 7 separated, parallel, 8 extends near the subcostal vein to the end of the cell. Genotype: *P. innocens* Schs.

P. innocens Dyar. Body brownish yellowish white, wings white. Forewing scantily suffused with dark *innocens*. brown scales in the cell on the interior margin, in the exterior half of the costal margin and at the distal margin. Costa pale dark brown; a black dot right in front of the centre of the inner margin; a curved black line extends from the centre of the costa to the end of the cell, followed by a dark postmedian line which is bent towards vein 3, then undulate to the inner margin; distal margin clouded with light brown below vein 6; with a few dark marginal dots. Expanse: 18 mm. St. Laurent, Maroni River, French Guiana.

P. amianta Dyar. Forewing yellowish ochreous; costa narrowly white at the apex and distal margin. *amianta*. A lustrous silvery area in the centre of the wing, from above vein 1 to the lower part of the cell, a brown line from the origin of vein 2 almost reaches the costa and then returns across the discal vein, terminating on vein 1 above the extended anal angle, enclosing an irregular rusty brown marking in the cell. A tiny black dot on vein 1 in its basal third; a marginal series of similar dots at the ends of the veins, distinct only on veins 2—4 and subapically. Forewing white with an ochreous patch, except at the margin. Expanse: 24 mm. 1 ♂, Hoorie, British Guiana (C. W. BEEBE).

P. argentea Schs. (168 b). ♀ head and thorax quite whitish yellow. Metathorax and abdomen silvery. *argentea*. Forewing silvery yellow, except a large silvery white irregularly oval stripe extending from the posterior margin to the inner margin near the tornus and bordered with ochreous or dark brown scales; dark marginal dots on the veins, the largest at the apex of vein 7. Hindwing white, suffused with silvery scales. Under surface white. Expanse: 30 mm. Costa Rica.

- halophora*. **P. halophora** Dyar resembles *argentea*. Forewing white; with a slight rusty tint and dark suffusions. Costa somewhat more rusty. Distal margin with black dots on veins 3—8, those on 3 and 8 being larger; a black dot in the centre of vein 1. A narrower darker line at the upper cell-angle with a slight reddish shadow. A line from the upper cell-angle is strongly bent outward, reaching the tornus. Interior part of the discal line continued across the cell to the median vein; the area thus enclosed shows a silvery glimmer on the undulate surface and extends almost to the base below the median vein and above vein 1. Hindwing white with small black dots at the end of veins 2 and 3. Expanse: 24 mm. Pnablo Pasdo, Col. de Perene, Peru.
- necoda*. **P. necoda** Drc. ♂ head, antennae, collar and tegulae, thorax, abdomen and legs yellowish white. Forewing light fawn-coloured, darkest at the apex and distal margin; a reddish fawn-coloured spot at the cell-end, from which 2 faint brown lines extend almost to the anal angle; a tiny black dot in the centre of the inner margin. Hindwing light fawn-coloured, lightest at the base, fringes whitish. — ♀ very similar, but larger and almost entirely white. Expanse: ♂ $\frac{3}{4}$, ♀ $\frac{3}{10}$ incl. Colombia, Don Amo (DRUCE).
- canalicula*. **P. canalicula** Dogn. (168 b). Wings white, forewing with a yellowish glimmer. Forewing scantily strewn with ochre; a median brown dot on vein 1; 2 ochreous lines almost parallel, uniting in front at the exterior third of the costal margin; interior lines more straight, cutting the cell, extending across the origin of vein 3 to the posterior margin a little before the anal angle. Exterior line outwardly rounded, ending between 6 and 4 and at the anal angle; a few brown dots at the ends of the veins. Wings beneath, fringes, legs, and body white. Closely allied with *innocens*. La Oroya, Rio Inambari. Carabaya, South-Eastern Peru. Expanse: 20 mm.
- cyclophera*. **P. cyclophera** Dyar. Creamy white; forewing feebly shaded with brown. Lines connected with each other and remote from the anterior and posterior margins, forming an elliptical ring which is more pointed below than above. thin, brown; some groups of scales are in its upper part; a dot on vein 1 near the centre, and a marginal row of dots on the veins. Hindwing without spots. Expanse of wings: 20 mm. Type from Cabima. May 1911 (BUSCK).
- oxydata*. **P. oxydata** Hopp. ♂ forewing white, suffused with rusty red; a rust-coloured zone at the costal margin outside the cell, defined in a straight line towards the apex, vanishing, however, towards the base and forming a very indistinct band towards the anal angle. A faint dot at the fork of veins 7 and 9, a few faint dots also at the margin. Beneath white, feebly rusty at the costal margin. Hindwing, body and appendages white. Expanse: 15 mm. Teffé (Amazons).
- pulverina*. **P. pulverina** Schs. Antennae, head, thorax and legs yellowish white. Abdomen white, forewing whitish yellow, scantily suffused with fine dark brown scales; the suffusions form an oval spot on the distal part of the wing, the anterior part bent above the discocellular line, the posterior part narrower and not quite meeting the interior margin; a small brown antemedian spot on the submedian line. Hindwing white, wings white beneath. Costal margin of forewing whitish ochreous, suffused with brown. Expanse: 15 mm. Cayuga, Guatemala.

13. Genus: **Ca** Dyar.

Veins 8 and 10 of forewing absent; 9 and 10 on a long stalk or anastomosing. Veins 3 to 4 of the hindwing on a short stalk. 5 to 7 separated, 8 broadly united with the cell. Genotype: *Ca anastigma* Dyar.

- anastigma*. **Ca anastigma** Dyar. Forewing light yellow; an undulate dingy olive shadow extends across the interior third of the wing. The similar submarginal shadow irregular, badly defined, partly touching the margin. Discal dot small, round, black, situate upward towards the costa; 2 tiny black dots at the apex. Hindwing whitish with a faint yellowish tint. Expanse of wings: 11 mm. Type from the Trinidad River, March 1912 (BUSCK).

14. Genus: **Zikanyrops** Hopp.

Forewing with an accessory cell as in *Dalcerides*. Veins 8, 9 and 10 anastomosing. 2 from the centre of the cell-vein, 3 a little before the cell-angle, 4 from the latter, 5 a little before the media, 6 right behind it, 7 from the accessory cell, 9 likewise; 11 from the anterior edge of the accessory cell, 12 free. Hindwing: vein 2 from the last third of the cell, 3 and 4 from the cell-angle, almost somewhat stalked, 5 a little before 6 behind the media, 7 from the anterior cell-angle, 8 close beside it from the cell. Cell of forewing rather broad, divided by the media into two almost equal halves. Accessory cell small. Frons scarcely as broad as the eyes; palpi narrow, slightly upturned. The frenulum is without the retinaculum (see *Epipyropidae*).

- sparsa*. **Z. sparsa** Hopp. ♂ 15 mm. Creamy white. Forewing strewn with dark brown scales, especially between the apex and cell. Cell-crossvein and veins 5 and 6 basally with whitish hair. Costa beneath in the basal half dark brown. Palpi brownish. Brazil, Minas Geraës, Passa Quatro, November 26th 1917 (Zikán), 1 ♂.
- dubiosa*. **Z. dubiosa** Hopp. Accessory cell somewhat narrower and longer than in *sparsa* and not projecting half outward, but only representing a section of the anterior half of the cell. ♀ 22 mm. Head, legs, hindwing and

the inner-marginal area of the forewing pink, with a blackish hue on it, as in *D. tijucana* Schs. Hindwing with pink fringes. Bolivia: Cochabamba, Yunga del Espirito Santo (P. GERMAIN, 1888—89), 1 ♀.

Additions to *Dalcera* p. 1304.

D. canescens W. H. T. Tams (168 e). Antennal shaft covered with white white scales. The characteristic *canescens*. tufts of scales before the white tips are black; pectinations brown. Head with an orange vertex, greyish brown. striped black. Frons suffused with greyish yellow. Thorax from light to warm fawn-colour. Tegulae whitish, greyish brown at the base. Abdomen above and beneath and the chest orange. Legs with femora inside orange golden greyish brown or greyish brownish black suffused with orange and white inside, outside only white. tarsi greyish brownish black, the 1st to 3rd joints with white tips. Middle leg with an orange femur, tibia orange beneath, greyish brown suffused with white beneath; tarsi greyish brown with white-tipped 1st to 3rd joints. Hindlegs orange; tibiae and tarsi above with few greyish brown hair-scales, the last 4 joints of the tarsi greyish brown. Forewing reddish greyish brown with a fine reddish claret-coloured reflection; costa white, bordered with greyish brown of 4—6 mm width except at the base, and at the apex, where the border is mixed with the general colour of the wing; inner margin with a whitish fringe. Hindwing orange with a greyish brown margin of only 4 mm width, which is broadest on the vein M 1, from where it gradually narrows down towards the anal angle. Forewing beneath dull orange, leaving a terminal brown margin from the base to the junction of R 4 + 5; broader at the apex, narrower towards the tornus: costa bordered with a warm fawn colour; hindwing as above. Expanse: 46 mm. Yahmarmayo, 1200 ft., April 1912.

D. consanguinea Dyar. Forewing pale purple grey, shaded blackish outside; costal margin, interior *consan-* margin and distal margin narrowly pale yellow. Hindwing orange with a black narrow distal margin, less broad *guinea*. than $\frac{1}{4}$ of the length of the forewing. Expanse of ♂: 39—45 mm. Rio Tabajoz, Amazonas; Brazil; Porto Velho, Rio Madeira, Brazil. It may not be different from *D. semirufa* Drc.

Alphabetical List

of the original descriptions of the American forms of *Dalceridae* quoted in this volume.

* signifies that the form is also figured at the place quoted.

- abrasa* D. H.-Schäff. Außereurop. Schmett. 1855, 1, p. 7, fig. 180. *
- aënea* Min. Hopp. Arch. f. Naturgesch. 87, Abt. A, p. 279 (1921).
- alba* D. Drc. Biol. Cent.-Am. Lep. Het. 1, p. 213 (1890).
- albescens* An. Hopp. Dtsch. Entom. Ztschr. 42, p. 286 (1928).
- amianta* Par. Dyar, Zoologica 1, p. 137 (1909). *
- ampela* D. Drc. Proc. Zool. Soc. London, p. 505 (1890).
- anastigma* Ca Dyar Proc. U. S. Mus. 47, p. 252 (1915).
- angulifera* Acr. Dyar. Proc. W. S. Nat. Mus. 29, p. 332 (1905).
- arcifera* Acr. Dyar, Proc. Ent. Soc. Wash. 12, p. 117 (1910).
- argentata* Min. Hopp Dtsch. Entom. Ztschr. p. 429 (1922).
- argentea* Par. Schs. Ann. Mag. Nat. Hist. (8) 6, p. 415 (1910).
- arhathodota* Zad. Dyar Proc. Ent. Soc. Wash. 12, p. 115 (1910).
- arnacis* Min. Dyar Zoologica 1, p. 137 (1909). *
- bicolor* Dal. Schs. Ann. Mag. Nat. Hist. (8) 6, p. 415 (1910).
- boliviana* Acr. Hopp. Arch. f. Naturgesch. Abt. A 87, p. 280 (1921).
- canalicula* Par. Dgn. Het. nouv. de l'Am. du Sud 1, p. 42 (1910).
- canaquitam* Acr. Dyar Insec. Inscient. Menstr. XIII, p. 18 (1925).
- canescens* D. W. T. H. Tams The Entomologist, London 59, (1926).
- caretta* Acr. Schs. Proc. U. S. Nat. Mus. 38, p. 268 (1910).
- chirma* Acragop. Schs. Proc. U. S. Nat. Mus. 57, p. 150 (1921).
- ciliata* Acr. Wkr. Cat. Brit. Mus. 4, p. 807 (1855).
- citrino* An. Schs. Journ. N. Y. Ent. Soc. 4, p. 57 (1896).
- citrinapsis* An. Dyar Journ. Wash. Acad. of Sciences 17, p. 550 (1927).
- coa* Acr. Schs. Proc. Zool. Soc. London, p. 322 (1892).
- conda* Acr. Dyar Proc. Ent. Soc. Wash. 12, p. 116 (1911).
- consanguinea* D. Dyar. Wash. Acad. Sci. 17, S. 550 (1927).
- cosmia* Acr. Dgn. Het. nouv. de l'Am. du Sud 3, p. 63 (1911).
- cyclophera* Par. Dyar Proc. U. S. Mus. 47, p. 253 (1915).
- dierthyoa* Zad. Dyar Insec. Insci. Menstr. XI, p. 30 (1923).
- discontinens* Min. Schs. Proc. U. S. Nat. Mus. 29, p. 331 (1905).
- dubiosa* Zik. Hopp Dtsch. Entom. Ztschr. „Iris“ 42, p. 287 (1928).
- dulciola* An. Dyar Proc. U. S. Mus. 47, p. 252 (1915).
- elvira* Acr. Dgn. Ann. Mag. Nat. Hist. (8) 6, p. 414 (1910).
- ferruginea* Acr. Hopp. Dtsch. Entomol. Ztschr. p. 430 (1922).
- flava* Acr. Wkr. Cat. Brit. Mus. 5, p. 1107 (1855).
- flavetta* Acragop. Dyar Proc. U. S. Nat. Mus. 29, p. 332 (1905).
- fumata* Zad. Sch. Proc. Zool. Soc. London, p. 238 (1894).
- goes* An. Schs. Ann. Mag. Nat. Hist. (8) 6, p. 415 (1910).
- halophora* Par. Dyar Proc. Ent. Soc. Wash. 30, p. 10 (1928).
- hamata* Acr. Schs. Ann. Mag. Nat. Hist. (8) 6, p. 414 (1910).
- indiseata* Min. Dyar Proc. Ent. Soc. Wash. 12, p. 120 (1910).
- infusa* Acr. Dyar Proc. U. S. Nat. Mus. 29, p. 332 (1905).
- ingenescens* An. Dyar Journ. Wash. Acad. of Sciences 17, p. 557 (1927).
- ingenita* Dalc. Edw. Papilio 2, p. 12, (1882).
- innocens* Par. Dyar Proc. U. S. Nat. Mus. 29, p. 331 (1905).
- isotheca* Acr. Dgn. Het. nouv. Am. Sud 8, p. 100 (1914).
- laxta* D. Drc. Proc. Zool. Soc. London, p. 506 (1890).
- leberna* Acr. Drc. Proc. Zool. Soc. London, p. 505 (1890).
- luteola* An. Hopp Arch. f. Naturgesch. 87, Abt. A, p. 281 (1921).
- mariala* Acr. Dgn. Het. nouv. de l'Am. du Sud XXIV, p. 17 (1923).
- melinda* Acr. Drc. Biol. Cent.-Am. Lep. Het. 2, p. 441, Taf. 87, fig. 24 (1898). *
- meridensis* Acr. Dgn. Ann. Ent. Soc. Belg. 2, p. 23 (1907).
- mesoa* An. Drc. Biol. Cent.-Am. Lep. Het. 1, p. 213 (1887).
- moorei* Acr. Dyar Journ. N. Y. Ent. Soc. 6, p. 232 (1898).
- moribunda* Acr. Schs. Proc. U. S. Nat. Mus. 57, p. 150 (1921).

- munica* Zad. *Dyar Insec. Insci. Menstr.* XI, p. 30 (1923).
- nana* An. *Dgn. Het. nouv. de l'Am. du Sud* XVIII, p. 13 (1920).
- necoda* Par. *Drc. Ann. Mag. Nat. Hist.* (7) 7, p. 435 (1901).
- nigrella* D. *Dgn. Het. nouv. de l'Am. du Sud* XXII, p. 24 (1923).
- obscura* Acr. *Schs. Journ. N. Y. Ent. Soc.* 4, p. 57 (1896).
- ochracea* Acr. *Wkr. Cat. Brit. Mus.* 5, p. 1107 (1855).
- oxydata* Par. *Hopp Arch. f. Naturgesch.* 87, Abt. A, p. 277 (1921).
- pachitea* Min. *Hopp Dtsch. Entom. Ztschr.* p. 430 (1922).
- perbella* Min. *Dyar Proc. U. S. Nat. Mus.* 29, p. 332 (1905).
- perbrunnea* Acr. *Dyar Journ. Wash. Acad. of Sciences* 17, p. 550 (1927).
- phasma* An. *Dyar Journ. Wash. Acad. of Sciences* 17, p. 557 (1927).
- phileterea* An. *Schs. Ann. Mag. Nat. Hist.* (8) 6, p. 415 (1910).
- pulverina* Par. *Schs. Proc. U. S. Nat. Mus.* 57, p. 150 (1921).
- radians* Acragop. *Hopp. Arch. f. Naturgesch.* 87, Abt. A, p. 281 (1921).
- rebella* An. *Schs. Ann. Mag. Nat. Hist.* (8) 7, p. 627 (1911).
- ria* An. *Dyar Proc. Ent. Soc. Wash.* 12, p. 119 (1910).
- semirufa* D. *Drc. Ann. Mag. Nat. Hist.* (8) 6, p. 177 (1910).
- sofia* An. *Dyar Proc. U. S. Nat. Mus.* 38, p. 268 (1910).
- sororeula* An. *Dyar Journ. Wash. Acad. of Sciences* 17, p. 557 (1927).
- sparsa* Zik. *Hopp Dtsch. Entom. Ztschr. ..Iris..* 42, p. 287 (1928).
- tijucana* Dalceraeina *Schs. Proc. Zool. Soc. London.* p. 322 (1892).
- umbrifera* Acr. *Dyar Proc. U. S. Nat. Mus.* 29, p. 333 (1905).
- variegata* D. *Jones Trans. Ent. Soc. London.* p. 176 (1908).

Family: Epipyropidae.

By Dr. HERBERT SICK.

(See Vol. 10, page 721.)

The *Epipyropidae* are closely allied with the *Dalceridae*, but they have become specialized biologically to such a degree that they may be justly treated as a separate family. The life-habits of the larvae of these rare species are very peculiar. They live epiparasitically on *Hopmopterae* (*Psyllidae*, *Jassidae* etc.). WESTWOOD supplies a rather detailed account (1876) in Trans. Ent. Soc. London, p. 522. According to it, the larvae never hurt their hosts, but merely live in the wax-secretions. Thus it is a parasitism similar to that of the *Galleria*-species living in the wax of bee-hives, though the latter also occasionally attack the stock of young bees. In examining a *Phenax variegatus* Oliv. (a Homoptera) contained in the Berlin Museum I was able myself to ascertain the position of the pupa of an *Epipyropida* and I presume that the larva spins a thin membrane above itself in order to hold itself thereby in the wax. The larva itself, according to DYAR, is almost hemispherical, somewhat elliptic, flattened on the ventral side and very uniformly convex dorsally. The head is rather large and retractile. The number of thoracal legs is normal, but they are short and rudimentary. The abdominal legs are represented by elliptic hooks on segments 4 to 6, and one pair is distinct on the last segment. The segments are short, contracted and provided with a large number of secondary hairs. Tubercles are not to be distinguished. According to SCHWARZ, the larvae are covered with a wax-secretion. The colour of the larvae is greyish white. The imago is sexually dimorphous. The systematic position is not yet clear. They are surely closely allied with the *Dalceridae*, which is already proved by the fact that some *Epipyropidae* were described as *Dalceridae*. The latter are again allied with the *Limacodidae*, according to the shape of the larvae common to all the three families. KIRBY placed the *Epipyropidae* to the *Liparidae*, which is absolutely wrong, since beside other marks the *Epipyropidae* are without a tympanal organ which is developed in the *Liparidae*. SHARP is right in presuming a relationship to the *Limacodidae*. From these they differ in the absence of the tibial spurs and in the radius sector of the forewing, which proceeds from the anterior margin of the cell and defines a part in front in the cell. The cell is besides parted yet by a median vein. All the veins mostly arise from the cell and are sometimes stalked or also fused. Vein 8 of the hindwing anastomoses with the cell, 7 may arise separately from the base or also be absent. The oral membranes are rudimentary and only present in a biarticulate appendage provided with a hair-tuft. Ocelli and chaetosema absent, frenulum plain in both sexes. The species of this family sometimes propagate parthenogenetically (or rather in an agamic way), which is rarely the case in lepidoptera and, for instance, occurs in *Psychidae* (*Apterona helix* Sieb., Vol. 2, p. 364).

1. Genus: **Epipyrops** Westw.

Proboscis absent; palpi tiny, frons smooth, eyes large, antennae long, bidentate in both sexes; tibiae without spurs. Forewing with a slightly protracted apex, the margin uniformly bent, vein 3 arises in front before the cell-angle, 4 and 5 from the latter, 6 to 11 from the cell. Hindwing: vein 3 arises before the cell-angle, 5 above it, 6 below the upper cell-angle.

E. barberiana Dyar. Vein 1 of the forewing plain, 1 c present, extending far outward; veins 2 and 3 *barberiana*, equidistant, 4 and 5 rather closely together, 6 and 7 equidistant, 8 and 9 equidistant, arising from the longest part of the cell, 10 and 11 like 6 and 7, arising from the cell near the end, 12 freely from the base. Hindwing evidently with 3 interior veins, but that part of the wing of the type is altogether ruined; vein 2 from the centre of the cell, 3 separated, 4 and 5 near together though not so much as on the forewing; 6 and 7 separated. cell rounded, its upper vein feeble; vein 8 from the base, free. ♂ frenulum plain. Head and thorax appear to be as in *Epipyrops*; palpi very small, legs without visible spurs. Arizona and New Mexico.

cucullata.

E. cucullata C. Heinrich is a small blackish grey species hardly discernible from *barberiana* except by the genitals. Forewing and hindwing of the same colouring. Head and thorax somewhat darker. The tegumen of the ♂ genitals is enlarged and cucullate. Expanse: 10 mm. Type found in Port au Prince, Haiti.

2. Genus: **Epipomponia** Dyar.

Hindwing with 8 veins. 7 and 8 of the forewing separated: 8 of the hindwing connected with the subcostal vein by anastomosis.

multipunctatum.

E. multipunctatum Drc. (168 g) was described as *Cossus* (?) by Druce. Forewing deep black, ♂ densely striped with small blue spots; hindwing uniformly smoky black; both wings beneath lustrous brownish black. Costal margin of forewing densely speckled with blue spots; head, thorax and legs black. 32 mm. Forewing of ♀ metallic greenish blue, veins and numerous transverse streaks bluish black with a slight lustre on the upper surface of the forewing. Body somewhat more lustrous than the hindwing.

elongata.

E. elongata Jordan. The ♀ is oily bluish grey, bluish green scales along the costal margin of the forewing above and near the base form indistinct spots, a thin marginal line and part of the fringes likewise lustrous metallic, but more golden green. Frons as broad as both eyes, somewhat concave in the middle before the antennae which are more roughly scaled than in *multipunctatum*. The distal part of the antennae exhibits a comb of scales. 12 joints bipectinnate, the longest branches as long as three diameters of the shaft. Forewing almost three times as long as it is broad; 10 veins from the cell, radial veins 1 and 2 more separated than in *multipunctatum*. Hindwing likewise elongated, more than twice as long as it is broad. Expanse: about 31 mm.

3. Genus: **Protacraga** Hopp.

Originally regarded as a genus of the *Dalceridae* by HOPP who, however, later on recognized it to belong to the *Epipyropidae*, though the only species of the genus may belong to the *Epipomponia*. Median vein and that longitudinal vein which separates the accessory cell from the cell — it may be considered as a second media — very feeble. HOPP presumes the accessory cell to have been produced phylogenetically by an anastomosis of the basal parts of the second media and of the radius, not by the ramification of the radius. Veins 2 and 3 arise from the posterior edge of the cell, 4 and 5 nearing each other from the posterior cell-angle, 6 is the continuation of the 1st media, 7 arises from the cross-vein somewhat nearer to 6 than to 8, 8 shortly before the second media, 9 from the cross-vein of the accessory cell, nearer to 8 than to 10, 10 and 11 separated from the distal part of the anterior edge of the cell, 12 freely from the base, thickened at the bottom. Hindwing: 1 a, 1 c present, 2 and 3 from the posterior edge of the cell; 3 nearer to 4 than to 2, 4 and 5 from the posterior cell-angle, 6 shortly above the media, 7 is the prolongation of the anterior edge of the cell. Head small, correct. Legs thin, hind tibiae without spurs or only with very small spurs; antennae short, short in the ♀ but distinctly pinnate.

micans.

P. micans Hopp (168 g ♀). ♀ head, thorax, legs, abdomen and wings blackish brown with partly greenish lustrous scales; antennae black. Apex of forewing and fringes white with a number of bright green lustrous scales behind. Hindwing at the distal margin and anal margin with white fringes passing over into greenish towards the inner margin. Beneath as above, but the greenish reflection is less intense. Length of forewing: 17 mm. "Brazil" (BESCKE).

4. Genus: **Anopyrops** Jordan.

♂ ♀ frons one third as broad in the middle as both eyes together (seen from in front). In the proximal half of the ♀ forewing the costa is connected with the cell by an anastomosis in a distal direction from the cell; in the ♂ the anastomosis is rudimentary.

corticina.

A. corticina Jordan. ♂ antennae with 12 bipectinate joints, the longest tufts as long as 6 diameters of the shaft. Body and wings dark greyish brown. Frons, antennae, head beneath and body beneath, interior margin of hindwing above, base and anal margin of forewing beneath and the hindwing beneath except the costal area white. Thorax above mixed with grey. Forewing very broad, round, with the full number of veins, subcostal vein 2 of forewing nearer to subcostal vein 1 than to 3; a feeble subbasal fold on the hindwing connects the costal vein with the cell. ♀ much larger than ♂; distal margin of forewing more convex, hindwing more rounded, anastomosis between the costa and cell of the forewing well developed, either subbasal or near the centre of the cell. Longest tufts of the antennae as long as 3 diameters of the shaft. Dark brown; forewing above with numerous small white dots, inner margin on both wings suffused with white. Subcostal vein 2 of the forewing nearer to subcostal vein 3 than 1. Length of forewing: ♂ 8.5 mm. ♀ 13.5 mm. French Guiana: St. Jean de Maroni. ♂ type. Surinam: Aroewarwa Creek, Maroewym Valley. May 1905. 2 ♀♀ (S. M. KLAGES).

5. Genus: **Oedonia** Kirby (Pseudopsyche Hy-Edws. nom. praecoc.)

The genotype *Oe. exigua* Hy. Edws. is said to correspond to *Epipomponia cucullata* and *barberiana*. But as I have no specimen of these species at hand, we quote EDWARD'S genus here, though its right to exist is doubtful. Antennae tufted, the bristles scanty, rather long, and forked at the tips. Thorax short, broadly clad with scales. Abdomen shorter than the hindwing and broad at the base, then suddenly tapering. Forewing very much protracted at the apex, broader than the hindwing which is rounded at the anal angle and protracted at the apex. Tibiae without spurs, but covered with rather long extended hair.

E. exigua H. Edws. was originally described as a *Psychida*, but FRANK MORTON JONES ascertained *exigua*, that it is an *Epipyropida*. Quite ore-black, the scales of the forewing with somewhat metallic dots. Expanse: 13 mm. San Francisco Mts., Arizona.

Alphabetical List

of the original descriptions of the American forms of *Epipyropidae*.

* signifies that the form is also figured at the place quoted.

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| barberiana Epip. Dyar. Proc. Ent. Soc. Wash. 5, p. 43—45 (1902). | elongata Epipom. Jordan. Nov. Zool. 34, p. 139 (1928). * |
| corticina Anop. Jordan. Nov. Zool. 34, p. 140 (1928).* | exigua Oedon. Hy-Edws. Papilio 2, p. 124. |
| cucullata Epip. C. Heinrich. Proc. of the United States Nat. Mus. 79, p. 2 (1931). | micans Prot. Hopp. Dtsch. Ent. Ztschr. 1924, p. 553, 554. |
| | multipunctatum Epipom. Drc. Biol. Centr. Am., Lep. Het. 1, S. 230.* |
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Additions and Corrections.

The present volume being the most voluminous of the entire work, extensive additions and corrections must be out of the question. Mistakes may have crept in here and there, they were inevitable owing to the extent of the volume the publication of which was started already in 1906. Errata and other purely technical mistakes will be published at the end of the volume as usual.

P. 1010. **Oiozona geometrica** *Drt.* has proved to be a genuine Geometrid after the tympanal organ was examined. It must be cancelled here and will be quoted at the right place in Vol. 8.

P. 1144. **Psamathia ochriplaga** *Dgn.* (1913) is a synonym to **amanda** *Maass.* (1890) which has therefore the priority. (Lep. coll. during a trip through Colombia, Ecuador, Peru, Brazil, Argentina and Bolivia. By ALPHONS STÜBEL, Berlin 1890, p. 160.)

P. 1273. Before *Heterocoma*:

Schausiania ophthalmodes *M. Her.* (168 h) is similar to *S. gaudeator* *Schs.*, but discernible by a transverse band bordering on the terminal spot towards the base and expanding at the tornus. Head blackish brown, frons lighter between the eyes and the base of the antennae, brownish ochreous, slightly mixed with dark. The 2nd palpal joint 5 or 6 times as long as the 3rd. Thorax, patagia in front brown, the rest white. Dorsum with fine black dots, abdomen chocolate brown, distal margin of hindwing brownish bluish grey with a few transverse stripes of fine streaks. At the base there is a white spot as in *gaudeator*. Two indistinctly defined spots are situate at $\frac{1}{4}$, one below the costal margin and another spot below the posterior edge of the discal cell; two white spots at $\frac{1}{2}$, the first more towards the margin. The margin is bordered by a brownish ochreous, but proximally more reddish stripe between the 2nd radial vein and the 2nd cubitus. This marginal area contains a black marking extending towards the base as a band parallel to the red-brown border; from this band longitudinal stripes proceed then to the margin, which may be either interrupted or run along the distal margin and then back again. This eyelike marking of the marginal area may make the impression of a black spot containing ochreous spots. The black colour is reduced in the ♂, but always distinct in the basal part of the spot. The characteristic transverse band is situate between the rusty brown area and the other part. It does not reach the costal margin, is very thin subcostally, but widens towards the anal margin. Hindwing reddish chocolate brown, fringes more reddish, in the ♂ with few white spots. Forewing beneath lighter red-brown, the last two thirds of the costal margin whitish. The black spot of the terminal area shows through. Hindwing as above, sometimes with darker transverse striae. ♂ 25, ♀ 30 mm. ♀ type and a ♂ from Obidos (Brazil) in the Berlin Zoolog. Museum.

Sch. furfurens *M. Her.* (168 h). Body bluish grey, thorax with a broad velvety black longitudinal stripe widening in front and behind. Palpi chocolate brown, with some white hairs below. The 2nd palpal joint about $2\frac{1}{2}$ times as long as the 3rd. Antennae light yellowish brown. Forewing broad at the base, costal margin and anal margin almost parallel. Forewing creamy white, with blackish brown transverse striae. A black spot at the base and a comma-shaped streak between the anterior edge of the cell and analis are more prominent, just like a series of spots especially conspicuous beginning between analis and axillaris and with its 1st spot between the two veins removed somewhat distally in the centre of the wing. Below the apex at the distal margin there is a semicircular line extending from the apex to m 2 and from there between m 2 and m 3 parallel to them. From this arcuate line two feeble ramifications proceed into the centre of the circle. Close before the apex there is another blackish brown dot. Fringe brownish, lighter at the bottom, with fine white partition-lines. Hindwing white, brown dots at the ends of the veins are sometimes confluent. Forewing beneath brown, basal area and costal margin whitish, markings as above, but less distinct. Hindwing as above, but a brown spot at the end of the discal cell between m 1 and m 3. Length of forewing: 14 mm. Bogota, April 8th 1871 (NOLCKEN) 1 ♂. Type in the Berlin Zoolog. Museum.

P. 1273.

8a. Genus: **Allostylus** *M. Her.*

r 1 of the forewing arises from the anterior edge of the accessory cell, r 3 and r 4 are stalked, their stalk again shortly stalked from the apex of the accessory cell. r 5 arises in the middle between the stalk and

m 1 behind from the accessory cell; in the hindwing it is quite free, rr and m 1 are distinctly separated. ♂ antennae bipectinate to the tips. Genotype: *A. (Cossula) caerulescens* Schs.

P. 1174, to *Hypopta*:

H. selenophora *M. Her.* (168 g). Head and thorax yellowish brown, abdomen darker. Palpi yellowish brown, the 2nd joint long-haired, the 3rd joint much shorter than the 2nd. Wings rather narrow. Costal margin straight. r 1 arises before the cell, r 2 from the anterior angle of the areole, r 3 and r 4 from the posterior angle of the cell, r 5 before the cell, an and ax anastomose in one place. Forewing bluish grey, with brown markings, among them a striking crescentiform macula at the costa before the apex. Towards the base a browner almost triangular spot between the base of m and r 1. A transverse band in the basal area, its interior border indistinct and its exterior edge running convex to the inner margin, crossing an, bent basad at $\frac{2}{3}$ of ax and enclosing there a crescentiform white spot. Distally to it there is a round spot, between m 1 and m 2 there are two distinct black spots in the prolongation of the lower crescent. Wings partly with a bluish white hue, the brown markings edged with whitish. Both wings beneath lighter grey, the distal halves of the crescents are distinctly visible. Length of forewing: 12 mm. S. Rosa, Mendoza (Argentina). November 25th 1904. ♂ type in the Berlin Zoolog. Museum. It may be that a new genus will have to be established for this species and the other species of *Hypopta*, whose an and ax anastomose.

H. albicosta *M. Her.* (168 g). Head and thorax whitish grey, metathorax dark, abdomen dark grey, lighter behind. Antennae bipectinate (? because broken), palpi blackish brown. The 2nd joint long-haired beneath, 4 times as long as the 3rd. r 1 proceeds from the cell, r 2—5 and m 1 from the areole, m 2 is very distantly separated from m 1, an and ax anastomose towards the end. rr and m 1 on a long stalk, m 2 farther away from the stalk than ms. Forewing reddish greyish brown. Costa as far as r 1 and r 2 white, an indistinct brown subterminal transverse line, proximally to it a parallel stripe of a whitish hue. Hindwing light grey. All the wings beneath unicoloured grey, hindwings beneath lighter. Length of forewing: 10 mm. Mendoza, ♂ type in the Berlin Zoolog. Museum.

P. 1276, before *Pernambis*:

13a. Genus: **Anastomophleps** *M. Her.*

Allied to *Hypopta* *Hbn.* from which it differs in the anastomosis of r 1 and r 2. Forewing very narrow, r 1 from the discoidal cell, r 1 from the areole and anastomosing right behind its origin with r 1, but later on separated again. r 1—r 3 extend to the costal margin, r 4 and r 5 stalked, the stalk proceeds from the posterior angle of the areole (accessory cell). m 2 and m 3 near together, basal parts of m forked far before the beginning of the areole. Analis anastomosing at about $\frac{3}{4}$ with ax. Hindwing: sc quite free, rr and m 1 arise together from the upper cell-angle, m 2 and m 3 and cu 1 at almost equal distances from the posterior part of the cell. cu 2 far from the posterior angle. Only 1 species.

A. claosticha *M. Her.* (168 g). Body grey, abdomen somewhat lighter beneath, the 3rd palpal joint only $\frac{1}{4}$ of the 2nd. Antennae of half the length of the forewing, in the ♂ only shortly pectinated, almost serrate. Legs grey, middle tibia in front with two conspicuous black spots. Costal margin of forewing concave, ground-colour above grey, the first third with a transverse row of black spots cutting the discoidal cell, the last spot situate on the interior margin is removed towards the margin. In the middle between this row and the base there is a similar spot at the costa. Flocks and dots are distributed all over the surface of the wing. A pre-apical series of spots, the costal spot of which is the smallest. Hindwing whitish, dusted brown towards the apex and anal angle. Beneath as above, but indistinct. Hindwing beneath with 3 distinct spots below the convexity of the costal margin on sc. Length of forewing: 15 mm. Mendoza, Argentina. January 1905 (JENSEN-HAARUP). 1 ♂ in the Berlin Zoolog. Museum.

P. 1277, before *G. superquadra*:

Givira quadroides *M. Her.* (168 h) is allied to *E. quadra* (182 d), but the distal border of the large brown spot situate below the cell is not concave, but straight. The ground-colour is more unicoloured, loamy yellow here. Basal spot lighter, not so contrasting as in *quadra*, all the white places of *quadra* are loamy yellow. Basal spot lighter, not so brown as in *quadra*, hindwing darker than in *quadra*, without the spot at the end of the cell. All the wings beneath similar to *quadra*, but less distinct and contrasting. Length of forewing: 21 mm. Sa. Catharina, Brazil (1896), ♂ type in the Berlin Zoolog. Museum.

*) All these appended genera and species of the *Cossidae* have been described in: Deutsche Entomol. Zeitschr. "Iris", Vol. 37 (1923) on pp. 11—14.

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 disciplaga *Draudt* (*Disphragis*) 976.
 disciplaga *Draudt* (*Tolype*) 579.
 discreta *Dyar* (*Xyleutes*) 1167.
 discutex *Draudt* (*Hylesia*) 759.
 dissona *Draudt* (*Bardaxima*) 915.
 distincta *Hering* (*Scotura nervosa*) 510.
 divulsa *Draudt* (*Euglyphis*) 604.
 doda *Schaus* (*Caviria*) 544.
 dodala *Schaus* (*Tepilia*) 557.
 dognini *Draudt* (*Dasylophia*) 934.
 dognini *Hering* (*Josiomorphoides*) 434.
 doralica *Schaus* (*Psychocampa*) 638.
 dorsalis *Seitz* (*Aut. ochracea*) 369.
 dorsilinea *Hering* (*Hyalurga*) 448.
 dorsilineata *Draudt* (*Loxophl. fininigra*) 62.

dotta *Schaus* (*Pamea*) 667.
 draudti *Hering* (*Polypoetes*) 514.
 draudti *Seitz* (*Opharus*) 398.
 drucei *Draudt* (*Rosema*) 1055.
 drucei *Jord.* (*Malthaca*) 22.
 duala *Draudt* (*Nesara lauda*) 620.
 duleis *Draudt* (*Tolype*) 578.
 duplex *Dyar* (*Cossula*) 1271.
 dyari *Draudt* (*Euleuc. hualapai*) 786.
 dyari *Draudt* (*Tolype*) 576.
 dyari *Jord.* (*Tetracloemia*) 24.
 dyari *Hopp.* (*Megalopyge*) 1094.
 dynastes *Hering* (*Polypoetes*) 517.

ebba *Schaus* (*Eloria*) 540.
 ecuadoriensis *Draudt* (*Protocopis*) 132.
 ecuadoris *Draudt* (*Eucereum*) 181.
 edana *Schaus* (*Eloria*) 540.
 efferata *Draudt* (*Euglyphis*) 604.
 effesa *Draudt* (*Tolype*) 580.
 effusa *Draudt* (*Roeselia*) 237.
 egaënsis *Seitz* (*Neaxia*) 354.
 egena *Draudt* (*Tolype*) 582.
 egregia *Draudt* (*Cyanopepla*) 209.
 egrex *Draudt* (*Hylesia*) 758.
 elegans *Hering* (*Sagaropsis*) 435.
 elmira *Schaus* (*Thagona*) 550.
 elongata *Hering* (*Brachygl. bracteola*) 524.
 elongata *Hering* (*Scoturopsis*) 508.
 entone *Dyar* (*Inguromorpha*) 1285.
 erdae *Schaus* (*Epia*) 678.
 erica *Schaus* (*Rolepa*) 558.
 ernbescens *Draudt* (*Apatelodes*) 689.
 ernbescens *Draudt* (*Mesoth. petosiris*) 66.
 erythromelas *Jord.* (*Malthaca*) 22.
 eucyanoides *Hering* (*Calodesma*) 433.
 euthymis *Schaus* (*Cicinnus*) 649.
 evanescens *Hering* (*Pericopis*) 440.
 evanescens *Hering* (*Polypoetes*) 516.
 evalthoides *Strand* (*Cast. evalthe*) 8.
 evippoides *Hering* (*Myonia*) 506.
 excelsior *Draudt* (*Roeselia*) 239.
 excessiva *Gaede* (*Betonoptera*) *Gaede* 1207.
 exclamacionis *Pflitzner* (*Phassus marcius*) 1300.
 exclamacionis *Hering* (*Polypoetes*) 516.
 exclusa *Hering* (*Polypoetes*) 516.
 excreta *Draudt* (*Automeris*) 732.
 excreta *Draudt* (*Histiaea*) 102.
 exors *Draudt* (*Cosmosoma*) 82.
 exoterica *Draudt* (*Euglyphis*) 606.
 extensa *Draudt* (*Delph. minuta*) 165.
 extensa *Draudt* (*Eurypt. trifera*) 289.
 extensa *Hering* (*Scoturopsis*) 508.
 exturbata *Hering* (*Xenorma*) 507.

facundum *Draudt* (*Eucereum*) 213.
 faeculenta *Draudt* (*Euglyphis*) 595.
 fasciola *Seitz* (*Zatrephes*) 378.
 fassli *Draudt* (*Chrostosoma*) 67.
 fassli *Draudt* (*Eucereum*) 213.
 fassli *Draudt* (*Horamella*) 145.
 fassli *Seitz* (*Ner. drucei*) 358.
 fassli *Draudt* (*Pseudosphex*) 196.
 felderia *Schaus* (*Cicinnus*) 643.
 feminis *Strand* (*Cast. atymnius*) 8.
 fenestrata *Hering* (*Polypoetes*) 516.
 ferruginea *Draudt* (*Ancistrota*) 748.
 ferruginea *Draudt* (*Autom. iris*) 743.

- ferrugo Draudt* (Talype) 580.
fiachna Schaus (Rolepa) 558.
filispinosa Draudt (Euglyphis) 593.
flava Draudt (Aethr. leucaspis) 115.
flava Draudt (Illice unifascia) 258.
flava Draudt (Poecil. chrysis) 202.
flava Draudt (Sesi. smaragdina) 123.
flava Gaede (Tricolpia) 1144.
flavescens Draudt (Copaxa multifenestrata) 724.
flavescens Draudt (Pseudom. sithon) 87.
flavibasis Hering (Stenoplastis) 518.
flavicollaris Hering (Isostola) 434.
flavicosta Draudt (Illice unifascia) 258.
flavidorsalis Draudt (Corr. undulata) 186.
flavifascia Hering (Myo. depravata) 505.
flavilinea Draudt (Phricodia) 782.
flavina Draudt (Copaxa canella) 725.
flavipes Draudt (Autochloris) 50.
flaviscapula Draudt (Roeselia) 238.
flaviventris Draudt (Delph. pusilla) 165.
flavizonata Zuk. (Sophona halictipennis) 1259.
flavomaenulata Draudt (Episcepis lamia) 130.
flavostigma Zuk. (Synanthedon) 1233.
flexuosa Hering (Josia) 528.
foliosa Seitz (Prum. herbosa) 345.
forbesi Schaus (Cicinnus) 645.
forficula Draudt (Proctocopis) 132.
friburga Draudt (Lobeza) 1009.
fucosa Draudt (Apat. concepta) 700.
fulvago Draudt (Euglyphis) 610.
fuliginosa Draudt (Nes. robustior) 620.
fulvibasis Hering (Ctenuchidia) 447.
fulvipygga Strand (Cast. decussata) 12.
fumata Draudt (Dicentr. minotelis) 956.
fumicosta Draudt (Nesara) 619.
fumosa Hopp. (Trosia dimas) 1081.
fusca Draudt (Roesel. divisa) 238.
fuscifusa Draudt (Agylla auraria) 285.
fuscomarginata Gaede (Psamathia placidaria) 1143.

gaedei Draudt (Chliara) 1049.
garleppi Draudt (Apat. xanthapex) 699.
genaria Gaede (Syngriodes) 1149.
gephyra Hering (Josia) 528.
gigantex Draudt (Hylesia) 752.
gigas Draudt (Hemiceras) 1042.
glauca Draudt (Elymiotis) 917.
godalma Draudt (Roeselia) 239.
grandensis Strand (Cast. papagaya) 11.
grandimacula Hering (Xenorma) 507.
grassator Hering (Pericopis) 444.
gschwandneri Draudt (Hidripa) 778.
guanduna Draudt (Olceclostera) 706.
guatemalteca Draudt (Prorifr. mülleri) 572.
guayanensis Draudt (Hyles. darlingi) 757.
guerreronis Draudt (Rothsch. jorulla) 718.
guianaca Schaus (Trogoptera) 652.

hampsoni Draudt (Andr. stretchii) 132.
harcour Dyar (Givira) 1279.
hedda Schaus (Caviria) 544.
hemichrysea Pfitzner (Dalaca thisbe) 1296.
hemigymma Zuk. (Synanthedon) 1226.
heringi Draudt (Saturniodes muellerana) 723.
hiscelis Dyar (Puseyia) 1284.
histriomorpha Hering (Peric. hydra) 439.
hiulea Draudt (Eloria) 541.
hondurana Strand (Cast. inca) 11.

hoppi Draudt (Colab. lybia) 707.
hoppi Hering (Hyalurga) 451.
hoppi Draudt (Prorifrons) 570.
hoppia Schaus (Maces. aelfrida) 665.
hyalina Seitz (Maenas) 308.
hydropteris Dyar (Euphobetron) 1131.
hyginia Schaus (Maces. aelfrida) 665.
hypoleuca Draudt (Propyr. criton) 217.

ianthina Draudt (Homococera) 197.
ignicauda Draudt (Phoenicoprocta) 58.
igniceps Draudt (Abrochia) 125.
ignorata Hering (Josia) 525.
illanta Draudt (Colabata) 708.
illimis Draudt (Malocampa) 982.
imitans Draudt (Hemiceras) 1043.
imitans Draudt (Loxomima) 146.
imitator Draudt (Rothschildia) 717.
impellucida Draudt (Phaeo sylvia) 106.
imperialis Draudt (Dirphia) 771.
impexa Draudt (Rifargia) 1004.
improcera Draudt (Ichoria) 86.
impuncta Draudt (Ithomisa catharina) 784.
impura Strand (Cast. huebneri) 12.
inca Hopp (Megalopyge) 1094.
incerta Hering (Dioptis) 522.
incompleta Seitz (Aut. zonana) 373.
inconspicua Draudt (Paramevania) 161.
indecora Strand (Cast. huebneri) 12.
indentata Hering (Dioptis) 522.
indepta Draudt (Dicentria) 954.
infans Dyar (Langsdorfia) 1284.
infansta Hering (Josia) 527.
infenestrata Seitz (Azatr. fuliginosa) 379.
infuscata Draudt (Clem. russata) 247.
innotata Draudt (Sarosa notata) 53.
inopinata Draudt (Lirimiris) 944.
inquieta Draudt (Gopha) 950.
insignata Draudt (Acl. heber) 158.
insitivum Draudt (Eucereum) 215.
insulsa Draudt (Eloria) 541.
insuta Draudt (Euglyphis) 591.
intacta Draudt (Macrocneme thyra) 104.
integra Hering (Polypoetes) 516.
intensiva Draudt (Syss. purpurascens) 805.
intercalaris Draudt (Titya) 585.
intermedia Draudt (Correbia) 185.
intermedia Draudt (Crinod. schausi) 925.
interniplaga Draudt (Olceclostera) 705.
interrogationis Dyar (Cossula) 1271.
interrupta Draudt (Agapema galbina) 726.
interrupta Hering (Ctenuchidia) 448.
interrupta Draudt (Illice unifascia) 258.
intersecta Hering (Pericopis) 438.
intersita Hering (Polypoetes) 515.
irrorata Draudt (Clemensia) 248.
isa Jord. (Seryda) 26.
isabela Hopp (Norape) 1090.
isochrous Jord. (Acol.) 25.
itaitubae Hering (Calod. contracta) 432.
izquierdoi Draudt (Autom. griseoflava) 745.

jactans Draudt (Cosmos. beatrix) 74.
jalapac Draudt (Symm. albifrons) 942.
jalisea Schaus (Hemerocampa) 539.
jonica Schaus (Trog. althora) 653.
jordani Hering (Calodesma) 432.
jordani Draudt (Cith. laocoon) 801.

jordani Hering (Josia) 525.

kotzschii Draudt (Apatelodes) 698.

kotzschii Draudt (Euglyphis) 616.

laberia Dyar (Sibine) 1109.

lactigera Hering (Stenop. euchonthoides) 519.

laeta Seitz (Aut. docis) 372.

lapanensis Schaus (Quentalia) 683.

latex Draudt (Hylesia) 756.

latieraspedontis Zuk. (Synanthedon) 1220.

latifascia Hering (Pseudophaloë) 431.

latior Draudt (Hemiceras) 1041.

latistriga Hering (Josia) 526.

lativittata Strand (Cast. pallasia) 10.

lanronoides Hering (Hyalurga) 450.

lemoulti Draudt (Delphyre) 166.

leopardium Draudt (Eucereum) 174.

leopoldina Strand (Cast. orestes) 9.

lepida Draudt (Aethria) 115.

lepta Jord. (Harrisina) 28.

lencophlebia Hering (Hyalurga) 450.

leoidella Strand (Cast. licus) 8.

lilacina Draudt (Ctianopha) 918.

lilacina Gaede (Skaphion) 1144.

lilacimex Draudt (Hylesia) 757.

lilalia Dyar (Prolimacodes) 1136.

limata Draudt (Eloria) 540.

lineigera Gaede (Draconia) 1210.

linoides Strand (Castnia) 14.

lisita Draudt (Napata) 139.

livescens Draudt (Disphr. tharis) 937.

livida Seitz (Berthold. myosticta) 342.

lojana Schaus (Thagona) 549.

lojanara Schaus (Tamphana) 692.

ludolpha Schaus (Lacosoma) 660.

lunifera Dyar (Langsdorfia) 1282.

lupina Draudt (Catocephala) 777.

lutescens Draudt (Euc. hoegei) 172.

lutescens Draudt (Odoz. margina) 265.

luxurians Draudt (Cyanop. micans) 151.

luxuriosa Hering (Crocomela) 454.

lycomorphodes Draudt (Illice) 260.

macallia Schaus (Druentia) 655.

macarina Schaus (Tarema) 670.

macellaria Draudt (Euleucophaeus) 786.

macellex Draudt (Hylesia) 754.

macerina Schaus (Quentalia) 688.

macropoecila Hering (Myonia) 502.

macula Strand (Cast. papilionaris) 8.

maculata Draudt (Isanthr. perbosci) 47.

maenlata Draudt (Josiodes mutans) 271.

maenlifera Strand (Cast. diva) 13.

madenus Schaus (Cicinnus) 648.

mahlaha Schaus (Trog. althora) 652.

majestalis Draudt (Eacles) 802.

major Draudt (Antona sublumina) 290.

mallalia Schaus (Eloria) 539.

manalea Schaus (Cicinnus) 648.

mana Schaus (Trogoptera) 654.

manea Draudt (Aethr. leucaspis) 115.

manesia Schaus (Eloria) 541.

manicora Schaus (Psychocampa) 637.

mapiria Draudt (Paraethria) 116.

mara Hering (Polypoetes) Hering 517.

marcellina Schaus (Caviria) 544.

maricia Schaus (Roelofa) 640.

martenii Zuk. (Synanthedon) 1224.

maura Draudt (Ichoria) 86.

maura Draudt (Titya) 586.

maurella Draudt (Tuina) 293.

maurex Draudt (Hylesia) 759.

maurusius Draudt (Rothschildia) 719.

medinara Schaus (Quentalia) 689.

medinensis Draudt (Dirphia) 772.

mediocris Draudt (Tolype) 582.

mediofasciata Draudt (Cel. carilla) 240.

melaina Draudt (Euglyphis) 595.

melaina Hopp (Megalopyge) 1094.

melaina Hering (Peric. eurocilia) 443.

melania Hering (Hyalurga) 451.

melanolimbata Strand (Castnia) 15.

melchthala Schaus (Quentalia) 682.

mendosa Draudt (Euglyphis) 606.

meridana Draudt (Rosema thestia) 1056.

meridionalis Draudt (Skaph. salona) 953.

meridionalis Draudt (Rosema epigena) 1056.

mesoleuca Seitz (Aut. uniformis) 372.

mesostenos Zuk. (Aegerina) 1245.

mestiza Draudt (Arsenura richardsoni) 794.

metrieus Pfitzner (Pseudoph. momus) 1301.

mexicana Draudt (Automeris) 744.

mexicana Draudt (Eugl. theresa) 591.

mexicana Draudt (Illice unifascia) 258.

mexicana Draudt (Maloc. albolineata) Draudt 983.

mexicana Draudt (Rothsch. splendidus) 720.

mexicana Hering (Tithraustes) 514.

micalha Schaus (Trog. althora) 653.

michama Strand (Cast. linus) 14.

mimica Hering (Myonia) 504.

mimula Draudt (Heliura) 212.

minasa Schaus (Quentalia) 685.

minasa Schaus (Reinmara) 655.

minax Draudt (Psiloph. poli) 89.

minima Draudt (Anita) 1022.

minima Hering (Crocomela) 453.

minor Draudt (Rosema zelica) 1055.

mirabilis Draudt (Chrysocneme) 205.

mizera Draudt (Euglyphis) 616.

modesta Draudt (Homocera) 197.

modia Dyar (Givira) 1279.

modificata Strand (Cast. cyna) 16.

molesta Hering (Pericopis) 443.

moengus Schaus (Cicinnus) 649.

monotona Hering (Sagaropsis) 435.

moratina Schaus (Quentalia) 682.

morio Scitz (Baritius) 331.

moseroides Hering (Pericopis) 444.

mucida Draudt (Euglyphis) 592.

mülleri Draudt (Automeris) 739.

mülleri Draudt (Crinodes) 925.

muelleri Draudt (Dicentria) 953.

mülleri Draudt (Prorifrons) 572.

muricolora Dyar (Xyleutes) 1267.

murina Draudt (Catocephala) 777.

mutata Hering (Peric. hilaria) 441.

mutoca Draudt (Hemiceras) 1042.

myseia Pfitzner (Dalaca) 1294.

muzoensis Draudt (Hyles. rubrifrons) 762.

nannophyes Pfitzner (Dalaca) 1297.

napalita Draudt (Euglyphis) 592.

napalona Draudt (Euglyphis) 591.

napima Schaus (Quentalia) 683.

narseres Schaus (Cicinnus) 647.

- natex Draudt* (Hylesia) 755.
nefanda Draudt (Tachuda) 928.
negrona Draudt (Correbia) 216.
nervosa Strand (Cast. acraeoides) 15.
nexilis Draudt (Syntom. melanthus) 100.
niepelti Draudt (Autom. postalbida) 728.
niepelti Draudt (Copaxa decrescens) 723.
niepelti Draudt (Dirph. carminata) 770.
niepelti Draudt (Eacles) 803.
niepelti Draudt (Grammo. lineata) 791.
niger Seitz (Hemi. mansueta) 417.
nigra Hopp (Trosia dimas) 1082.
nigribasalis Hering (Polypoetes) 516.
nigridorsalis Draudt (Corr. undulata) 186.
nigrifascia Hering (Tithraustes) 514.
nigripes Draudt (Hylesia) 757.
nigriplaga Draudt (Clem. russata) 247.
nigrithorax Draudt (Cosmos. auge) 72.
nigrivenata Hering (Isostola) 434.
nigrivenata Hering (Pericopia) 439.
nigrivenis Hering (Dioptis ileridina) 523.
nivea Hering (Diopt. candelaria) 521.
noaha Schaus (Trog. althora) 652.
noctifera Draudt (Cosmos. phoenicophorum) 201.
noctuides Pfitzner (Dalaca) 1295.
nora Dyar (Tanadema) 1133.
novicia Draudt (Cercocladia) 91.
noyesi Schaus (Eloria) 540.
nudata Hering (Scea) 529.
nugax Draudt (Eloria) 540.
nugax Draudt (Rifargia) 1004.
numalia Schaus (Quentalia) 684.
nystalina Draudt (Proelymiotis) 919.

obscurata Draudt (Ctenu. togata) 189.
obscurata Hering (Peric. eurocilia) 443.
obsolescens Draudt (Andr. diversipennis) 131.
obsolescens Draudt (Cyanop. cinctipennis) 151.
obsoleta Draudt (Abroch. tetrazona) 124.
obsoleta Hering (Dysschema) 446.
obsoleta Draudt (Tuecer. glaucopis) 128.
obsoleta Draudt (Teucer) 206.
occidentalis Draudt (Autom. iris) 743.
occidentalis Hering (Calod. amica) 432.
ochracea Draudt (Rothsch. orizaba) 718.
ochreivitta Draudt (Odozona floccosa) 265.
oculata Draudt (Tolype pellita) 579.
oculea Draudt (Histi. cepheus) 102.
odriana Schaus (Caviria) 544.
olasis Schaus (Cicinnus) 645.
oletta Dyar (Cossula) 1270.
oligocycla Seitz (Hemi. battyi) 417.
olivenea Draudt (Hemiceras) 1038.
olivina Draudt (Copaxa decrescens) 723.
olivina Draudt (Copaxa multifenestrata) 725.
omagua Pfitzner (Philaenia) 1293.
opaca Hering (Diop. tessmanni) 522.
opaca Hering (Stenoplastis) 517.
opacus Jord. (Acoloithus) 25.
orgyia Draudt (Euglyphis) 612.
orizabena Draudt (Ichor. demuna) 86.
orizatensis Strand (Castnia chitarcha) 11.
orosiana Seitz (Amas. suffusa) 418.
orthocraspeda Hering (Crocomela) 453.
orthotaenia Hering (Hyalurga) 449.
osmophora Draudt (Dasylophia) 935.
ovuliger Seitz (Opharus) 400.
oyapoca Schaus (Lacosoma) 662.

pacha Schaus (Desmol. chironoma) 554.
pachona Draudt (Dirphia) 768.
pachycera Seitz (Elysus) 386.
pallescens Draudt (Cyanop. xenodice) 152.
pallidior Draudt (Autom. montezuma) 743.
panamuensis Draudt (Autom. hamata) 738.
panamensis Draudt (Autom. larra) 728.
panamensis Draudt (Hemic. punctata) 1040.
panamensis Draudt (Gisara brewsteri) 987.
panamensis Hering (Peric. marginalis) 442.
paradoxa Hering (Gardinia) 455.
paraguayensis Strand (Cast. juturna) 13.
parana Strand (Cast. gramivora) 17.
parca Draudt (Loxophlebia) 64.
paulista Draudt (Aethria) 115.
pauperata Draudt (Boriza tonac) 990.
pauperata Strand (Cast. licus) 8.
pellax Draudt (Pseudosphex) 38.
pectinicornis Dyar (Schreiteria) 1268.
pellite Draudt (Tolype) 578.
penthtria Zuk. (Chamaesphecia) 1240.
peralta Seitz (Amas. thermidora) 418.
peregrina Hering (Dioptis) 523.
peritta Hering (Hyalurga) 450.
perlonga Draudt (Titya abstersa) 586.
perluta Draudt (Nola) 234.
permessa Dyar (Sibine) 1111.
peruex Draudt (Hyles. alinda) 761.
peropaca Seitz (Carathis) 335.
perostia Schaus (Pamea) 667.
perpasta Draudt (Euagra) 210.
perplicatum Draudt (Eucereum) 215.
persimilis Draudt (Thagona) 549.
pertexta Draudt (Isanthrene) 197.
peruana Draudt (Prep. miniola) 262.
peruana Hopp (Megalopyge) 1092.
peruvex Draudt (Hylesia) 759.
peruviana Draudt (Ctenucha rubrovenata) 191.
peruviana Draudt (Histiaea) 102.
peruviana Hering (Scotura nervosa) 510.
peruviana Strand (Cast. linus) 14.
phastioides Draudt (Meragisa) 997.
philastris Schaus (Lacosoma) 660.
phobifera Dyar (Cryptobia) 1266.
pimpla Draudt (Rhynchopyga) 90.
pini Draudt (Prorifr. prosper) 571.
plagifasciata Gaede (Skaphion) 1144.
plagiophleps Zuk. (Synanthedon) 1222.
plicistriga Draudt (Nesara) 621.
plumbicincta Draudt (Sphecosoma) 41.
pluto Zuk. (Chamaesphecia) 1240.
poecila Draudt (Nesara) 620.
poecila Draudt (Zanola) 709.
poecillator Draudt (Rothsch. hesperus) 716.
polyloca Draudt (Hylesia) 752.
pomposa Draudt (Machaer. hippodamia) 790.
popperi Pfitzner (Pielus luteicornis) 1297.
portericensis Draudt (Phoen. eximia) 59.
postalbida Draudt (Roesel. minuscula) 238.
postflavida Draudt (Metalobosia) 256.
postflavida Draudt (Thelosia) 702.
practidoides Hering (Pericopis) 445.
praedicabilis Draudt (Euglyphis) 604.
pratincola Seitz (Turup. nemophila) 313.
primolus Schaus (Cicinnus) 647.
princeps Draudt (Hemiceras) 1041.
prionidia Draudt (Rothsch. orizaba) 718.
prodiga Draudt (Euglyphis) 606.

- prodromus* Hering (Polypoetis) 515.
progonum Hering (Xenosoma) 429.
proiecta Hopp (Podalia) 1098.
propex Draudt (Hyles. melanostigma) 751.
proterva Draudt (Autochloris) 51.
prouti Hering (Myonia) 503.
proxima Draudt (Hapigiodes) 1050.
pueblae Draudt (Diarhabdosia) 243.
pulla Draudt (Tolype) 582.
punctilinea Draudt (Roeselia) 238.
pupilla Draudt (Automolis) 735.
purpurascens Draudt (Copaxa decrescens) 723.
purpurea Draudt (Citheronia) 802.
purpureofasciata Gaede (Belonoptera) 1207.
purpusi Draudt (Rosema) 1057.
puseyiae Dyar (Puseyia) 1284.
pusillima Strand (Cast. marcelserres) 10.
putata Hering (Josia megaera) 526.
putumayana Hering (Hyalurga) 451.
pylotoides Hering (Eucyane) 435.

quadratilla Dyar (Sibine) 1111.
quadriguttata Hering (Myonia) 502.
quadrifasciata Hering (Calodesma) 433.
quaesita Draudt (Dirphia) 775.
quaesita Draudt (Nestalea) 912.
quassa Draudt (Euglyphis) 618.
quereifolia Draudt (Euglyphis) 613.
quindiensis Draudt (Macromph. canescens) 575.
quindiensis Draudt (Nesara robustior) 627.
quindiuna Schaus (Lurama) 668.

rabidan Dyar (Givira) 1281.
ragesina Draudt (Euglyphis) 599.
regesta Draudt (Pheia) 61.
ragna Schaus (Quentalia) 689.
ramosa Draudt (Notela jaliscana) 1013.
raydela Schaus (Lacosoma) 660.
recenseo Dyar (Malaco. pluvialis) 623.
reeta Hering (Pericopis) 442.
redueta Draudt (Delph. varians) 166.
redueta Draudt (Eupyra sages) 149.
redueta Draudt (Lycom. flavipars) 254.
redueta Draudt (Odozona floccosa) 265.
redueta Draudt (Phoemcoprocta eximia) 59.
redueta Hering (Xenorma) 507.
regesta Draudt (Pheia) 61.
regestum Draudt (Cosmosoma) 82.
regia Draudt (Dirphia) 771.
regis Hering (Myomia) 503.
resarta Draudt (Euglyphis) 607.
resputa Draudt (Thelosia) 702.
retraeta Hering (Scotura nervosa) 510.
retrita Draudt (Euglyphis) 615.
reversa Draudt (Euglyphis) 590.
revineta Draudt (Euglyphis) 591.
rille Dyar (Cossula) 1273.
rimicola Draudt (Mesera) 573.
ronica Schaus (Alheita) 669.
robusta Jord. (Harrisinopsis) 26.
robustior Draudt (Nesara) 620.
rolis Dyar (Givira) 1280.
rosacea Draudt (Autom. aspera) 739.
rosacea Draudt (Phricod. hircia) 779.
rosalinda Draudt (Prohylesia) 749.
rosea Draudt (Artace) 589.
rosea Draudt (Diarh. minima) 243.
rosea Hering (Josia) 526.

roseana Draudt (Phricod. semirosea) 781.
roseifemur Draudt (Mesothen) 66.
roseocincta Seitz (Baritius) 331.
rothschildi Draudt (Agyrta porphyria) 163.
rothschildi Draudt (Eucereum) 184.
rothschildi Draudt (Rifargia) 1006.
rotundata Draudt (Datana) 1053.
rotundata Draudt (Rosma) 1058.
rovana Schaus (Cheneya) 692.
rubra Draudt (Aethr. andromacha) 114.
rubribasis Hering (Stenoplastis) 518.
rubrica Draudt (Euglyphis) 618.
rubrifascia Hering (Eucyane) 436.
rubrimaculata Hering (Eucyane) 436.
rubripes Draudt (Phricodia) 780.
rubripunctata Draudt (Prep. sesapina) 262.
rubrofasciata Gaede (Epiplema) 1157.
rufa Draudt (Copaxa multifenestrata) 725.
rufex Draudt (Hylesia) 751.
rufimaculata Strand (Cast. satrapes) 10.
rufitincta Dyar (Langsdorfia) 1282.
rufofusa Draudt (Roesel. versicolora) 237.
rufolimba Strand (Cast. humboldti) 8.
rufolivacea Seitz (Chloroda) 312.
ryssa Dyar (Cossula) 1273.

sabis Dyar (Sibine) 1111.
saga Hering (Myonia) 505.
salebrosa Draudt (Euglyphis) 609.
salvadora Schaus (Hemerocampa) 538.
salvita Schaus (Trogoptera) 653.
sandix Draudt (Pheia) 61.
sanguinipetens Seitz (Turuptiana) 313.
sarisa Draudt (Eucereum) 215.
satanas Hering (Polypoetes) 514.
satara Seitz (Virbia) 297.
satellifera Gaede (Risama) 1207.
saucia Jord. (Tetractonia) 24.
seaenica Draudt (Tolype) 583.
sealex Draudt (Hylesia) 752.
sehausi Draudt (Eloria) 541.
sehreiteri Draudt (Rothsch. condor) 820.
seintillans Draudt (Nystale) 912.
seotina Hering (Hyalurga) 451.
seortina Draudt (Hylesia) 750.
seruposa Draudt (Celama) 240.
seythropia Zuk. (Synanthedon) 1232.
secatina Schaus (Quentalia) 688.
seitzi Draudt (Automeris) 748.
seitzi Draudt (Dirphia arpi) 776.
seitzi Draudt (Eucereum) 214.
seitzi Draudt (Meragisa) 997.
seitzi Draudt (Prorifrons costaricensis) 571.
seitzi Gaede (Thyridopteryx) 1182.
seitzi Hering (Scoturopsis) 508.
semierema Draudt (Roeselia) 239.
semiflava Draudt (Rhynchopyga) 90.
semiflava Draudt (Talara) 250.
semirubra Draudt (Poecil. chrysis) 202.
semitrista Zuk. (Synanthedon) 1236.
semiumbrata Seitz (Bertholdia) 342.
senta Draudt (Loxophlebia) 64.
separata Hering (Pericopia) 438.
separatula Strand (Cast. uruguayana) 12.
seraphica Draudt (Euagra) 210.
serra Draudt (Chadisra) 991.
serrata Draudt (Hemiceras) 1042.
sesamus Seitz (Mel. chozeba) 340.

sexalata Draudt (Illice) 257.
sheila Schaus (Quentalia) 682.
signata Hering (Scotura) 510.
silvicola Seitz (Mel. leucanioides) 340.
simile Draudt (Eucercum) 178.
similis Hering (Josia) 527.
similis Draudt (Metalobosia) 257.
similis Draudt (Proelymiotis) 918.
simillima Draudt (Rosema) 1057.
simiola Draudt (Euglyphis) 592.
sirenja Hering (Polypoetes) 516.
sodalis Draudt (Abrochia) 125.
sommeri Draudt (Euglyphis) 590.
songata Strand (Cast. pellonia) 15.
songoense Draudt (Euc. zephyrum) 183.
songoensis Draudt (Eugl. palota) 603.
songoensis Draudt (Prorifrons) 570.
songoensis Pfitzner (Pseudoph. momus) 1301.
sorex Draudt (Tolype) 578.
soroides Hering (Hyalurga) 450.
soror Hering (Scotura) 510.
spadix Draudt (Macromphalia) 575.
spectans Draudt (Euglyphis) 605.
splendens Jordan (Harrisina) 29.
splendida Draudt (Lycomorphodes) 253.
splendidissima Hering (Peric. ircne) 443.
spreta Draudt (Delphyre) 167.
spreta Draudt (Euglyphis) 613.
spureata Draudt (Euglyphis) 601.
staminea Draudt (Homoeocera) 45.
stellans Draudt (Xantharete) 148.
stellifera Schaus (Adalgisa) 671.
stenoxantha Hering (Myonia) 504.
stenoxantha Hering (Pseudophaloë) 429.
stigmatiea Pfitzner (Dalaca tesselloides) 1296.
stibina Draudt (Roeselia) 238.
stramentalis Draudt (Ancistreta) 748.
striata Draudt (Goac. variabilis) 1021.
striata Draudt (Josiodes repleta) 270.
strigifera Hering (Eucyane) 436.
strigifera Seitz (Idalus rosea) 348.
studyi Hering (Pericopia) 438.
suavis Draudt (Disphragis daona) 970.
subalba Hering (Myonia) 506.
subalbieans Dyar (Sibine) 1110.
sublucana Draudt (Titya) 585.
submaxima Hering (Tithraustes) 514.
subtropicalis Dyar (Miacora) 1274.
subvanaria Strand (Cast. subvaria) 9.
suffusa Draudt (Josiodes variaria) 271.
suffumata Draudt (Autochloris) 52.
suffusa Draudt (Talara nigroplagiata) 250.
supposita Hering (Hyal. fenestra) 448.
suprema Hering (Pericopia) 438.
symphora Schaus (Anticla) 691.
syngenica Zuk. (Euryphrissa) 1246.
sypalettus Seitz (Automolis) 366.

taedia Draudt (Euglyphis) 605.
taeniata Draudt (Aclytia hoffmannsi) 157.
tamara Hering (Calodesma) 433.
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taminata Draudt (Eugl. thyatira) 601.
tamsi Draudt (Prorifrons) 569.
tanampaya Draudt (Rosema) 1056.
tauta Draudt (Euglyphis) 602.
pajoza Dyar (Cossula) 1271.
rasia Schaus (Anticla) 691.

tarchona Schaus (Stactherinia) 553.
tarudina Draudt (Tolype) 581.
tehuacana Draudt (Cerura) 946.
tehuacana Draudt (Goacampa variabilis) 1021.
tellinoides Hering (Pseudophaloë) 430.
temperata Draudt (Euglyphis) 613.
tendex Draudt (Hyles. darlingi) 757.
tenebrata Seitz (Aut. docis) 372.
tenebrata Hering (Isostola) 434.
tenuifascia Hering (Crocomela) 454.
tennistriga Draudt (Acthr. eliza) 115.
teratex Draudt (Hyles. thaumex) 753.
tergina Jord. (Harrisina) 28.
tessmanni Hering (Diopis) 522.
tessmanni Hering (Josia) 525.
tessmanni Hering (Pseudophaloë) 430.
texensis Draudt (Illice unifascia) 258.
thanates Hering (Tithraustes) 513.
thaumex Draudt (Hylesia) 753.
theobromana Draudt (Dirphia) 775.
thiuala Draudt (Apatelodes) 695.
thirmida Hering (Brachyglene) 524.
tineosphecia Zuk. (Synanthedon) 1232.
tirzaha Schaus (Trogophera) 653.
togata Draudt (Talara) 250.
torehana Schaus (Staetherinia) 553.
tosticrista Draudt (Euglyphis) 595.
transdueens Seitz (Robin. polyplagia) 344.
transiens Seitz (Azatr. fuliginosa) 379.
transita Hering (Actea) 524.
trapezina Draudt (Hemiceras) 1039.
trepida Draudt (Rhuda) 987.
triangulifera Hering (Josiomorpha) 432.
triangulum Draudt (Phyllopalpia) 939.
trinitatis Draudt (Chion. apicalis) 262.
tripunctata Strand (Cast. cochrus) 14.
tristicula Strand (Cast. amycus) 13.
trogon Draudt (Ixylasia) 209.
tumaeona Draudt (Disphragis) 977.
tupi Pfitzner (Hepialus) 1293.
turbida Hering (Eucyane) 436.
turbida Hering (Josia ilaire) 525.
turnina Schaus (Lacosoma) 660.
typhon Draudt (Betola) 948.
tyrannus Draudt (Eacles) 803.

umbratula Strand (Cast. pallasia) 10.
umbrosa Zuk. (Melittia) 1251.
undilinea Draudt (Hippia) 941.
undulata Hering (Tith. crymas) 513.
unicolor Hering (Polypt. fasciculosa) 530.
unifascia Hering (Pericopis) 443.
unifascia Hering (Stenoplastes) 518.
uniforis Draudt (Chrysocale) 205.
uniformis Hering (Scotuopsis) 508.
upanona Draudt (Dirphia) 768.
ursmara Schaus (Drucntia) 656.
ursula Hering (Myonia) 505.
usquieta Draudt (Gopha) 950.

valera Schaus (Lacosoma) 662.
valstana Schaus (Staetherinia) 553.
venata Jord. (Harrisina) 28.
ventriosa Draudt (Tolype) 582.
veranioides Hering (Pseudophaloë) 430.
vespertilio Draudt (Tolype) 582.
vialaetea Draudt (Hylesia) 759.
viemanda Schaus (Cicinnus) 648.

- villiopsis* *Hering* (*Xenomigia*) 509.
vinasia *Schaus* (*Caviria*) 544.
violetta *Schaus* (*Sarsina*) 551.
violex *Draudt* (*Hylesia*) 754.
vitellina *Seitz* (Aut. *vittipes*) 374.
vitellina *Draudt* (*Copaxa joinvillea*) 725.
vitrea *Gaede* (*Draconia*) 1210.
vittex *Draudt* (*Hylesia*) 756.
vividior *Draudt* (*Automeris*) 737.
vulcanica *Seitz* (Aut. *latania*) 367.
vulfreda *Schaus* (*Lacosoma*) 659.
vulpina *Draudt* (*Lonon. achelous*) 763.
- walkerensis* *Hopp* (*Podalia*) 1097.
werneckei *Draudt* (*Eucereum*) 213.
weymeri *Draudt* (*Hidripa*) 778.
- xanthapex* *Draudt* (*Apatelodes*) 699.
xanthemelanina *Zuk.* (*Conopia*) 1241.
xanthoneura *Zuk.* (*Synanthedon*) 1220.
xanthozona *Draudt* (*Rhynchopyga*) 90.
xanthura *Jord.* (*Malthaca*) 23.
xena *Jord.* (*Gonioprocris*) 23.
xuna *Dyar* (*Xyleutes*) 1268.
- zacualpana* *Draudt* (*Symm. albifrons*) 942.
zikani *Draudt* (*Apatelodes*) 695.
zikani *Draudt* (*Dirphia arpi*) 776.
zikani *Schaus* (*Druentia*) 655.
zikani *Draudt* (*Euglyphis*) 583.
zikani *Draudt* (*Prohylesia*) 749.
zikani *Draudt* (*Rosema*) 1056.
zonex *Draudt* (*Hylesia*) 761.
zonoma *Schaus* (*Lacosoma*) 662.
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